8976 Wellington Road
Manassas, VA 20109

May 28, 2020

Jessica LaClair
Remedial Bureau E
Division of Environmental Remediation
New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233-7014

Subject: 2019 Annual Corrective Action Status Report

Reference: IBM East Fishkill Corrective Action Program
IBM East Fishkill Facility
Hopewell Junction, New York
NYSDEC Part 373 Permit 3-1328-0025/00249
EPA ID No. NYD000707901

Dear Ms. LaClair:

In accordance with the provisions of the Module IX – General Ground Water Monitoring Conditions, Section H of the referenced permit, enclosed please find the following document for your review:

2019 Annual Corrective Action Status Report
Former IBM East Fishkill Facility
NYSDEC Site No. 314054, EPA ID No. NYD000707901

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Please contact Dean Chartrand at (703) 257-2583 if you have any questions or require further information.

Sincerely yours,

Brandon N. Ashby
Manager, Environmental Engineering
IBM Corporate Environmental Affairs

Enclosure (hardcopy of report figures and plates)

cc:	J. Kenney	NYSDOH (with enclosure and electronic copy)
	NYSDEC Region 3	Regional Remediation Engineer (electronic copy)
	NYSDEC	Supervisor RCRA Permitting Section (electronic copy)
	USEPA Region 2	Chief RCRA Programs Branch (electronic copy)
	G. Marone	GLOBALFOUNDRIES (electronic copy)
	M. Buckley	iPark East Fishkill LLC and iPark East Fishkill I LLC (electronic copy)

2019 Annual Corrective Action Status Report

Former IBM East Fishkill Facility
Town of East Fishkill, Dutchess County, New York
NYSDEC Site No. 314054, EPA ID No. NYD000707901

Prepared for:

IBM Corporate Environmental Affairs
8976 Wellington Road
Manassas, VA 20109

May 28, 2020

Prepared by:

Groundwater Sciences Corporation
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2019 Annual Corrective Action Status Report

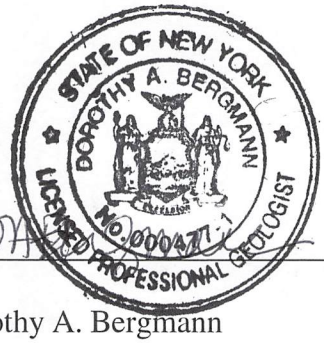
Former IBM East Fishkill Facility
Town of East Fishkill, Dutchess County, New York
NYSDEC Site No. 314054, EPA ID No. NYD000707901

May 28, 2020

As the person with primary responsibility for the performance of the geological services and activities associated with the captioned report, I certify that I have reviewed the document titled *"2019 Annual Corrective Action Status Report, Former IBM East Fishkill Facility, Town of East Fishkill, Dutchess County, New York, NYSDEC Site No. 314054, EPA ID No. NYD000707901"*. This report is dated May 28, 2020 and was prepared by Groundwater Sciences, P.C. (GSPC) and Groundwater Sciences Corporation (GSC) for IBM Corporation.

As a professional geologist licensed in the State of New York, I certify that the associated geological services and this report have been prepared under my direct supervision while working as agent for GSPC. To the best of my knowledge; all such information contained in this report is complete and accurate.

This report bears the seal of a professional geologist; no alterations may be made to the information contained in this report unless made in accordance with Title 8, Article 145, Section 7209 of New York State Education Law.



Signature: _____ Date: 5/28/2020

Name: Dorothy A. Bergmann

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Table of Contents

1 INTRODUCTION 1
1.1 Purpose 1
1.2 Scope 1
2 BACKGROUND 3
2.1 Site Location and Description 3
2.2 Site Ownership and Operations History 3
2.3 Regional Hydrogeologic Setting 4
2.4 Corrective Action History 5
2.5 Groundwater Monitoring Plan 7
2.6 Description of Groundwater Collection and Treatment Systems 9
2.6.1 PW-1 GTF 10
2.6.2 PW-2 GTF 10
2.6.3 PW-25 GTF 11
2.6.4 B/384 GTF 12
3 CORRECTIVE MEASURES IN 2019 14
3.1 Groundwater Collection Operations 14
3.2 Groundwater Treatment Facility Operations 15
3.2.1 Treatment System Sampling 15
3.2.2 Contaminant Removal 16
3.2.3 Operational Efficiency 17
3.2.4 Treatment Efficiency 17
3.2.5 System Maintenance 19
3.3 Groundwater Monitoring Program Activities 20
3.3.1 Groundwater Elevation Measurements 20
3.3.2 Monitoring Well Inspections 20
3.3.3 Groundwater Sampling 21
3.3.3.1 Reporting of Groundwater Chemistry Data 21
3.3.3.2 Quality Assurance/Quality Control Samples 22
3.4 B/322 AOC (OU7) RFI 23
3.5 B/335 RFI 24
3.6 Vapor Intrusion Assessment/Mitigation 24
3.7 Other Activities, Issues, and Plans for 2020 25
4 HYDROGEOLOGY 26
4.1 Soil Groundwater Elevations 26
4.1.1 Area A (OU5) 27
4.1.2 B/322 AOC (OU7) 28
4.1.3 Area C Landfill (OU6) 28
4.1.4 B/330 (OU8) 28

4.1.5 Gradients and Groundwater Flow Velocities 29
4.2 Bedrock Groundwater Elevations 29
4.2.1 Potentiometric Head Distribution 29
4.2.2 Gradients and Structural Controls on Groundwater Flow 30
4.2.3 Hydraulic Containment 32
5 GROUNDWATER CHEMISTRY 34
5.1 Groundwater Chemistry - VOCs 34
5.1.1 VOC Plume Maps 34
5.1.1.1 VOC Plumes in Soil and Soil/Shallow Bedrock Groundwater 35
5.1.1.2 VOC Plumes in Bedrock Groundwater 37
5.1.2 VOC Concentration versus Time Graphs 38
5.1.2.1 Contaminant Reduction Monitoring Wells 39
5.1.2.2 Point-of-Compliance Wells 39
5.1.3 Changes in Water Quality at Corrective Action Monitoring Wells 40
5.2 Groundwater Chemistry – PFAS and 1,4-Dioxane 40
5.3 Groundwater Chemistry – Inorganics 41
6 EVALUATION OF EFFECTIVENESS AND PROGRESS 42

Table of Tables

Table 3-1 Pumping Volumes by Well/Remediation Area
Table 3-2 Contaminant Mass Removal – Groundwater Remediation Areas
Table 3-3 Operational Efficiency of Groundwater Collection and Treatment Systems in 2019

Table of Figures

Figure 2-1 Site Location Map
Figure 2-2 Surface Water Location Map
Figure 2-3 Groundwater Treatment Facility (GTF) Location Map
Figure 2-4 PW-1 GTF Process Flow Diagram
Figure 2-5 PW-2 GTF Process Flow Diagram
Figure 2-6 PW-25 GTF Process Flow Diagram
Figure 2-7 B/384 GTF Process Flow Diagram
Figure 5-1 Graph of VOC Concentration versus Time, Well 010
Figure 5-2 Graph of VOC Concentration versus Time, Well 016
Figure 5-3 Graph of VOC Concentration versus Time, Well 032/032A/032B
Figure 5-4 Graph of VOC Concentration versus Time, Well 103
Figure 5-5 Graph of VOC Concentration versus Time, Well 104
Figure 5-6 Graph of VOC Concentration versus Time, Well 105

Figure 5-7 Graph of VOC Concentration versus Time, Well 612
Figure 5-8 Graph of VOC Concentration versus Time, Well 714
Figure 5-9 Graph of VOC Concentration versus Time, Well 716
Figure 5-10 Graph of VOC Concentration versus Time, Well 863/628
Figure 5-11 Graph of VOC Concentration versus Time, Well 943
Figure 5-12 Graph of VOC Concentration versus Time, Well PW-1
Figure 5-13 Graph of VOC Concentration versus Time, Well PW-2
Figure 5-14 Graph of VOC Concentration versus Time, Well PW-25
Figure 5-15 Graph of VOC Concentration versus Time, Sump/B384
Figure 5-16 Graph of VOC Concentration versus Time, Well 064
Figure 5-17 Graph of VOC Concentration versus Time, Well 065
Figure 5-18 Graph of VOC Concentration versus Time, Well 066
Figure 5-19 Graph of VOC Concentration versus Time, Well 067
Figure 5-20 Graph of VOC Concentration versus Time, Well 987
Figure 5-21 Graph of VOC Concentration versus Time, Well 990

Table of Plates

Plate 2-1 Site Subdivision Map
Plate 2-2 Groundwater Monitoring Plan - Well Location Map
Plate 4-1 Elevation Contour Map, Soil Groundwater Table (April 1-3, 2019)
Plate 4-2 Elevation Contour Map, Bedrock Potentiometric Surface (April 1-3, 2019)
Plate 5-1 Isoconcentration Contour Map, Soil PCE, April-May 2019.
Plate 5-2 Isoconcentration Contour Map, Soil TCE, April-May 2019
Plate 5-3 Isoconcentration Contour Map, Soil cis-1,2-DCE, April-May 2019
Plate 5-4 Isoconcentration Contour Map, Soil VC, April-May 2019
Plate 5-5 Isoconcentration Contour Map, Soil Freon® TF, April-May 2019
Plate 5-6 Isoconcentration Contour Map, Bedrock PCE, April-May 2019
Plate 5-7 Isoconcentration Contour Map, Bedrock TCE, April-May 2019
Plate 5-8 Isoconcentration Contour Map, Bedrock cis-1,2-DCE, April-May 2019
Plate 5-9 Isoconcentration Contour Map, Bedrock VC, April-May 2019
Plate 5-10 Isoconcentration Contour Map, Bedrock Freon® TF, April-May 2019
Plate 5-11 Fourth Quarter 2019 PFAS and 1,4-Dioxane Sampling Locations

Table of Appendices

Appendix A Limitations

Appendix B Groundwater Monitoring Plan - Well Specifications and Lists
Table B-1: Hydraulic Effectiveness Monitoring Wells
Table B-2: Well Specifications, Corrective Action Performance Monitoring Network
Table B-3: Sampling Schedule, Corrective Action Performance Monitoring Network

Appendix C Groundwater Collection and Mass Removal Data
Table C-1: Pumping Volumes for Groundwater Collection Wells/Sumps, 2019
Table C-2: Mass Removal Data for Volatile Organic Compounds, 2019

Appendix D Quarterly Groundwater Elevation Data, 2019
B/384 Supplemental Groundwater Elevation Data, 2019
B/322 and B/323 Supplemental Groundwater Elevation Data, 2019

Appendix E 2019 Sampling Field Log Database (on CD): SAMP19a.xlsx
2019 Field Parameters Database (on CD): FIELD19a.xlsx
Table of Meteorological Data (January – December 2019)

Appendix F Groundwater Analytical Data (Organics): 1/1/2019 to 12/31/2019
Supplemental Groundwater Analytical Data (Organics): 1/1/2019 to 12/31/2019
Groundwater Analytical Data (Inorganics): 1/1/2019 to 12/31/2019
Table F-1: Groundwater 1,4-Dioxane Data Summary, 2019
Table F-2: Groundwater PFAS Data Summary, 2019

Appendix G Production Well Analytical Data: 1/1/2019 to 12/31/2019
Table G-1: Groundwater Treatment Facility PFAS Data Summary, 2019

Appendix H Quality Assurance/Quality Control Analytical Data: 1/1/2019 to 12/31/2019
Table H-1: Quality Assurance/Quality Control PFAS Data Summary, 2019

Appendix I Groundwater Treatment Analytical Data (Organics): 1/1/2019 to 12/31/2019
Groundwater Treatment Analytical Data (Inorganics): 1/1/2019 to 12/31/2019

Appendix J Groundwater Statistics
Maximum Groundwater Concentrations in GMP Wells during 2019
Statistical Trends in Contaminant Reduction Monitoring Wells
Evaluations of Statistical Trends in Point-of-Compliance Wells
Statistical Evaluation of Changes in Water Quality at Corrective Action Monitoring Wells using the Mann-Whitney Test

Appendix K Vapor Intrusion Assessment Annual Report

1 INTRODUCTION

This Annual Corrective Action Status Report for 2019 has been prepared by Groundwater Sciences Corporation (GSC) and Groundwater Sciences, P.C. (GSPC) on behalf of IBM Corporation's Corporate Environmental Affairs (IBM CEA or IBM) for the former IBM East Fishkill Facility (Site) located in the Town of East Fishkill, Dutchess County, New York. Our work and this report are subject to the limitations outlined in **Appendix A**.

1.1 Purpose

This 2019 Annual Corrective Action Status report summarizes Corrective Action activities performed at the Site in 2019 which were performed in accordance with the Site's New York State Department of Environmental Conservation (NYSDEC) Part 373 Permit[1]. The report includes a description of the groundwater corrective measures implemented in 2019, a review of data collected in 2019 in accordance with the Site's Groundwater Monitoring Plan (GMP), and a summary of other Corrective Action activities performed at the Site in 2019. This report is being submitted to the NYSDEC to comply with the requirements of the Part 373 Permit for areas of concerns (AOCs) and solid waste management units (SWMUs) where groundwater is being monitored.

1.2 Scope

This report addresses items specified in Module IX, Section H of the 2011 Part 373 Permit and in Section 3.2 of the 2015 GMP. Each Permit and GMP requirement is cited below and is cross-referenced to the report sections, appendices, plates, and/or figures, as indicated in parentheses, where the requirement is addressed:

1. Summary of all analytical results. (Section 3.2; Appendices F, G, H, I)
2. Quality Assurance/Quality Control (QA/QC) per the GMP. (Section 3.3.3.2; Appendix H)
3. Pertinent monitoring data recorded in the well record, including the sampling field data sheets. (Section 3.3.3.1; Appendix E)
4. Quarterly groundwater elevation and survey data in tabular form, and potentiometric contour maps delineating the zone of capture and the rate and direction of groundwater flow. (Section 4; Appendix D; Plates 4-1 and 4-2)

[1] NYSDEC, November 2, 2011, *6NYCRR Part 373 Hazardous Waste Management Permit, IBM Corporation East Fishkill Facility.*

5. Evaluation of contaminant migration, including maps for "Key Compounds" listed in Table 3-1 of the GMP. Isoconcentration maps shall be prepared annually showing the approximate limit of each plume. This limit is defined as the concentration equal to 5 micrograms per liter (µg/l) of one key compound or the sum of the normalized transformation products of key compounds (tetrachloroethene (PCE) series compounds). Include a statement regarding future contaminant movement. (Section 5.1.1; Plates 5-1 through 5-10)
6. Trend line plots for the Contaminant Reduction Monitoring (CRM) wells. (Section 5.1.2.1; Figures 5-1 through 5-15; Statistical Trends Appendix J)
7. Determination of statistically significant increase in contamination at Point-of-Compliance (POC) wells. (Section 5.1.2.2; Figures 5-16 through 5-21; Appendix J)
8. Determination of statistically significant changes in water quality at Corrective Action Monitoring (CAM) wells. (Section 5.1.3; Appendix J)
9. Production or monitoring well maintenance activities planned or performed. (Sections 3.2.5 and 3.3)
10. Plans for installation of additional wells. (Section 3.7)
11. Summary of well installation activities. (Section 3.5, Section 3.7)
12. Pumping well rates and volumes. (Section 3.1; Table 3-1, Appendix C)
13. Contaminant recovery levels. (Section 3.2.2; Table 3-2, Appendix C)
14. Treatment efficiency data. (Section 3.2.4; Appendix I)
15. Any problems or other activities planned. (Section 3.7)
16. An evaluation of the progress of the corrective action monitoring program. (Section 6)

The above items are addressed in this report for the period from January 1, 2019 through December 31, 2019. The chemistry and water level data from the most comprehensive monitoring round completed in April and May 2019 were used to construct the maps in this report.

2 BACKGROUND

This section provides an overview of pertinent Site background information, including: the Site location and description; the Site ownership and operations history, the Site's regional hydrogeologic setting; the Site's Corrective Action history, and a summary of the final Corrective Measures being implemented at the Site.

2.1 Site Location and Description

The former IBM East Fishkill Facility (Site) is located in the Town of East Fishkill, Dutchess County, New York. The location of the Site relative to regional ground surface topography and drainage features is shown on the topographic base map provided as **Figure 2-1**. The Site is bounded on the north by New York State Route 52, on the east by Lime Kiln Road, on the south by Interstate 84 (I-84) and the I-84 interchange at Lime Kiln Road, and on the west by high voltage power lines owned by Consolidated Edison Company of New York and natural gas lines owned by Central Hudson Gas & Electric Corporation.

The Site is approximately 459 acres in area and is composed of 21 office, manufacturing, or warehousing buildings, with several associated support buildings, structures, and parking lots. The Site is currently zoned for industrial use with portions of the Site under consideration for commercial use. Zoning of land surrounding the Site allows for residential or commercial development. Residential properties are located east of the Site, along Shenandoah Road, and north and northwest of the Site, off of Route 52. Commercial properties are also located along Route 52 northwest of the Site.

2.2 Site Ownership and Operations History

Development of the Site by IBM began in 1963 with the construction of office and manufacturing buildings for research, development and manufacturing of semiconductors, semiconductor packaging, and electronic computing equipment. Beginning in 1993, portions of the Site were leased to a number of independent industrial entities. In December 1998, there was a nominal title transfer of the Site from IBM to the Empire State Development Corporation. In December 2012, there was a nominal title transfer of the Site from the Empire State Development Corporation back to IBM. On July 1, 2015 the Site was acquired by GLOBALFOUNDRIES U.S. 2 LLC (GF). In 2017, GF subdivided the Site into eight lots consisting of a total of approximately 431.1 acres as

shown on **Plate 2-1**. In addition, there are approximately 27.5 acres of roadways within the Site boundary. On September 1, 2017 National Resources, also doing business as i.Park East Fishkill LLC and i.Park East Fishkill I LLC, purchased Lots 2, 3, 4, 6, 7, and 8. National Resources has leased portions of the Site to industrial and commercial entities. Lot 1 and Lot 5 remain GF property. GF, i.Park East Fishkill LLC, and i.Park East Fishkill I LLC are listed as facility owners under the current NYSDEC Part 373 Permit, with IBM maintaining responsibility for Groundwater Corrective Action[2].

2.3 Regional Hydrogeologic Setting

According to regional surficial geologic mapping for the lower Hudson River Valley[3], the Site is located in an area of northeast and north-northeast trending ridges of glacial till and/or bedrock which are drained by valleys underlain by coarse-grained proglacial (near ice) outwash or kame sand and gravel deposits, glaciolacustrine silt and clay, and post-glacial alluvium. Bedrock in the area of the Site is mapped as the Cambrian to Lower Ordovician carbonate platform rocks of the Wappinger Group[4].

As shown on the Surface Water Location Map provided as **Figure 2-2**, surface water features within the Site include wetland areas within the southeastern, southern and western portions of the Site that are drained by Gildersleeve Brook and an unnamed tributary to Gildersleeve Brook referred to as the Central Drainage. The Central Drainage originates east of the Site and flows west through the central portion of the Site before discharging into Gildersleeve Brook. As shown on **Figure 2-2**, a large segment of the Central Drainage is located within an underground storm sewer pipeline present beneath Building 334 (B/334) and the parking lot east of B/334. Gildersleeve Brook flows in a northwest direction near the western Site boundary and continues to flow outside the limits of the Site in a north to northwest direction before discharging into Fishkill Creek.

[2] NYSDEC, July 1, 2015, *Facility Permit Transfer IBM Corporation to GLOBALFOUNDRIES U.S. 2LLC, East Fishkill Facility.*

[3] Cadwell, D.H., ed., 1989, *Surficial Geologic Map of New York, Lower Hudson Sheet*, New York Geological Survey, Map and Chart Series #40.

[4] Fisher, D.W., Isachsen, Y.W., and Rickard, L.V., eds., 1970, *Bedrock Geologic Map of New York, Lower Hudson Sheet*, New York Geological Survey, Map and Chart Series #15.

2.4 Corrective Action History

A groundwater protection program was initiated by IBM at the Site in 1978. The initial activities included installation and sampling of groundwater monitoring wells. Upon the discovery of the presence of chemicals in groundwater at the Site, IBM commenced a voluntary investigation of the Site in an effort to establish the source and to determine the nature and extent of chemicals in groundwater. IBM also took voluntary remedial actions to remove sources, extract and treat the contaminated groundwater, and monitor the groundwater within and outside the boundaries of the Site[5].

On January 23, 1981, the NYSDEC placed the Site, on the registry of Inactive Hazardous Waste Disposal Sites. Pursuant to Section 27-1313 of the Environmental Conservation Law, IBM signed an Order-on-Consent in April 1981 (1981 Order) with the NYSDEC. The 1981 Order stipulated that IBM would:

- Contain, collect and treat contaminated groundwater;
- Implement remedial action programs;
- Establish a groundwater monitoring program.

In June 1986, three provisions were added to the 1981 Order to supplement and clarify the obligations of IBM[6]. These provisions further stipulated that NYSDEC retains the right to obtain for the purpose of comparative analysis split samples, IBM would submit periodic monitoring reports, and IBM would notify the NYSDEC if there was a significant change in water quality at the perimeter of the Site or in IBM's production wells within the Site.

Subsequent to the 1981 Order, IBM developed a program to monitor, evaluate and remediate contaminated groundwater. Beginning in early 1992, under the authority of the Resource Conservation and Recovery Act (RCRA) Corrective Action Program, NYSDEC reviewed documents submitted by IBM to fulfill RCRA Facility Investigation reporting requirements for contaminated groundwater in five areas of the Property, designated as Area A, Area B, Area D,

[5] New York State Department of Environmental Conservation, April 27, 1981, *IBM East Fishkill Order on Consent, Case #3-0556; Article 27 ECL.*

[6] New York State Department of Environmental Conservation, June 19, 1986, *IBM East Fishkill Order on Consent, Supplement and Clarification, Case #3-0556; Article 27 ECL.*

Deep Bedrock and the Southeast Quadrant. In a letter dated March 10, 1993[7], NYSDEC approved the following four groundwater collection and treatment systems as RCRA Interim Corrective Measures:

- The Area A Groundwater Collection and Treatment System
- The Area B Groundwater Collection and Treatment System
- The Area D Groundwater Collection and Treatment System
- The Central Carbon System (treating groundwater withdrawals from deep bedrock production wells)

In September 1995, NYSDEC issued IBM a 6NYCRR Part 373 Hazardous Waste Management Permit[8], including Modules III and IX which address Corrective Action. The permit indicated that IBM's obligations under the Order-on-Consent with the NYSDEC were terminated and superseded by the 1995 Part 373 Permit.

In November 2011, the 6NYCRR Part 373 Permit[9] was renewed. The 2011 Part 373 Permit addresses: (1) the storage and management of hazardous waste in containers; (2) the operation and maintenance of the Interim Corrective Measures (ICMs) for contaminated groundwater; (3) the monitoring and maintenance of the groundwater monitoring well network used to assess the performance of the interim corrective measures; and (4) financial assurance for closure and corrective action.

A Final Statement of Basis, dated September 2013 (FSB) with an effective date of April 16, 2014, was developed by the NYSDEC in consultation with the New York State Department of Health (NYSDOH) under the authority of RCRA. The corrective action remedial program described in the FSB was incorporated into the 2011 Part 373 Permit (Modules II and IX). Module II was modified to incorporate the selected groundwater remedy. The FSB selected the final remedy for the Site as "No Further Action" with continued operation of the groundwater extraction and treatment systems that were installed as Interim Corrective Measures, the implementation of institutional controls

[7] New York State Department of Environmental Conservation, March 10, 1993, Letter from S. Kaminski to W. Rudloff of IBM, re: Groundwater Investigation/Treatment Documents.

[8] New York State Department of Environmental Conservation, September 29, 1995, *6 NYCRR Part 373 Hazardous Waste Management Permit, IBM East Fishkill Facility.*

[9] New York State Department of Environmental Conservation, November 2, 2011, *6 NYCRR Part 373 Hazardous Waste Management Permit, IBM East Fishkill Facility.*

(ICs) and engineering controls (ECs) and a Site Management Plan. The FSB also constitutes the "Record of Decision" required for these Areas of Concern under New York State's Inactive Hazardous Waste Disposal Site program regulations (6NYCRR Part 375).

As described in the FSB, the Site includes eight Areas of Concern (AOCs) based on known historic release areas that resulted in the presence of hazardous substances in soil, bedrock, and/or groundwater. Each of these AOCs have been designated as Operable Units (OUs) as listed below:

- Bedrock Remediation Area (OU2);
- Area B – Fire Brigade Training #1, Leachfield and Silica Slurry Lagoon (OU3);
- Area D – Fire Brigade Training #2 (OU4);
- Area A – Building 308, Building 309 and Building 310 Vicinity (OU5);
- Area C – Landfill (OU6);
- Building 322 AOC (OU7);
- Building 330 AOC (OU8); and
- Southeast Quadrant (SEQ) (OU9).

The general locations of OUs 3 through 9 are shown on **Plate 2-2**. The Bedrock Remediation Area (OU2) corresponds to the portions of the bedrock beneath the above-listed OUs where hazardous substances exceed applicable Part 703 New York State Groundwater Quality Standards (NYSGQS). These areas primarily consist of bedrock beneath OUs 5, 6, 7, and 8. In addition to the Site, IBM has maintained the right to use the groundwater monitoring wells on the former IBM West Complex property, located west of the Site, and the former IBM Recreation Center property, located east of the Site, and has continued monitoring and maintenance of these off-Site wells as part of the Site's Groundwater Monitoring Plan (GMP). There are no AOCs at the former IBM West Complex property or at the former IBM Recreation Center property.

2.5 Groundwater Monitoring Plan

The Site's groundwater monitoring program was implemented in 1979 to provide the data necessary to manage water quality problems and the Site water supply. Groundwater has historically been the primary water supply source for the Site and its neighbors. Of the 17 production wells historically operated by IBM, nine wells (PW-1, PW-2, PW-4, PW-5/5A, PW-6, PW-7, PW-9, PW-23, and PW-25) are located on the Site. On-Site production wells that operated in 2019 include: PW-1,

PW-2, and PW-25. The remaining six on-Site production wells (PW-4, PW-5/5A, PW-6, PW-7, PW-9, and PW-23) are now inactive. The other production wells are located on GF-owned properties to the north and northwest and provide water to the Site. Beginning in August 2007, water from the production wells has been supplemented with municipal water from the Poughkeepsies' Water Treatment Facility via the Central Dutchess Water Transmission Line.

Groundwater monitoring and remediation activities have undergone a succession of incremental modifications since the late 1970s. A GMP was implemented during the first quarter of 1996 and subsequently was approved by NYSDEC in accordance with Modules III and IX of the Site's original 6 NYCRR Part 373 Permit. When IBM's Part 373 Permit was renewed in 2011, the GMP remained in effect per Modules II and IX of the Permit.

On September 18, 2015, IBM submitted a modified GMP requesting changes in sampling frequency of volatile organic compounds (VOCs) and type and frequency of inorganic sampling parameters[10]. NYSDEC approved the request on September 30, 2015[11] and the new GMP was implemented in the fourth quarter of 2015.

In 2018, NYSDEC approved shutdown of extraction wells in Area B (OU3), Area D (OU4), the B/322 AOC (OU7), and the SEQ (OU9). NYSDEC also approved changes in sampling frequency and location of several wells within these operable units.

The current GMP designates 381 wells as Hydraulic Effectiveness Monitoring (HEM) wells. These HEM wells are shown on **Plate 2-2** and are listed in **Table B-1** of **Appendix B**. 145 of these wells plus the B/384 Groundwater Collection Sump (Area A Sump) are monitored routinely as part of the Corrective Action Performance (CAP) Monitoring Network. The CAP monitoring wells and their physical specifications are listed in **Table B-2** of **Appendix B**. The current GMP sampling schedule is shown on **Table B-3** of **Appendix B**.

[10] IBM to NYSDEC via e-mail, Groundwater Sciences Corporation, September 17, 2015, *Groundwater Monitoring Plan, Former IBM East Fishkill Facility*.

[11] NYSDEC to IBM Corporate Environmental Affairs, September 30, 2015, *Request for Groundwater Monitoring Plan Modifications*.

2.6 Description of Groundwater Collection and Treatment Systems

The Corrective Measures program includes the operation of groundwater collection and treatment systems. The collection and treatment systems operate to remediate the Bedrock Remediation Area (OU2) and shallow groundwater from the Area A AOC (OU5). In 2019, groundwater collection operations consisted of the operation of three bedrock production wells, designated PW-1, PW-2, and PW-25, and operation of a shallow overburden groundwater collection sump located in B/384 within the Area A AOC (OU5).

At the beginning of 2019, the bedrock production well withdrawals were conveyed to the Central Carbon System (CCS) in B/316. The groundwater withdrawals from the three active bedrock production wells were treated by GF on behalf of IBM using granular activated carbon (GAC). During the first quarter of 2019, treatment operations shifted to the use of newly constructed standalone groundwater treatment facilities maintained and operated by GSC on behalf of IBM. Beginning on March 5, 2019, production well PW-1 withdrawals were treated in the PW-1 Groundwater Treatment Facility (GTF). Beginning on March 12, 2019, production well PW-2 withdrawals were treated in the PW-2 GTF. Beginning on March 6, 2019, production well PW-25 withdrawals were treated in the PW-25 GTF.

In 2018, collection and treatment of shallow overburden groundwater in the Area A AOC (OU5) was temporarily ceased to allow for modifications and upgrades to the groundwater collection and treatment system in the B/384 GTF. The modifications and upgrades were designed to optimize collection and treatment of VOC-containing groundwater and to add capability to remove per- and polyfluoroalkyl substances (PFAS) in the groundwater. Beginning on February 25, 2019, shallow groundwater collection and treatment in the B/384 GTF was resumed.

The primary treatment technology used in the PW-1 and PW-25 GTFs consists of aqueous phase granular activated carbon (GAC). The primary treatment technology used in the PW-2 GTF is UV/Oxidation with hydrogen peroxide and a UV light reactor followed by catalytic carbon for removal of residual hydrogen peroxide and aqueous phase GAC for removal of VOCs not removed in the UV/Oxidation step of the process. The primary treatment technology used in the B/384 GTF is air stripping to remove VOCs, followed aqueous phase GAC to remove PFAS. The air stream from the air stripper is subsequently treated with vapor phase GAC. During 2019, treated effluent from the PW-1, PW-2, and PW-25 GTFs was conveyed to B/316 to provide production water for

GF's manufacturing operations, and treated effluent from the B/384 GTF was conveyed to GF's B/312 industrial waste treatment (IWT) facility. A map showing the locations of the three active bedrock production wells, the B/384 Groundwater Collection Sump, the four GTFs, the B/316 CCS, and the B/312 IWT facility is provided as **Figure 2-3**. Descriptions of each of the GTFs are provided in the following subsections.

2.6.1 PW-1 GTF

The PW-1 GTF has been designed to treat groundwater pumped from production well PW-1. The maximum anticipated flow rate for PW-1 is 100 gpm. The primary constituents of concern are tetrachloroethylene (PCE), trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), and 1,1,2-trichloro-1,2,2-trifluoroethane (Freon® TF). A process flow diagram for the PW-1 GTF treatment system is provided as **Figure 2-4**. Once inside the GTF, groundwater flows through dual stage GAC vessels arranged in series with a capacity of 10,000 pounds per vessel. The dual stage GAC system has a hydraulic capacity of 500 gpm. Following GAC treatment, the groundwater flows to the Treated Water Tank T-300 and is pumped via the Discharge Pump P-300 to B/316 for GF's use in their manufacturing operations. The GTF is also constructed to allow discharge to a future SPDES permitted outfall location (Outfall 42A).

As shown on **Figure 2-4**, the treatment system also includes a Backwash/Grit Pump P-400 and Bag Filters F-401/402. The systems allow for backwashing of the GAC vessels using treated water from Tank T-300 with the backwash water collected in the Grit Tank T-400. Backwash water collected in the Grit Tank is then pumped through the Bag Filters to Stage 1 of the GAC system. Individual sample ports, pressure gauges, flow meters and flow control valves are provided for operation and monitoring of treatment system performance.

2.6.2 PW-2 GTF

The PW-2 GTF has been designed to treat groundwater pumped from production well PW-2. The maximum anticipated flow rate for PW-2 is 150 gpm. The primary constituents of concern are PCE, TCE, cis-1,2-DCE, vinyl chloride, and Freon® TF. Due to the elevated dissolved VOC concentrations present in PW-2, the primary treatment technology is an advanced oxidation system utilizing 30% aqueous hydrogen peroxide solution injected into the influent groundwater stream followed by a photo-oxidation technology utilizing ultraviolet light inside a series of three reactor

vessels. This system was manufactured by Calgon Carbon Corporation (Calgon) with the trade name Rayox® and is the first step in the groundwater treatment process. The Rayox® system is a 90KW model and is designed to handle a maximum hydraulic flow of 215 gpm.

A 30% aqueous hydrogen peroxide solution is injected into the influent groundwater stream prior to the Rayox® system. To remove of the hydrogen peroxide that is not consumed in the oxidation reaction within the Rayox® system, groundwater treated in the Rayox® system flows to a transfer tank and then is pumped to a GAC treatment vessel containing PeroxCarb® media supplied by Calgon. The PeroxCarb® media is a catalytic impregnated GAC that is designed to reduce residual hydrogen peroxide concentrations to levels less than 1 ug/L.

A process flow diagram for the PW-2 GTF treatment system is provided as **Figure 2-5**. Once inside the GTF, groundwater from production well PW-2 is pumped through bag filters F-901/902 and then injected with a chemical feed of hydrogen peroxide and pumped through the Rayox® system and into Transfer Tank T-700. Transfer Pumps P-701/702 pump groundwater through the catalytic GAC vessel that has a capacity of 10,000 pounds of media, followed by the dual stage GAC system composed of two vessels, each with 10,000 pounds of aqueous phase GAC operated in series. Following GAC treatment, the groundwater flows to a Treated Water Tank T-300 and is pumped via the Discharge Pump P-300 to B/316 for GF's use in their manufacturing operations. The GTF is also constructed to allow discharge to a future SPDES permitted outfall location (Outfall 04A).

As shown on **Figure 2-5**, the treatment system also includes a Backwash/Grit Pump P-400 and Bag Filters F-401/402. The systems allow for backwashing of the GAC vessels using treated water from Tank T-300 with the backwash water collected in the Grit Tank T-400. Backwash water collected in the Grit Tank is then pumped through the Bag Filters to the inlet of the catalytic GAC vessel. Individual sample ports, pressure gauges, flow meters and flow control valves are provided for operation and monitoring of treatment system performance.

2.6.3 PW-25 GTF

The PW-25 GTF has been designed to treat groundwater pumped from production well PW-25. The maximum anticipated flow rate for PW-25 is 250 gpm. The primary constituents of concern are PCE, TCE, cis-1,2-DCE, and Freon® TF. A process flow diagram for the PW-25 GTF treatment

system is provided as **Figure 2-6**. Once inside the GTF the production well withdrawals flow through dual stage GAC vessels arranged in series with a capacity of 20,000 pounds per vessel. The dual stage GAC system has a hydraulic capacity of 710 gpm. Following GAC treatment, the groundwater flows to a Treated Water Tank T-300 and is pumped via the Discharge Pump P-300 to B/316 for GF's use in their manufacturing operations. The GTF is also constructed to allow discharge to a future SPDES permitted outfall location (Outfall 28A).

As shown on **Figure 2-6**, the treatment system also includes a Backwash/Grit Pump P-400 and Bag Filters F-401/402. The systems allow for backwashing of the GAC vessels using treated water from Tank T-300 with the backwash water collected in the Grit Tank T-400. Backwash water collected in the Grit Tank is then pumped through the Bag Filters to Stage 1 of the GAC system. Individual sample ports, pressure gauges, flow meters and flow control valves are provided for operation and monitoring of treatment system performance.

2.6.4 B/384 GTF

The B/384 GTF has been designed to treat shallow overburden groundwater pumped from the Area A Sump located below B/384. Monitoring well purge water and condensate water from the on-Site SVE and SSD systems are collected and treated in the B/384 treatment system.

A process flow diagram for the B/384 GTF treatment system is provided as **Figure 2-7**. An eductor/jet pump extraction system is used to extract groundwater from the Area A Sump. Pump P-700 circulates water from Tank T-700 through eductors connected to the extraction points. The groundwater drawn from the extraction points enters Tank T-700 and excess groundwater overflows from Tank T-700 to Tank T-200. Pump P-200 pumps groundwater from Tank T-200 to Influent Storage Tank T-100, and from there, Transfer Pumps P-101/102 pump the groundwater to the treatment system.

The maximum anticipated flow rate for the B/384 treatment system is 10 gpm. The primary constituents of concern include VOCs (PCE, TCE, cis-1,2-DCE) and Poly- and Perfluoroalkyl Substances (PFAS). A QED EZ-Tray® Model 6.6 air stripper removes VOCs from the groundwater. The Tray-Type Air Stripper, utilizes six (6) treatment trays and an air flow rate of 340 cfm. The air stripper has a hydraulic capacity of 65 gpm. Transfer Pump P-300 pumps effluent from the air stripper through Bag Filters F-401/402, followed by a dual stage GAC system designed

to remove PFAS. The aqueous phase GAC system is composed of two vessels, each with 1,000 pounds of GAC operated in a series arrangement. Following GAC treatment, the treatment system effluent is pumped to GF's B/312 IWT facility. The GTF is also constructed to allow discharge to a future SPDES permitted outfall location (Outfall 04B).

As shown on **Figure 2-7**, the treatment system includes dual stage Vapor Phase GAC Vessels V-601/602 for treatment of the Air Stripper S-300 off-gas air stream. Duct Heater DH-1 pre-heats the air stream prior to the Vapor Phase GAC Vessels to prevent condensation in the vessels and Duct Heater DH-2 preheats the outside air stream prior to the air stripper sump to prevent ice formation in cold weather months. Blower B-100 is connected to the vent piping of Tank T-100 and exhausts any vapors that collect in the tank for treatment in the Vapor Phase GAC Vessels. The water from other Site activities, such as monitoring well purge water and condensate water from the SVE and SSD systems is added to the T-100 Influent Storage Tank T-100. Individual sample ports, pressure gauges, flow meters and flow control valves are provided for operation and monitoring of treatment system performance.

3 CORRECTIVE MEASURES IN 2019

Corrective Measures implemented at the Site in 2019 include: groundwater collection operations to reduce and maintain hydraulic control of groundwater VOC plume areas and/or other constituents of potential concern; groundwater treatment operations to remove contaminants from the groundwater withdrawals; groundwater monitoring to support assessment of the effectiveness and progress of the groundwater corrective measures; a RCRA Facility Investigation (RFI) in the B/322 AOC (OU7) to identify residual source areas beneath and proximate to the former B/322 building slab; a RFI in the B/335 to identify the nature and extent of VOCs presence in the subsurface beneath and proximate to B/335; indoor air assessments; and design and installation of SSD systems.

3.1 Groundwater Collection Operations

During 2019, bedrock production wells PW-1, PW-2, and PW-25 were operated as groundwater withdrawal wells for the Site's corrective measures program. The purpose of the production well system is to control and contain the bedrock groundwater VOC plumes (referred to as the Bedrock Remediation Area or OU2). In 2019, groundwater collection operations also included groundwater withdrawals from the shallow overburden groundwater collection sump located in B/384 within the Area A AOC (OU5). A summary of groundwater collection volumes by well and by month in 2019 is provided as **Table C-1** in **Appendix C**. Total volumes of groundwater collected in 2019 for each of the bedrock production wells and the Area A Sump in B/384 are presented below in **Table 3-1**.

Table 3-1. Pumping Volumes by Well/Remediation Area

Well or Sump	Gallons Pumped	Average 2019 Flow Rate (GPM)
PW-1	67,775,199	129
PW-2	55,505,715	106
PW-25	115,733,582	220
Area A	367,590	0.8
Total	***239,014,495***	***455***

The total volume of groundwater collected at the Site increased from 215.1 million gallons (MG) in 2018 to 239.0 MG in 2019, equivalent to about 0.65 MG per day. The increase in groundwater withdrawals was primarily due to increases in the average withdrawal rates for production wells PW-1, from 70 to 129 gpm, and PW-2, from 88 to 106 gpm. The 2019 average withdrawal rate for

well PW-25 was relatively unchanged from 2018, while the average withdrawal rate for the Area A Sump in B/384 increased from 0.5 gpm in 2018 to 0.8 gpm in 2019.

3.2 Groundwater Treatment Facility Operations

At the beginning of 2019, the bedrock groundwater withdrawals from active bedrock production wells PW-1, PW-2, and PW-25 were conveyed to the Central Carbon System (CCS) in B/316. As mentioned in Section 2.6, treatment operations for groundwater withdrawals from the three bedrock production wells shifted to the use of newly constructed standalone groundwater treatment facilities during the first quarter of 2019. Collection and treatment of shallow overburden groundwater in the Area A AOC (OU5) that temporarily ceased in 2018 to allow for construction of modifications and upgrades, resumed on February 25, 2019. In addition to overburden groundwater withdrawals, the B/384 GTF treated purge water generated during sampling of groundwater monitoring wells and condensate collected from various SVE or SSD systems. Throughout 2019, the B/384 GTF effluent was conveyed to GF's B/312 IWT facility.

3.2.1 Treatment System Sampling

Treatment system sampling within the GTFs included collection and analysis of samples of treatment system influent, mid-point samples between aqueous-phase carbon vessels, and samples of treatment system effluent. All influent, mid-point, and effluent samples were analyzed for VOCs by SW-846 Method 8260C. During treatment system startups in February and March 2019, the treatment system samples were initially collected on a weekly or biweekly basis. After the first two months of operation, samples were collected monthly. Specific sample collection frequencies for treatment system samples collected within each GTF are as follows:

- **PW-1 and PW-25 GTFs** – GAC influent samples collected biweekly during the first month, and monthly thereafter; GAC midpoint samples collected monthly beginning in December; and GAC effluent samples collected weekly during the first month, biweekly during the second month, and monthly thereafter.

- **PW-2 GTF** – Rayox® influent samples were collected biweekly during the first and second months, and monthly thereafter. Rayox® effluent/GAC influent, GAC midpoint, and GAC

effluent samples were collected weekly during the first month, biweekly during the second month, and monthly thereafter.

- **B/384 GTF** – Air stripper influent, air stripper effluent/GAC influent, GAC midpoint, and GAC effluent samples collected weekly during the first month, biweekly during the second month, and monthly thereafter.

Chemistry data for the bedrock production wells are presented in **Appendix G**, and chemistry data for the B/384 Groundwater Collection Sump and all the groundwater treatment systems samples are presented in **Appendix I**.

3.2.2 Contaminant Removal

Contaminant mass removal was calculated for 2019 using monthly concentration data, together with monthly pumping volumes for the three active bedrock production wells and the Area A groundwater collection sump in B/384. Contaminant recovery by month is provided as **Table C-2** in **Appendix C**. **Table 3-2** summarizes the contaminant recovery levels (mass removals) for the bedrock production wells and the Area A extraction system.

Table 3-2. 2019 Contaminant Mass Removal (lbs)
Groundwater Remediation Areas

Well or Sump	PCE	TCE	cis-1,2-DCE	VC	Freon® TF	Freon® 123a	Other VOCs	Totals
PW-1	9.2	3.6	0.9	0.0	1.4	0.1	0.1	*15*
PW-2	5,100	330	560	58	61	3.9	0.9	*6,100*
PW-25	630	120	39	0.0	16	0.3	0.5	*810*
Area A Sump	26	1.1	0.1	0.0	0.1	0.0	0.0	*27*
Total by Compound	*5,800*	*450*	*600*	*58*	*79*	*4.3*	*1.5*	*7,000**

* Total pounds removed is the sum of the mass removed by well. This number may not match the sum of the mass removed by compound because of rounding.

Approximately 3.5 tons of VOCs were recovered during 2019 from approximately 239 MG of groundwater. As shown in **Table 3-2**, the majority (87 percent) of the VOC contaminant mass was recovered from well PW-2. A significant fraction of the VOC mass (about 12 percent) was also recovered from well PW-25. Operation of PW-2 also resulted in the greatest rate of mass removal with about one pound of VOCs removed per every 9,100 gallons withdrawn. The rate of mass

removal was also relatively high for the B/384 Groundwater Collection Sump with about one pound of VOCs removed per every 13,600 gallons withdrawn. Operation of bedrock production well PW-1 accounted for the least amount of mass removal and the lowest rate of mass removal. Since 1979, approximately 188 tons of VOCs have been removed from approximately 14.2 billion gallons of extracted groundwater.

3.2.3 Operational Efficiency

The operational efficiency of the groundwater collection and treatment systems at the Site in 2019 was estimated by reviewing the number of days that each well or sump was pumping and comparing this number to the number of possible days of operation. Groundwater collection systems were considered active when at least 10 gallons per day were extracted. **Table 3-3** summarizes the days of activity for each well or sump and shows the up-time percentage relative to either the number of days in the year or the period when the well or sump was available (e.g., partial year for B/384 Groundwater Collection Sump).

Table 3-3. Operational Efficiency of Groundwater Collection and Treatment Systems in 2019

Well or Sump	Actual Days of Operation out of Possible Days of Operation	Percent Time in Operation*
PW-1	365/365	100.0%
PW-2	364/365	99.7%
PW-25	361/365	98.9%
Area A Sump	310/310	100.0%
*Percent time in operation is based on full days when at least 10 gallons were withdrawn.		

As shown in **Table 3-3**, the operational efficiency for all four of the groundwater collection systems was greater than 98.9 percent.

3.2.4 Treatment Efficiency

In 2019, groundwater withdrawals from the three active bedrock production wells were treated in the Central Carbon System (CCS) within B/316 or by the three standalone GTFs. Treatment system influent and effluent concentration data were used to calculate the treatment efficiency of the CCS and the three GTFs. Data for sampling points in the CCS and the three standalone GTFs are presented in **Appendix I**, and data for the production wells are presented in **Appendix G**.

During January, February, and the early portion of March 2019, the Central Carbon System (CCS) treated the groundwater withdrawals from bedrock production wells PW -1, PW-2, and PW-25. Treatment efficiency for the CCS is determined from monthly samples collected from monthly production well samples, from between the lead and lag carbon beds for GAC Train #1, Train #2, Train #3 (locations 511-513), and from the blended effluent from the CCS (location 555). Results for the sampling points in the CCS indicate removal efficiency, based on the ratio of influent (Production Wells) to effluent (location 555) concentrations, is greater than 99.9 percent for the CCS. During January, February, and the early portion of March 2019, the average flow rate for the CCS influent was approximately 456 gpm. The treated water from the CCS and from the PW-2 train was used for manufacturing process purposes in 2019.

Starting on March 5, 2019, the groundwater withdrawals from bedrock production well PW-1 were treated in the PW-1 GTF. Treatment efficiency for the PW-1 GTF is determined from monthly influent (locations 210 and 210A) and effluent (location 210F) samples. Based on the ratio of influent to effluent concentrations, the treatment efficiency for the PW-1 GTF was greater than 99.9 percent in 2019. The average flow of the PW-1 groundwater withdrawals treated in the PW-1 GTF in 2019 is approximately 129 gpm. The treated water from the PW-1 GTF was conveyed to B/316 and used by GF for manufacturing process purposes in 2019.

Starting on March 12, 2019, the groundwater withdrawals from bedrock production well PW-2 were treated in the PW-2 GTF. Treatment efficiency for the PW-2 GTF is determined from monthly influent (location 220 and 220A) and effluent (location 220J) samples. Based on the ratio of influent to effluent concentrations, the treatment efficiency for the PW-2 GTF was greater than 99.9 percent in 2019. The average flow of the PW-2 groundwater withdrawals treated in the PW-2 GTF in 2019 is approximately 103 gpm. The treated water from the PW-2 GTF was conveyed to B/316 and used by GF for manufacturing process purposes in 2019.

Starting on March 6, 2019, the groundwater withdrawals from bedrock production well PW-25 were treated in the PW-25 GTF. Treatment efficiency for the PW-25 GTF is determined from monthly influent (locations 325 and 325A) and effluent (location 325F) samples. Based on the ratio of influent to effluent concentrations, the treatment efficiency for the PW-25 GTF was greater than 99.9 percent in 2019. The average flow of the PW-25 groundwater withdrawals treated in the

PW-25 GTF in 2019 is approximately 222 gpm. The treated water from the PW-25 GTF was conveyed to B/316 and used by GF for manufacturing process purposes in 2019.

Treatment efficiency in the B/384 GTF within Area A is calculated based on VOC analyses of monthly samples collected from the influent storage tank (sample point 384A), and from the effluent from GAC units (sample point 384L). Results for these sampling points are presented in **Appendix I** and indicate removal efficiency, based on the ratio of influent to effluent concentrations, was greater than 99.9 percent in 2019. The average flow rate through the Area A treatment system was 0.8 gpm in 2019.

3.2.5 System Maintenance

Groundwater collection and treatment system maintenance activities performed in 2019 included:

- GTF and active production well pump house inspections;
- Inactive production well pump house inspections;
- Cleaning, inspection, and calibration of flow meters;
- Inspection of backflow preventers;
- Exchange of bag filters (PW-2 GTF only)
- Exchange of UV light bulbs in the Rayox® treatment unit in the PW-2 GTF;
- Handling and use of hydrogen peroxide as a water treatment chemical in the PW-2 GTF;
- Exchange of aqueous-phase GAC (PW-2 GTF only);
- Cleaning and removal of scale buildup from the air stripper in the B/384 GTF; and
- Routine maintenance and minor repairs to treatment system components.

Approximately 52,000 pounds (26 tons) of hydrogen peroxide were used as a water treatment chemical in 2019 as part of the UV oxidation treatment process in the PW-2 GTF. There were two aqueous phase carbon exchanges at the PW-2 GTF on November 21, 2019. As a result of the carbon change, 35,300 pounds (approximately 18 tons) of spent carbon were shipped off-Site as hazardous waste for thermal reactivation.

3.3 Groundwater Monitoring Program Activities

Groundwater monitoring activities performed during 2019 in accordance with the GMP included measurement of groundwater elevations, inspection and maintenance of monitoring wells, and collection of groundwater samples for chemical analysis. Each of these activities is described in one of the following subsections.

3.3.1 Groundwater Elevation Measurements

Groundwater elevations were calculated by subtracting the measured depth to water from the surveyed elevation of the measurement point listed in **Appendix D**. For most wells, the designated measurement point is the top of the inner well casing (the "TOC Elevation"). This measurement reference point is typically notched into the top of the well casing. A total of 1,778 water levels were measured manually in 2019 using portable electronic water level meters.

In 2019, the principal water level measurement events occurred on January 2 to 7, April 1-3, July 8-10, and October 1- 4 at the designated Hydraulic Effectiveness Monitoring (HEM) well locations listed in **Table B-1** of **Appendix B**. Supplemental water level measurements were collected near B/384 on February 6, February 14, February 25, March 4, and March 15, 2019. Supplemental water level measurements were collected in and around the B/322 AOC (OU7) on June 3 and July 29, 2019. The water level data have been converted to groundwater elevations and are tabulated in **Appendix D.**

3.3.2 Monitoring Well Inspections

All wells have been surveyed for planar coordinates (northing and easting on the state coordinate grid), ground surface elevation and measurement point elevation (typically top of casing). The table of Physical Well Data and Well Specifications, **Table B-1** of **Appendix B**, presents these data plus other information, including a location description, installation date, depth, well screen intervals, and size and materials of casing and screen.

The annual monitoring well inspections were performed in the first quarter of 2019, supplemented by additional inspections when each monitoring well was sampled. During the annual inspections, the depth to bottom was measured to check for siltation in the Hydraulic Effectiveness Monitoring wells (**Appendix B, Table B-1**) and the wells in the Corrective Action Performance Monitoring

Network (**Appendix B, Table B-2**). Inspections included: (1) measurement of the depth to bottom and comparison of this depth to the well's reference depth to determine the need for redevelopment due to buildup of silt; (2) assessment of the legibility of the well tag, visibility of the survey mark, and need for painting or maintenance of the standpipe or manhole; (3) assessment of the condition of the well seal; (4) assessment of the general downhole condition of the well, including the presence of bends or obstructions; and (5) documentation of dedicated equipment. Follow-up work such as well development, repair of protective casings, well seals, and locks was performed as required.

3.3.3 Groundwater Sampling

Quarterly groundwater sampling events occurred in January, April/May, July, and October/November 2019. The sampling was conducted at locations and frequencies specified in **Table B-3**. The monitoring and production wells specified in the GMP were sampled for the required parameters during each quarter of 2019. Eurofins Lancaster Laboratories Environmental, LLC of Lancaster, Pennsylvania (ELL) is the primary lab for groundwater sample analysis. ELL is certified through the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP), Certificate No. 10670. Groundwater samples were analyzed by secondary laboratory EnviroTest Laboratories, Inc. of Newburgh, New York (ETL). ETL is certified through the New York State Department of Health (NYSDOH) Environmental Laboratory Accreditation Program (ELAP), Certificate No. 10142.

3.3.3.1 Reporting of Groundwater Chemistry Data

A sampling record for each well location (SAMP19a.xlsx) is provided on a compact diskette (CD) in **Appendix E**. This CD contains purging and sampling data for 2019, as specified in **Table 7-1** of the GMP, "IBM East Fishkill Well Record and Data Format." SAMP19a.xlxs contains the following information sorted by well/location number and sampling date:

1. Well or sample location number
2. Date of sample
3. Sample identification number
4. Equipment used
5. Depth to water prior to purge
6. Purge rate

7. Purge volume
8. Sampler's initials
9. Number of containers for each type of analysis
10. PID reading (if applicable)
11. Whether the well was evacuated
12. Relevant comments

Also included on the CD in **Appendix E** is the database file FIELD19a.xlsx. This file contains field parameter data for pH, temperature, specific conductance, and turbidity. These parameters were measured in the field at the time of sample collection.

Appendix E also contains a daily summary of meteorological data obtained from the National Climatic Data Center for the Dutchess County Airport, the nearest available station. Meteorological data for a given sample can be obtained by cross-referencing the date of the sample with the corresponding date in this table.

3.3.3.2 Quality Assurance/Quality Control Samples

The GMP samples were collected in 2019 according to the procedures described in Section 2 of the GMP. The samples were analyzed by NYSDOH-certified laboratories using EPA methods for VOCs and inorganics. The 2019 field QA/QC chemistry data includes duplicate samples, trip blanks and equipment rinse blanks. The duplicate samples data are presented with the groundwater data in **Appendix F**. The trip and equipment rinse blank data are presented in **Appendix H**.

Laboratory precision was tested by filling multiple sampling containers from the same sampling device during each sampling round; these samples were then analyzed for the parameters of interest. Duplicate samples were generally collected once per 20 environmental samples from the groundwater monitoring wells. These duplicate sample results are indicated by the sample description "REPLICATE" in the analytical data printouts in **Appendix F**. The duplicate sample results are listed next to the corresponding primary sample results. In general, duplicate sample results were in good agreement. Gross variations in duplicate analysis results that would indicate serious analytical problems were not observed.

In addition to duplicate samples, trip blanks were prepared by the laboratory using analyte-free deionized (DI) water for each cooler containing VOC samples for each sampling round. The

purpose of the trip blanks is to detect VOC contamination during sample transportation and storage. These trip blanks were the first items placed into each cooler by the laboratory and accompanied the empty sample containers from the laboratory to the field, and the filled sample containers from the field back to the laboratory. Environmental samples associated with each trip blank generally can be determined by the date of the trip blank (refer to "Sample Date" heading in **Appendix H**). Seventy-seven (77) trip blanks were collected in 2019 as part of the Part 373 sampling program. Common laboratory contaminant acetone was detected in 19 trip blanks at concentrations less than 5 µg/l. No other VOCs were detected in trip blanks.

Equipment rinse blanks were collected to confirm the efficiency of decontamination procedures for each sampling round by rinsing non-dedicated equipment such as water level indicators with laboratory-supplied analyte-free DI water. Forty-six (46) rinse blanks were collected in 2019 from water level indicators or non-dedicated submersible pumps and analyzed for VOCs. These results are also presented in **Appendix H**. Thirteen equipment blanks had low levels (less than 5 µg/l) of common laboratory contaminant acetone present.

Overall, the equipment rinse blank results do not suggest serious problems with field decontamination procedures.

Although not required by the GMP, five field blanks were collected in 2019 as presented in **Appendix H**. The field blanks were collected in the B/384 GTF and the PW-2 GTF and submitted for VOC analysis. Common laboratory contaminant acetone was detected in three field blanks at concentrations less than 5 µg/l. PCE was detected at trace levels of 0.2 µg/l or less in three field blanks.

3.4 B/322 AOC (OU7) RFI

In 2019, IBM completed a RCRA Facility Investigation (RFI) in the B/322 AOC (OU7). The purpose of the RFI was to collect data of sufficient quantity and quality to further refine the nature and extent of the VOC presence in the B/322 AOC (OU7) portion of the Site. The findings of the RFI were also intended to evaluate whether a source for the remaining VOC presence exists, and if so, are B/322 AOC conditions suitable for additional source reduction corrective measures. The scope of the RFI consisted of a multi-phased program of field explorations and testing whereby the results of the initial field explorations were reviewed and used to support the scope of the

subsequent phases of work. Results of the investigation did not identify residual VOC source areas. All soil sample detections were at least an order of magnitude below New York State Part 375.6-8 Soil Cleanup Objectives for commercial use. Groundwater grab sample results were consistent with previous sampling of nearby monitoring wells. The nature and extent of the remaining VOC presence detected in groundwater was consistent with what would be expected in the area of a former plume that has been present for several decades. Details regarding the scope and the findings of the investigation were presented in an RFI Report dated March 30, 2020.

3.5 B/335 RFI

On April 23, 2019 IBM submitted a vapor intrusion summary report[12] for B/335 in the B/330 AOC (OU8). Based on the data, NYSDEC declared in a letter dated June 7, 2019[13] that there was a newly discovered release, and requested an RFI Work Plan in accordance with Module II, Condition D of the current Part 373 permit. IBM submitted a work plan on September 5, 2019[14], which was conditionally approved by NYSDEC on October 17, 2019[15]. In a letter dated November 4, 2019[16], IBM amended the RFI Work Plan to address the items listed in the conditional approval. Field work for this vapor intrusion assessment began in the fourth quarter 2019 and extended into the first quarter of 2020. A final RFI report is expected to be completed in the second quarter of 2020.

3.6 Vapor Intrusion Assessment/Mitigation

Site-wide vapor intrusion (VI) assessment/mitigation is being conducted at the request of NYSDEC and NYSDOH. Over the past decade, IBM's work to assess/mitigate the potential VI pathways has

[12] Dean Chartrand, IBM, April 23, 2019, Letter to Jessica LaClair, *Building 335 Data Summary Report, Vapor Intrusion Assessment*, Former IBM Facility, East Fishkill, New York, NYSDEC Site No. 314054.

[13] Jessica LaClair, NYSDEC, June 7, 2019, Letter to Dean Chartrand, IBM, Joe Cotter, iPart 84, Gary Marone, Global Foundries, *Re: Building 335 Data Summary Report, Vapor Intrusion Assessment*, Former IBM Facility, East Fishkill, New York, NYSDEC Site No. 314054.

[14] Dean Chartrand, IBM, September 5, 2019, to Jessica LaClair, *B335 Area RCRA Facility Investigation Work Plan*, Former IBM East Fishkill Facility, Hopewell Junction, New York, NYSDEC Site No. 314054.

[15] Jessica LaClair, NYSDEC, October 17, 2019, Letter to Dean Chartrand, IBM, *RE: B335 Area RCRA Facility Investigation Work Plan*, Former IBM Facility, East Fishkill, New York, NYSDEC Site No. 314054.

[16] Dean Chartrand, IBM, November 4, 2019, to Jessica LaClair, *B335 Area RCRA Facility Investigation Work Plan*, *IBM Response to Conditional Approval*, Former IBM East Fishkill Facility, Hopewell Junction, New York, NYSDEC Site No. 314054.

been performed in accordance with a final work plan approved in July 2009[17] by the Agencies. IBM's VI RFI Work Plan for VI assessment focused on 13 buildings. IBM maintains responsibility for execution of the VI RFI Work Plan in spaces that are and remain industrial use. As part of a separate agreement among IBM, iPark, and GF, iPark is responsible for VI-related issues in the commercial spaces, including the installation of SSD systems for VI mitigation purposes in each commercial space.

IBM is working cooperatively with GF and iPark to maintain the appropriate HVAC operating conditions necessary for VI mitigation in routinely occupied portions of the buildings that were the focus of the VI RFI Work Plan. It is GF's and iPark's responsibility to communicate to IBM planned changes to occupancy or HVAC conditions in these buildings, so that IBM can assess whether additional IAQ testing is warranted. IBM maintains responsibility for operation and maintenance (O&M) of the SSD and SVE systems for VI mitigation and VOC source reduction in the industrial spaces.

Vapor intrusion (VI) assessment and mitigation-related work conducted at the Site in 2019 included:

- Changes to heating, ventilating, and air conditioning (HVAC) operations;
- Indoor air and/or subslab vapor sampling;
- Operation of four SSD systems, three interim SSD systems, one exterior SVE system; and
- Start-up and performance monitoring of a new SSD system in B/330C and an expanded SSD system in B/330D.

The Vapor Intrusion Assessment Annual Report that summarizes these activities is presented in **Appendix K**.

3.7 Other Activities, Issues, and Plans for 2020

There were no other significant activities or issues related to the Corrective Measures program in 2019. IBM plans to complete the B/335 RFI discussed in Section 3.5 and submit a final report in 2020. Additionally, IBM plans to complete piping installation from production well PW-2R to the PW-2 GTF so that the well can be placed online.

[17] NYSDEC to IBM Environmental Engineering, July 10, 2009, *Approval of RFI Work Plan, VOC Source Assessment*

4 HYDROGEOLOGY

Groundwater at the Site occurs in saturated zones within both the overburden (soil) and bedrock stratigraphic units. In general, recharge to the bedrock passes through the overlying soil units, which include: soil fill; alluvial sandy silt, silty sand, and sand and gravel; an extensive but discontinuous layer of glaciolacustrine silt and clay, ice-contact sand and gravel, and dense, glacial till. The maximum thickness of these soil stratigraphic units is greater than 120 feet. Strong vertical flow of groundwater is induced by three active on-Site corrective action pumping wells completed in the bedrock.

This section presents the results of quarterly water level monitoring for 2019 in both the soil and bedrock saturated zones and discusses the effects of corrective action pumping on groundwater flow in these units. The most extensive groundwater sampling round was completed in the second quarter 2019; therefore, second quarter 2019 groundwater elevations are the focus of the following discussions.

4.1 Soil Groundwater Elevations

Plate 4-1 shows the groundwater elevations for portions of the soil water table during the second quarter of 2019 (April 1-3) under dynamic conditions of long-term corrective action pumping in the bedrock. The gray cross-hatched areas on **Plate 4-1** indicate areas where soils are inferred to be unsaturated ("dry" areas), as a result of dewatering by corrective action pumping or where soils lie on top of buried bedrock ridges or other areas of relatively high bedrock surface elevation.

Groundwater exists in the soils beneath the Site under generally unconfined (water table) conditions. Groundwater flow within these soils is controlled by various factors including: (1) the upper surface topography of the soil units; (2) the hydraulic characteristics of the soils; (3) the location of recharge and discharge zones; (4) horizontal and vertical gradients; and (5) the vertical hydraulic conductivity across stratigraphic units within the soils, and across the interface between the soils and bedrock.

In the northern parts of the Site, the soil water table generally reflects the surface topography of the extensive but discontinuous glaciolacustrine silt/clay which, together with several areas of dense glacial till, is the primary control on soil groundwater flow. Areas where the glaciolacustrine silt/clay is present are shaded tan on **Plate 4-1**. The silt/clay generally inhibits vertical migration of

soil groundwater into the lower soil units and the dense till generally inhibits vertical migration of soil groundwater into bedrock. These soil strata also act as barriers to vertical contaminant transport. In areas where the silt/clay is absent and/or where the till is less dense or absent, soil groundwater passes through deeper soil units and into the bedrock.

Areas where VOCs are present in soil groundwater perched within alluvial soils above the glaciolacustrine silt/clay include Area A (OU5) and the B/322 AOC (OU7). Areas where VOCs are present in soil groundwater within glacial till soil are the B/330 AOC (OU8) and the nearby Area C Landfill (OU6).

4.1.1 Area A (OU5)

North of B/309 and B/310, the stratigraphic sequence consists of soil fill and silty sand overlying dense lodgment till with bouldery till. The glaciolacustrine silt/clay is absent north of B/309 and B/310 and east of B/309, as shown on **Plate 4-1**. The stratigraphic sequence from north to south gradually changes from till (north of B/309 and B/310) to include soil fill, sand, and sand-and-gravel lenses deposited on top of the silty sand that overlies the glaciolacustrine silt/clay confining unit.

Groundwater is typically perched within the alluvial sand above the silt/clay in Area A and flows from the northeastern edge of B/310 to the north and northeast. The flow in the northern part of Area A is typically from the northeast corner of B/310 and the northern portion of B/309, and from B/303 toward an area where the silt/clay is generally absent north of the linkway between B/309 and B/310 (refer to "245 feet" contour on **Plate 4-1**). The soil groundwater table north of B/309 and the northeast corner of B/310 is located primarily in the till, where soil groundwater typically flows downward into the bedrock in the vicinity of wells GW-010, GW-748, and GW-763. The area in the vicinity of these wells is saturated and appears as a sink for soil groundwater and is referred to as the "B/309 sink."

The remainder of the flow from beneath B/310 in the northern part of Area A is typically toward the northwest corner of B/308 where the silt/clay and dense till are absent (**Plate 4-1**). In this area, referred to as the "B/308 sink" (refer to closed "246 feet" contour, **Plate 4-1**), soil groundwater flow is primarily lateral toward the edge of the silt/clay and generally vertically downward beyond the

edge of the silt/clay and into the bedrock, where it is captured by production well PW-2. The groundwater flow divide between the B/308 and B/309 groundwater sinks is shown on **Plate 4-1**.

Flow from the southeast corner of B/310 is to the south and southeast (**Plate 4-1**). A groundwater flow divide in the alluvial unit above the silt/clay is located between B/386 and B/308. This divide separates shallow groundwater flow to the east and to the north toward the B/308 sink, from shallow groundwater flow to the south across the edge of the silt/clay and then downward into deeper soils (primarily till) and bedrock in the vicinity of the southeast corner of B/316.

4.1.2 B/322 AOC (OU7)

Groundwater flow in the B/322 AOC (OU7) controls migration of a plume emanating from the northeastern corner of B/322 near well GW-735. Groundwater in the alluvial unit above the silt/clay (**Plate 4-1**) flows from an area of high top-of-silt/clay elevation in the vicinity of wells GW-735 and GW-627 to the south-southwest across the former footprint of B/322 and toward B/323. In addition to this southerly component of flow toward B/323, the groundwater flow divide for the B/322 AOC (OU7) shown on **Plate 4-1** also produces a westerly component of flow toward former groundwater collection wells GW-612 and GW-617.

4.1.3 Area C Landfill (OU6)

Soil groundwater saturated in glacial till is present in the area of the former landfill, designated as Area C (OU6). As shown on **Plate 4-1**, unsaturated zones border the former landfill area to the east, north, and west. The direction of groundwater flow in the glacial till soils in this area of the Site is inferred to be to the south before infiltrating into shallow bedrock. The saturated till in this portion of the Site contains an isolated soil VOC plume associated with the former landfill.

4.1.4 B/330 (OU8)

In the B/330 AOC (OU8), the silt/clay is mostly absent except for several small areas shaded tan on **Plate 4-1**. Although some groundwater in these areas is perched on the silt/clay, the soil groundwater elevations shown on **Plate 4-1** in the B/330 AOC (OU8) are primarily for the till overlying the bedrock. The saturated till contains soil VOC plumes associated with the B/330 AOC (OU8).

Soil groundwater elevations in the B/330 AOC (OU8) are highest in the area between B/330D and B/335 at wells GW-180, GW-181, GW-602, and GW-756 (**Plate 4-1**); part of this area is not capped by a building slab or parking lot and allows for direct infiltration of precipitation. Elsewhere beneath B/330D and areas to the north and west, the soil unit is believed to be unsaturated due to the presence of: (1) buildings and parking lots that limit infiltration of precipitation; (2) natural soils that are too thin and too permeable to allow perching of groundwater; and (3) groundwater withdrawals from bedrock production well PW-25, which has dewatered some of the soil beneath the B/330 AOC (OU8).

4.1.5 Gradients and Groundwater Flow Velocities

Based on results of previous RCRA Facility Investigations (RFIs), the calculated linear velocity of horizontal groundwater flow within the majority of the alluvium above the glaciolacustrine silt/clay, ranges over two orders of magnitude, from about 0.06 to 5.7 feet per day (ft/day), with a median of about 0.7 ft/day. These flow velocities in the alluvial sand were calculated based on: (1) hydraulic conductivities determined from evaluation of slug tests from previous RFIs; (2) hydraulic gradients measured in 2019 ranging from 0.0033 to 0.081, with a representative median gradient of 0.020 and (3) an average porosity of 35%, as determined from past laboratory tests on soil samples. More locally, in the area west of B/322, estimated hydraulic conductivities for certain monitoring wells screened in the alluvial sand have been somewhat higher, with a median value of about 10 ft/day.

4.2 Bedrock Groundwater Elevations

Prior to Site development in the 1960s, groundwater in the bedrock water-bearing zone generally existed under confined or semi-confined conditions. Groundwater flow in the bedrock unit under these conditions was controlled by vertical recharge from the overlying saturated soil, by direct infiltration in areas where the bedrock flow system was semi-confined, and by the hydraulic conductivity, connectivity, and geometry of fractures and solution features in the bedrock.

4.2.1 Potentiometric Head Distribution

Under natural (non-pumping) conditions, bedrock groundwater flow would follow topography in a generalized way, flowing from topographically high areas of natural recharge to discharge zones associated with streams such as Gildersleeve Brook and its tributaries. However, the generalized

natural flow configuration has been altered by bedrock production well withdrawals initiated in the 1960s and by barriers to direct infiltration, such as buildings and parking lots, erected as the Site was developed.

Plate 4-2 shows the potentiometric head distribution in the bedrock groundwater system during the period April 1-3, 2019 under dynamic conditions of long-term corrective action pumping at bedrock production wells PW-1, PW-2, and PW-25. The data used in contouring **Plate 4-2** are generally from the deepest of the bedrock wells in a well cluster and corresponds to a screened or open-hole interval elevation between approximately 50 and 120 feet amsl. This elevation interval generally correlates with the principal water-bearing zones in the on-Site bedrock production wells. Only groundwater elevation data from wells used in contouring are shown on **Plate 4-2**. The bedrock potentiometric elevations posted on **Plate 4-2** were recorded during the second quarter of 2019, corresponding to the most comprehensive round of water quality sampling.

As shown on **Plate 4-2**, groundwater flow directions are inward towards the northwestern, north-central, and south-central portions of the Site, with steep horizontal gradients in the vicinity of the three active bedrock production wells. Bedrock groundwater elevations range from more than 270 feet amsl at well GW-542 and GW-529 near the Southeast Quadrant (OU9) and Area C (Landfill/OU6), to less than 210 feet amsl in the vicinity of on-Site bedrock production wells PW-2 and PW-25 (**Plate 4-2**). Excluding the production wells, the lowest measured bedrock groundwater elevation shown on **Plate 4-2** was 202.14 feet amsl at well GW-606 on the east side of B/334, in the area east of nearby bedrock production well PW-25.

4.2.2 Gradients and Structural Controls on Groundwater Flow

The nearly continuous withdrawal of bedrock groundwater for Site water supply, beginning in the 1960s, and corrective action, beginning in the 1970s, has altered the flow dynamics on-Site and the hydrogeologic conditions within the soil and bedrock water-bearing zones relative to the natural conditions that existed before the start of bedrock production well groundwater withdrawals. In response to these groundwater withdrawals, the lowering of the potentiometric levels within the bedrock on-Site has resulted in a situation where formerly saturated soils are now unsaturated and where the bedrock potentiometric surface is now below the top-of-bedrock surface in some areas. Where this situation has occurred, the saturated bedrock may have been converted locally from a

confined or semi-confined condition to a water table or unconfined condition, resulting in some unsaturated zones in the upper bedrock.

The geometry of the bedrock groundwater potentiometric surface under the influence of long-term corrective action groundwater withdrawals suggests that the hydraulic characteristics of the fractured bedrock groundwater system are influenced by the bedrock's structural fabric, which generally trends north-south. This structural fabric has been created by complex folding, fracturing, and faulting. In this regard, the bedrock groundwater potentiometric surface map (**Plate 4-2**) shows various anomalies in contour spacing and patterns of directional hydraulic conductivity that are related to the degree of fracture connectivity between wells and to the variations in directional hydraulic conductivity across the Site. Based on predominant fracture orientations, areas of competent rock with limited discrete fracturing are expected to exhibit a greater magnitude of vertical hydraulic gradient, reflecting impeded vertical recharge of groundwater from soil. Areas of highly weathered and fractured bedrock are expected to exhibit lower vertical gradients, be more conducive to vertical recharge of groundwater, have highly variable directional hydraulic conductivity (conductivity that is much greater parallel to the predominant north-south fracture orientation, as compared to perpendicular to the predominant north-south fracture orientation), and have greater transmissivity.

As depicted on **Plate 4-2**, production wells PW-2 and PW-25 are located within an area of a prominent zone of weathered/fractured bedrock that extends in a north-south direction through the central portion of the Site, whereas production well PW-1 is located in an area of competent bedrock proximate to separate areas of weathered/fractured bedrock. Consistent with the positions of these three active production wells with these inferred greater transmissivity fault zones, hydraulic responses to production well pumping indicate wells PW-2 and PW-25 have greater interconnectivity as compared with well PW-1. In addition, the combined withdrawals of PW-2 and PW-25 have a greater influence in bedrock potentiometric levels and hydraulic control in the central and southeastern portion of the Site, while withdrawals from PW-1 have a greater influence in bedrock potentiometric levels and hydraulic control in the northwestern portion of the Site and off-Site areas to the north and west.

The primary controls on the directional variability of hydraulic conductivity in the bedrock are zones of high fracture connectivity such as fracture zones. Groundwater flow paths are not

necessarily perpendicular to the potentiometric surface contours shown on **Plate 4-2** because the orientation of the greatest principal hydraulic conductivity (*K*) of the hydraulic conductivity tensor is not necessarily parallel to the apparent hydraulic gradient. This situation is typical of a fractured bedrock aquifer, where zones of high fracture connectivity facilitate groundwater flow in directions other than those that would be determined by the apparent potentiometric head distribution as shown on the potentiometric surface contour map. Therefore, the groundwater flow arrows shown on **Plate 4-2** represent only generalized flow directions and not particle flow paths.

Groundwater flow velocities in the bedrock aquifer are controlled by fracture geometry, orientation, density, aperture, and smoothness. These controlling parameters are difficult to specifically characterize at this Site because of the complex structural geology.

4.2.3 Hydraulic Containment

Hydraulic containment of groundwater occurs in the bedrock within an area encompassing the Site, former IBM Recreation Center property, and at least the eastern half of the former IBM West Complex property. Based on the April 1-3 (**Plate 4-2**) potentiometric contours, the Site can be divided into three areas of hydraulic capture/containment.

The area of capture generated by production well PW-1 covers the western third of the Site and the eastern half of the former IBM West Complex property. This area of capture encompasses the bedrock beneath Area D (OU4) and most of the B/322 AOC (OU7). It extends to the southwest beyond Gildersleeve Brook and a portion of the area beneath the former IBM West Complex, to the northwest beyond the intersection of West Drive and Route 52, to the east in the area of B/322 and the area between B/321 and B/320B, and to the south beneath B/323 and near inactive production well PW-5/5A. The northeastern and eastern limits of the groundwater capture area are defined by localized areas of higher potentiometric head greater than 225 feet amsl in the vicinity of wells GW-122 and GW-130. The mound in the potentiometric surface at well GW-130 corresponds to a topographic high in the bedrock surface near the southeast corner of B/322 and, based on previous investigations, is inferred to be an area of low bedrock transmissivity with recharge at the limit of the perched hydrogeologic unit. The bedrock in this area is relatively unweathered with nearly horizontal (flat-lying) bedding.

A second extensive area of hydraulic capture in the bedrock is located in the northeastern quadrant of the Site due to groundwater withdrawals from bedrock production well PW-2. This area of capture is bounded on the west by a groundwater flow divide separating it from the area of capture for well PW-1. As discussed above, this flow divide is defined by localized areas of high potentiometric head in the vicinity of a buried bedrock ridge. On the southern boundary, a groundwater flow divide separates flow toward well PW-2 from flow toward bedrock production well PW-25. The area of capture includes the bedrock beneath Area A (OU5) and Area B (OU3) and extends to the north at least to Route 52 and to the east as far as Lime Kiln Road and possibly Shenandoah Road. In the eastern portion of the SEQ (OU9), the direction of groundwater flow is generally to the northwest in the area between Lime Kiln and Shenandoah Roads. Groundwater in the bedrock then flows westward back onto the Site where it is captured by production well PW-2.

The operation of production well PW-25 creates a third area of hydraulic capture in the bedrock. The western boundary of the capture zone extends from the southeastern corner of the former IBM West Complex property to the potentiometric high at well GW-130. Some groundwater to the east of inactive production well PW-5/5A, in the vicinity of B/323 and B/323A, is also captured by PW-25. The northern boundary of this hydraulic capture zone is defined by a groundwater flow divide that has developed due to bedrock groundwater withdrawals from production wells PW-2 and PW-25. To the west, the groundwater flow divide runs from the potentiometric high at well GW-130 to the west of inactive bedrock production well PW-6. The capture area to the east extends to the bedrock ridge in the Southeast Quadrant (OU9), and includes the Area C Landfill (OU6). The area of capture may extend south as far as Interstate 84 and encompasses the bedrock aquifer beneath B/330D, B/335, B/338, B/330C, and B/334.

5 GROUNDWATER CHEMISTRY

This section provides results of analytical laboratory testing of Site groundwater samples collected in 2019. The samples collected were analyzed for the presence of volatile organic compounds (VOCs), per- and polyfluoroalkyl substances (PFAS), 1,4-dioxane, and four inorganic parameters (fluoride, arsenic, nickel, and chromium).

5.1 Groundwater Chemistry - VOCs

VOC groundwater chemistry data for samples collected during the first through fourth quarters of 2019 (excluding the production wells and treatment systems) are presented in **Appendix F**. The presentation of the data in **Appendix F** is consistent with the requirements of the GMP.

The concentrations of the required monitoring parameters are presented in a table in numerical ascending order by sample location and then chronologically for each sample location for the period of January 1 through December 31, 2019. The results for duplicate samples (split samples) collected for intralaboratory precision information during 2019 are also presented in **Appendix F** and are discussed in Section 3.3.3.2. Production well analytical data (**Appendix G**), Quality Assurance/Quality Control analytical data (**Appendix H**), and groundwater treatment analytical data (**Appendix I**) are presented in a similar format as **Appendix F**.

Appendix J lists maximum concentrations and locations of the samples with the maximum concentration detections during 2019 for GMP monitoring wells (not including production wells and groundwater treatment locations) for each of the chemical constituents/monitoring parameters listed in Table II-3 of the Part 373 Permit. These parameters are included in the sampling program based on their detection histories and historical concentrations relative to the Part 703 New York State Groundwater Quality Standards (NYSGQS).

5.1.1 VOC Plume Maps

There are at least four separate areas of VOC presence above applicable NYSGQS in the soil unit and at least four separate areas of VOC presence in the bedrock. Some of the areas of VOC presence consist of multiple plumes. The principal constituents of the plumes are PCE, TCE, cis-1,2-DCE, vinyl chloride (VC), and Freon® TF. PCE, TCE, cis-1,2-DCE, and VC are discussed as a group and are collectively referred to as the PCE-series compounds. In general, the PCE

plumes are the most laterally extensive and PCE concentrations are generally higher at a given well than the other principal VOC constituents. Isoconcentration contour maps for the five principal VOCs in soil and bedrock groundwater are provided as **Plates 5-1 through 5-10**. The isoconcentration contour maps were prepared using groundwater chemistry data collected from April through May 2019. As required by the Part 373 Permit, these maps show the approximate limit of each plume as defined by a concentration equal to the applicable NYSGQS of 5 µg/l for PCE, TCE, cis-1,2-DCE, and Freon® TF and 2 µg/l for VC.

In general, these isoconcentration contour maps show that contaminant transport is controlled primarily by the direction of groundwater flow in the soil and bedrock. Site groundwater at concentrations exceeding the NYSGQS is hydraulically contained to the Site by corrective action groundwater withdrawals from the three active on-Site bedrock production wells.

5.1.1.1 VOC Plumes in Soil and Soil/Shallow Bedrock Groundwater

The soil and soil/shallow bedrock groundwater plumes are identified by AOC, beginning with Area A (OU5). Area A contains two soil plume areas composed primarily of PCE (**Plate 5-1**). One of the PCE plumes is in the glacial till and appears to be sourced near the northwest corner of B/309 with the highest concentrations in samples collected from well GW-714. Smaller plumes of TCE (**Plate 5-2**), cis-1,2-DCE (**Plate 5-3**), and Freon® TF (**Plate 5-5**) are also present in this area. The lateral extent of the PCE plume is not well-defined south of well GW-714 (**Plate 5-1**), where the glaciolacustrine silt/clay inhibits vertical contaminant transport between the shallow soils and the till underlying the silt/clay. A second PCE plume lies in the alluvial sand and gravel above the glaciolacustrine silt/clay and is sourced near the eastern side of B/310 where PCE concentrations are greater than 5,000 µg/l. Two GMP monitoring wells (GW-015 and GW-706) and the B/384 Sump (shown on **Plate 5-1**) monitor the central portion of this plume. Based on historical data from monitoring wells that are not routinely sampled, this plume appears to extend to the east and northeast, in the direction of groundwater flow toward the north beneath B/308 near wells GW-816 and GW-760 where the silt/clay and dense till are absent (the "B/308 sink" described in Section 4.1.1). The PCE plume also appears to extend to the southeast beneath B/386. PCE concentrations less than 50 µg/l are found south of B/386 and Shenandoah Drive. Isolated plumes of TCE (**Plate 5-2**), cis-1,2-DCE (**Plate 5-3**), and VC (**Plate 5-4**) that are less prominent in lateral extent and

generally have lower concentrations than the PCE plume are located in the same general area near the linkway between B/310 and B/308.

The B/330 AOC (OU8) soil VOC plumes (**Plates 5-1 through 5-5**) have multiple apparent source areas and consist primarily of PCE, with lower concentration and less laterally extensive TCE, cis-1,2-DCE, Freon® TF, and VC plumes. The soil groundwater plumes overlie more laterally extensive plumes in the underlying bedrock (**Plates 5-6 through 5-10**). One of the source areas for the B/330 AOC soil groundwater plumes is located beneath the south-central portion of B/330D, near well GW-572 (200,000 µg/l of PCE, **Plate 5-1**). Separate-phase PCE was recovered during sampling of well GW-572 between 1994 and 2001. A second apparent soil source area is located on the northeast side of B/330C, near well GW-956. The PCE-series parameter plumes in this area of the Site appear to be associated with a localized source in the vicinity of soil monitoring well GW-576. A third lower concentration soil VOC plume is associated with an apparent source near well GW-181 between B/330D and B/335 where PCE, TCE, cis-1,2-DCE, and VC concentrations are 13 µg/l or less.

The isolated soil VOC plume associated with Area C (Landfill/OU6) is also composed primarily of PCE compounds and has an apparent source near soil/shallow bedrock monitoring well GW-561 (**Plates 5-1 through 5-5**) and shallow bedrock well GW-559 (**Plates 5-6 through 5-10**). The Area C (Landfill/OU6) plume within the soil/bedrock interface zone is bounded on the east by unsaturated soils associated with a topographic high in the bedrock, and extends downward into the deeper bedrock, where it is captured by PW-25. The soil groundwater plume has PCE concentrations less than 10 µg/l. The Area C (Landfill/OU6) shallow bedrock VOC plumes (**Plates 5-6 through 5-10**) associated with well GW-559 are also ultimately captured by PW-25.

The B/322 AOC (OU7) contains soil groundwater plumes in the alluvial sand and gravel unit consisting primarily of PCE-series compounds PCE (**Plate 5-1**), TCE (**Plate 5-2**), and cis-1,2-DCE (**Plate 5-3**) together with a smaller Freon® TF plume (**Plate 5-5**) with an apparent plume origin in the vicinity of the linkway between B/322 and B/320B. The PCE, TCE, and cis-1,2-DCE soil groundwater plumes have a southerly component extending from the area northeast of B/322 (wells GW-627 and GW-735) toward wells GW-767 and GW-793, and a westerly component extending from the northeast corner of B/322 toward wells GW-768, GW-769, and GW-771. Concentrations of PCE, TCE and cis-1,2-DCE do not exceed the NYSGQS west of West Drive. The Freon® TF

plume shown on **Plate 5-5** is located in the area of well GW-735 (160 µg/l), but is not detected above 1 µg/l west of B/322.

5.1.1.2 VOC Plumes in Bedrock Groundwater

In addition to the soil and soil/shallow bedrock plumes, the deeper bedrock contains several plumes of PCE-series compounds and Freon® TF. Four general areas of VOC presence in bedrock groundwater that currently comprise the Bedrock Remediation Area (OU2) have been identified at the Site as described below:

Northern Portion of the Site Beneath Area A - Bedrock groundwater plumes located beneath Area A and are captured by bedrock production well PW-2, as shown on **Plates 5-6 through 5-10**. The Area A bedrock plumes consist primarily of PCE (**Plate 5-6**) with lower concentration and laterally less extensive plumes of TCE (**Plate 5-7**), cis-1,2-DCE (**Plate 5-8**), and Freon® TF (**Plate 5-10**). VC (**Plate 5-9**) is detected in PW-2, but not in Area A bedrock monitoring wells. The Area A plumes originate from at least three apparent source areas, described as follows:

1. *In the shallow soil near the northwest corner of B/309 (the "B/309 sink").* This apparent source is highlighted by a PCE concentration of 800 µg/l at bedrock well GW-716 (**Plate 5-6**) on the north side of B/310.
2. *In the soils at the northern edge of B/308 (the "B/308 sink").* As discussed in Section 4.1.1, groundwater impacted by VOCs in the overlying sand and gravel unit flows beyond the edge of the silt/clay at the northeast and northwest corners of B/308 and migrates downward through permeable soils and into the bedrock (**Plate 4-1**).
3. *In the bedrock as indicated by relatively elevated PCE concentrations at well GW-118 (220,000 µg/l in the second quarter of 2019, **Plate 5-6**).* These concentrations are indicative of the presence of residual dense non-aqueous phase liquid (DNAPL) in the bedrock beneath the Area A.

A Freon® TF plume with a maximum concentration of 780 µg/l (well GW-118) exists in the bedrock beneath Area A (**Plate 5-10**), and is captured by PW-2. The apparent source of the Freon® TF presence is inferred to be the "B/309 sink". Freon® TF was also detected in well GW-716 (40 µg/l).

Southern Portion of the Site Beneath the B/330 AOC and Area C (Landfill) - The large bedrock PCE (**Plate 5-6**), TCE (**Plate 5-7**), cis-1,2-DCE (**Plate 5-8**), and more localized VC (**Plate 5-9**) and Freon® TF (**Plate 5-10**) plumes associated with the B/330 AOC have principal sources in the soil

and soil/shallow bedrock beneath and proximate to B/330C and B/330D. An additional bedrock plume originates in the soil and soil/shallow bedrock associated with the former Area C landfill. The bedrock plumes beneath B/330C and B/330D are captured by bedrock production well PW-25.

Northwestern Portion of the Site Beneath the former B/322–B/320B Linkway - PCE (**Plate 5-6**), TCE (**Plate 5-7**), and Freon® TF (**Plate 5-10**) are present at low levels, less than 20 µg/l, in wells GW-737, GW-739, GW-742, and PW-1 near B/322. The origin of these low concentrations of PCE-series compounds and Freon® TF appears to be the B/320B-B/322 linkway area near the northeast corner of B/322. The VOC in bedrock groundwater in this portion of the Site is captured by bedrock production well PW-1.

B/300 Area - A fourth bedrock VOC plume area originates on the northern side of B/300 in the area of bedrock wells GW-959 and GW-960. As depicted on **Plates 5-6 through 5-9**, this small VOC plume attenuates beneath B/300 a short distance from its apparent origin. Groundwater in this area of the Site is within the apparent limits of hydraulic capture by production well PW-25.

5.1.2 VOC Concentration versus Time Graphs

In addition to reviewing the 2019 VOC concentration data with regard to the three-dimensional distribution of VOCs, the data were reviewed by graphing concentration versus time for PCE-series- PCE, TCE, cis-1,2-DCE, VC, and Freon® TF- for Contaminant Reduction Monitoring (CRM) and Point of Compliance (POC) wells listed on **Table B-3** in **Appendix B**. The collective concentration for the PCE-series compounds is determined by normalizing the groundwater concentrations of the transformation products of PCE so as to account for the degradation of PCE by dehalogenation, which occurs at different rates and by different processes across the Site. The PCE-series concentration is calculated by multiplying the concentrations of TCE, cis-1,2-DCE, and VC by the ratio of the molecular weight of PCE to the molecular weight of each degradation product, and then summing the products. In this way, a more useful picture of total contaminant levels can be developed than might otherwise be the case if each of these four compounds were to be examined separately. The semilogarithmic graphs are shown on **Figures 5-1 through 5-21** and were prepared using the data available from 1990 through the fourth quarter of 2019. Where multiple or duplicate samples were collected during a single day, the concentration was calculated by averaging the data from samples collected on that day.

Some of these graphs exhibit downward concentration trends that are apparent by inspection. Other graphs suggest seasonal variations in the chemical concentrations. The data have been statistically evaluated for trend using *USEPA ProUCL*[18]. The non-parametric Mann-Kendall Test for trend was used to analyze the concentration versus time data for the CRM wells. Non-parametric tests do not require that the data be normally distributed, and are valid even when data are missing, tied, or censored (e.g., ND@0.5 μg/l). Statistically significant trends, where they occur, are defined at a significance level of $\alpha = 0.10$ or less, which corresponds to a confidence limit of 90% or higher.

5.1.2.1 Contaminant Reduction Monitoring Wells

The results of the Mann-Kendall Test for trend are shown **Appendix J** for each CRM well. The statistical outcomes shown in **Appendix J** are summarized below. Several statistically significant trends in concentration are noted for the 10-year period of 2010 to 2019:

1. An increasing trend was observed for PCE-series in well GW-104 (soil).
2. PCE-series concentrations detected in samples collected from Area A wells GW-010 (soil) GW-016 (soil), GW-714 (soil) and downgradient wells GW-103 (soil) and GW-716 (bedrock) are decreasing. A statistically significant decreasing trend was identified for Freon® TF in Area A bedrock well GW-716.
3. PCE-series and Freon® TF concentrations detected in samples collected from production well PW-1, PW-2, and PW-25 exhibit a statistically significant decreasing trend. PCE-series concentrations show a statistically significant decreasing trend in the B/384 Groundwater Collection Sump.

5.1.2.2 Point-of-Compliance Wells

The results of the Mann-Kendall Test for trend are shown in **Appendix J** for each POC well as required by the Part 373 Permit. VOC concentration data for samples collected from Area B well GW-064 and SEQ well GW-990 exhibit statistically significant decreasing PCE-series trends. The VOC concentration data for the remaining POC wells do not exhibit statistically significant trends. The lack of a trend for many of the POC wells reflects non-detect or stable low-level VOC concentrations consistently below NYSGQS that have become asymptotic.

[18] USEPA, October 2015, Version 5.1.002.

5.1.3 Changes in Water Quality at Corrective Action Monitoring Wells

As required by the Part 373 Permit, statistically significant changes in water quality at the designated Corrective Action Monitoring (CAM) wells (**Appendix B, Table B-2**) were determined using the Mann-Whitney Test for changes in median concentrations of key compounds (PCE-series and Freon® TF) over time. A statistically significant change was defined at a significance level of $\alpha = 0.10$ or less, which corresponds to a confidence limit of 90 percent or higher. This statistical evaluation was performed by grouping the PCE-series and Freon® TF data (where sufficient detections exist) such that the median concentration of the most recent samples from each well was compared to the median of the older samples collected since 2010. For wells sampled semiannually, this means that the data for 2018-2019 were compared to the data for 2010-2017. For wells sampled quarterly or monthly, this means that the data for 2019 were compared to the data for 2010-2018. In this way, the median concentrations of at least four recent samples was compared to the median concentration of the older samples collected over the previous eight to nine years. A summary of CAM wells with statistically significant changes in water quality as determined by the Mann-Whitney test is presented in **Appendix J**.

The majority of wells with a statistically significant trend in PCE-series or Freon® TF concentrations show decreasing trends. B/322 shallow overburden wells have decreasing PCE-series trends where statistically significant trends are present. Increasing trends are present in wells with stable, low-level VOC concentrations consistently near or below NYSGQS, including wells GW-048 and GW-757. A decrease in reporting limit for PCE-series compounds reported over the last four years may influence trending of these wells, as would minor fluctuations in chemistry related to precipitation. Increasing trends in bedrock wells near extraction wells in central portions of the Site, including GW-607 and GW-953 may be related to shifts in production well withdrawals over the past 12 years.

5.2 Groundwater Chemistry – PFAS and 1,4-Dioxane

Sampling for PFAS and 1,4-dioxane was completed at the locations identified in a Work Plan dated September 13, 2019[19] and approved by NYSDEC and the New York State Department of Health

[19] Dean Chartrand, IBM, September 13, 2019, Letter to Jessica LaClair, *Proposed PFAS and 1,4-Dioxane Monitoring Locations*, IBM East Fishkill Corrective Measures Program, IBM East Fishkill Facility, Hopewell Junction, New York, NYSDEC Part 373 Permit 3-1323-0025-00249-0, EPA ID No. NYD000707901.

NYSDOH in a letter dated November 7, 2019[20]. Sampling results were transmitted to NYSDEC and NYSDOH in a letter dated March 9, 2020[21]. The sampling location map from the results transmittal is presented here as **Plate 5-11**. Sample results for 1,4-dioxane are presented in **Appendix F**, **Table F-1**. PFAS results for groundwater monitoring wells are presented in **Table F-2** of **Appendix F**, and PFAS results for production wells and GTFs are found in **Appendix G**, **Table G-1**. PFAS quality assurance, quality control data is presented in **Appendix H**, **Table H-1**.

5.3 Groundwater Chemistry – Inorganics

Inorganic groundwater chemistry data (fluoride, arsenic, nickel, and chromium) for 2019 are presented in **Appendix F**. The presentation of the data in **Appendix F** is consistent with the requirements of the GMP. The results for duplicate samples (split samples) collected for intralaboratory precision information during 2019 are also presented in **Appendix F** and are discussed in Section 3.3.3.2. Groundwater treatment analytical data are presented in **Appendix I**.

Inorganic groundwater quality data for 2019 are consistent with previous sampling. Chromium and arsenic were below the NYSGQS in filtered groundwater samples collected in 2019 with the exception of chromium in well GW-768. Filtered and unfiltered nickel concentrations were highest in B/322 apparent source area well GW-627. Total fluoride exceeded the NYSGQS in seven groundwater monitoring wells in the B/322 AOC (OU7), one Area A (OU5) well, and the B/384 Groundwater Collection Sump. Total fluoride concentrations have generally declined or become asymptotic.

[20] Jessica LaClair, NYSDEC, November 7, 2019, Letter to Dean Chartrand, IBM, Re: *Proposed PFAS and 1,4-Dioxane Monitoring Locations*, Former IBM East Fishkill Facility, East Fishkill, New York, NYSDEC Site No. 314054, EPA ID NYD000707901.

[21] Dean Chartrand, IBM, March 9, 2020, Letter to Jessica LaClair, *PFAS and 1,4-Dioxane Sampling Results*, IBM East Fishkill Corrective Measures Program, IBM East Fishkill Facility, Hopewell Junction, New York, NYSDEC Part 373 Permit 3-1323-0025-00249-0, EPA ID No. NYD000707901.

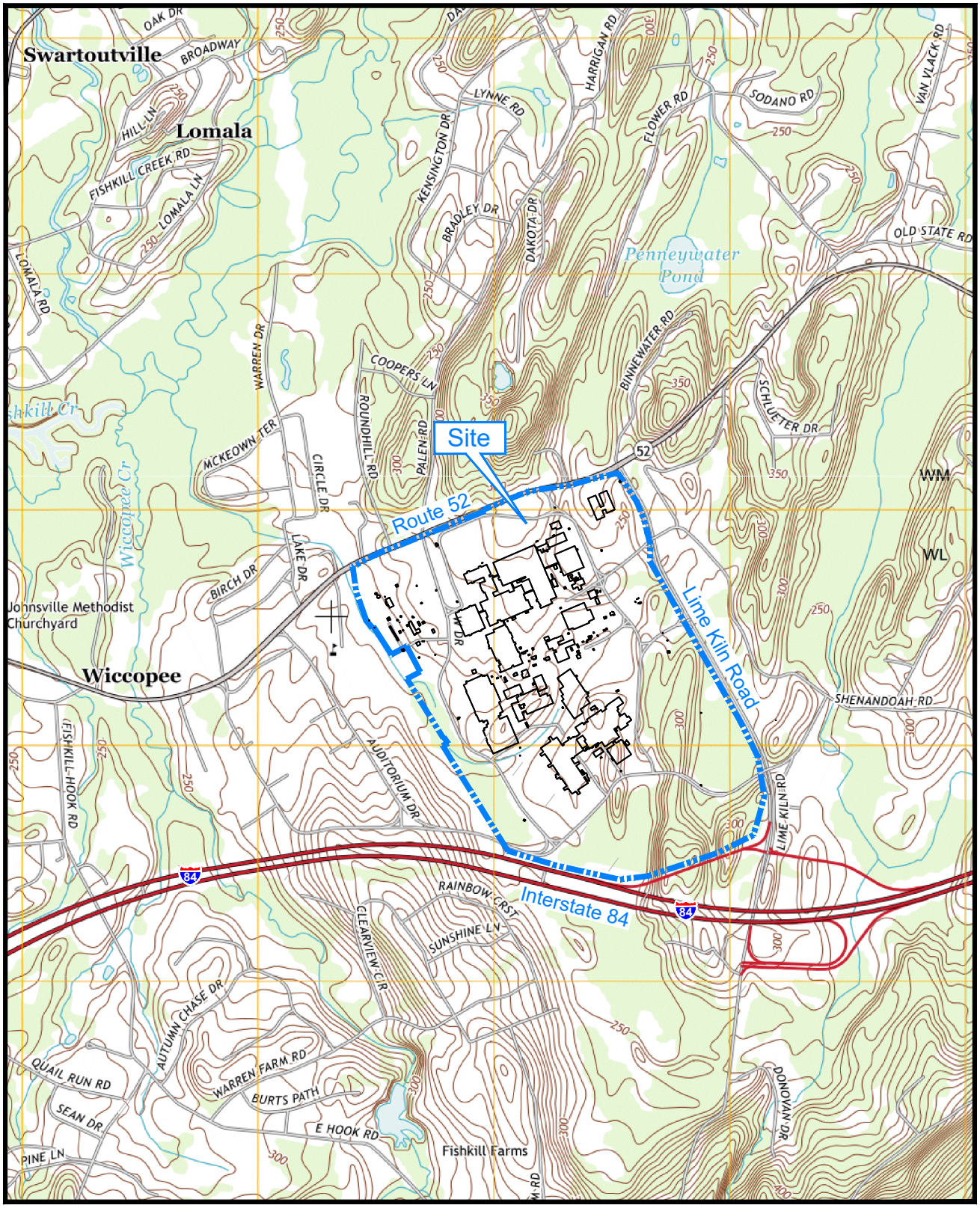
6 EVALUATION OF EFFECTIVENESS AND PROGRESS

Corrective measures implemented at the Site in 2019 include: groundwater collection operations to reduce and maintain hydraulic control of groundwater VOC plume areas and/or other constituents of potential concern; groundwater treatment operations to remove contaminants from the groundwater withdrawals; groundwater monitoring to support assessment of the effectiveness and progress of the groundwater corrective measures; and vapor intrusion (VI) assessment and mitigation measures for VOC source reduction and mitigation of VI potential.

Specific findings regarding the effectiveness and progress achieved to date based on 2019 monitoring are listed below.

- As depicted on **Plate 4-2**, nearly continuous operation of bedrock production wells PW-1, PW-2, and PW-25 is effective in maintaining hydraulic control of Site bedrock groundwater by maintaining inward lateral hydraulic gradients that extend beyond the perimeter of the Site.
- As depicted on **Plates 5-6 through 5-10**, operation of the three bedrock production wells is effective at maintaining capture of bedrock VOC plume areas and areas where PFAS and/or 1,4-dioxane is present in bedrock groundwater. The collective groundwater withdrawals impede the migration of groundwater exceeding the NYSGQS beyond the boundaries of the Site.
- Operation of the three bedrock production wells is effective at reducing VOC plume areas in bedrock groundwater, based on: 1) removal of nearly 7,000 lbs of VOCs in 2019; 2) historical reductions in the lateral extent and magnitude of bedrock VOC plume areas; and 3) continuation of stable or declining concentration trends based on 2019 sampling of individual bedrock monitoring wells.
- As depicted in **Plates 4-1 and 4-2** & **Plates 5-1 through 5-5**, the operation of the three bedrock production wells also results in steep vertical downward hydraulic gradients between overburden and bedrock, resulting in hydraulic control of VOC plume area in perched overburden groundwater.
- Operation of the overburden groundwater collection sump in B/384 is effective at reducing the VOC plume area in the perched overburden of the Area A AOC.
- Operation of the Area A SVE system is effective in removing VOC mass from vadose zone.
- The groundwater monitoring well network and GMP are sufficient to delineate overburden and bedrock groundwater potentiometric levels and flow directions in VOC plume areas and/or areas of other constituents of potential concern.

- The groundwater monitoring network and GMP are sufficient to assess trends in groundwater water quality in apparent source areas, groundwater plume areas, and/or near the perimeter of the Site.
- The groundwater collection and treatment technologies employed at the Site are implementable and effective with greater than 98.9% operational efficiency and greater than 99.9% treatment efficiency.
- The potential for vapor intrusion into buildings is mitigated through the implementation of: 1) changes to HVAC operations; 2) indoor air and/or subslab vapor sampling; and 3) operation of SSD systems.



Portion of the Hopewell Junction, NY
7.5-minute USGS Quadrangle
(The National Map US Topo, 2013)
Latitude/Longitude: 41°32'27"N, 73°49'28"W (41.540714, -73.824185)

Figure 2-1

Former IBM East Fishkill Facility

Site Location Map

Scale
0 1000' 2000'

GROUNDWATER SCIENCES CORPORATION

95007-044-F4 / 04-16-19

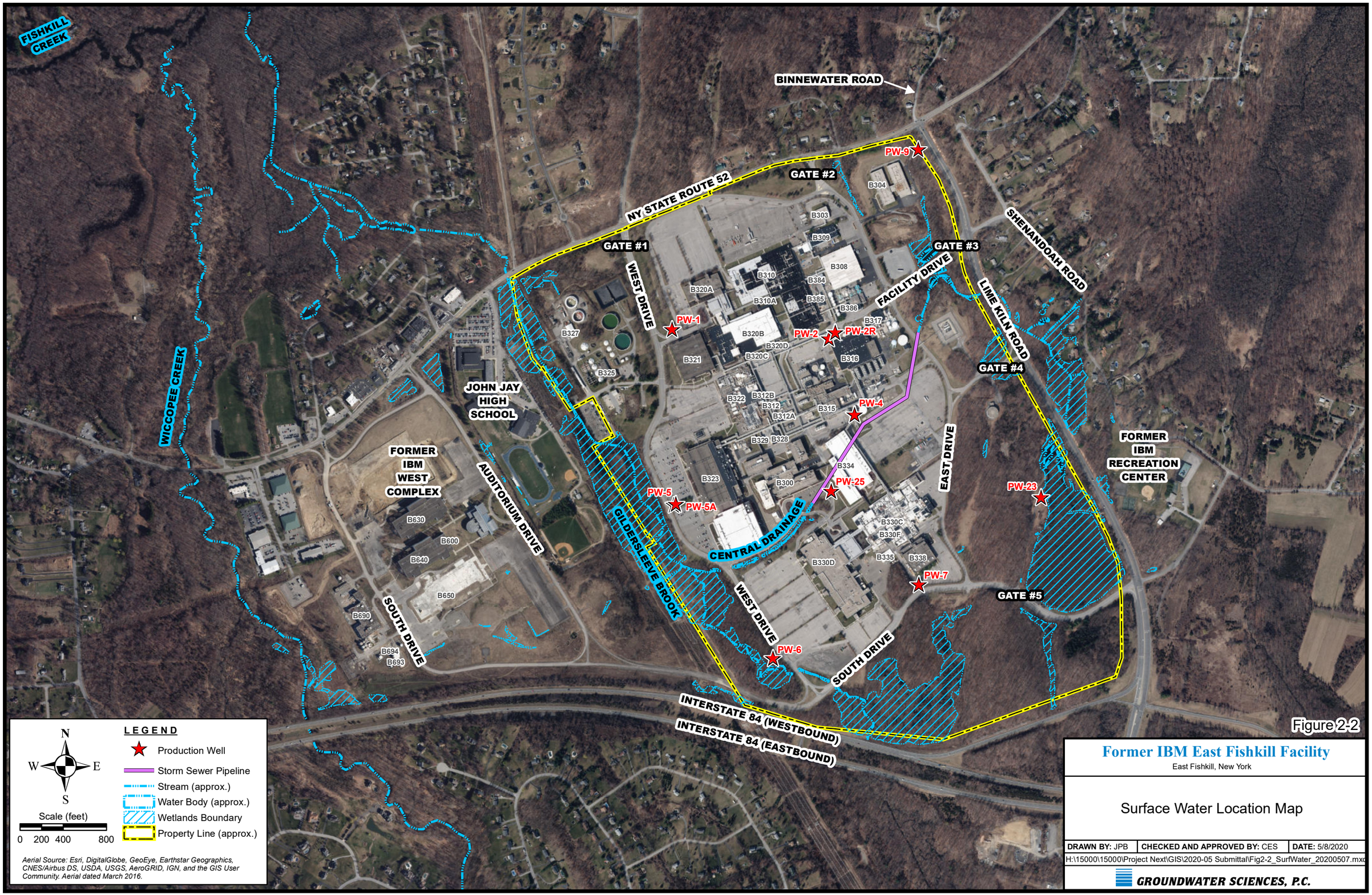


Figure 2-2

Former IBM East Fishkill Facility

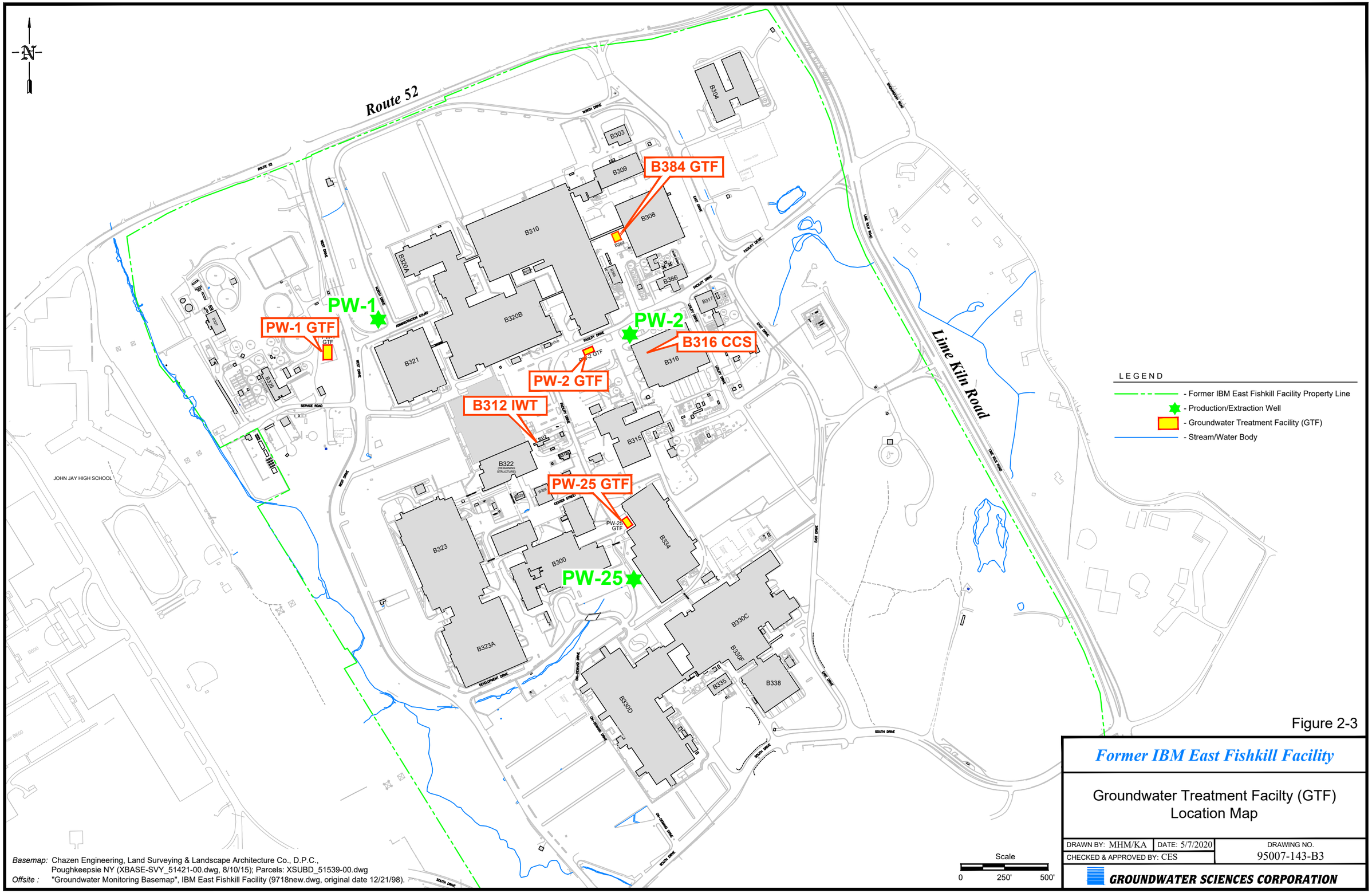
East Fishkill, New York

Surface Water Location Map

DRAWN BY: JPB	CHECKED AND APPROVED BY: CES	DATE: 5/8/2020

H:\15000\15000\Project Next\GIS\2020-05 Submittal\Fig2-2_SurfWater_20200507.mxd

GROUNDWATER SCIENCES, P.C.



Basemap: Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C., Poughkeepsie NY (XBASE-SVY_51421-00.dwg, 8/10/15); Parcels: XSUBD_51539-00.dwg

Offsite : "Groundwater Monitoring Basemap", IBM East Fishkill Facility (9718new.dwg, original date 12/21/98).

Figure 2-3

Former IBM East Fishkill Facility

Groundwater Treatment Facilty (GTF) Location Map

DRAWN BY: MHM/KA	DATE: 5/7/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007-143-B3

GROUNDWATER SCIENCES CORPORATION

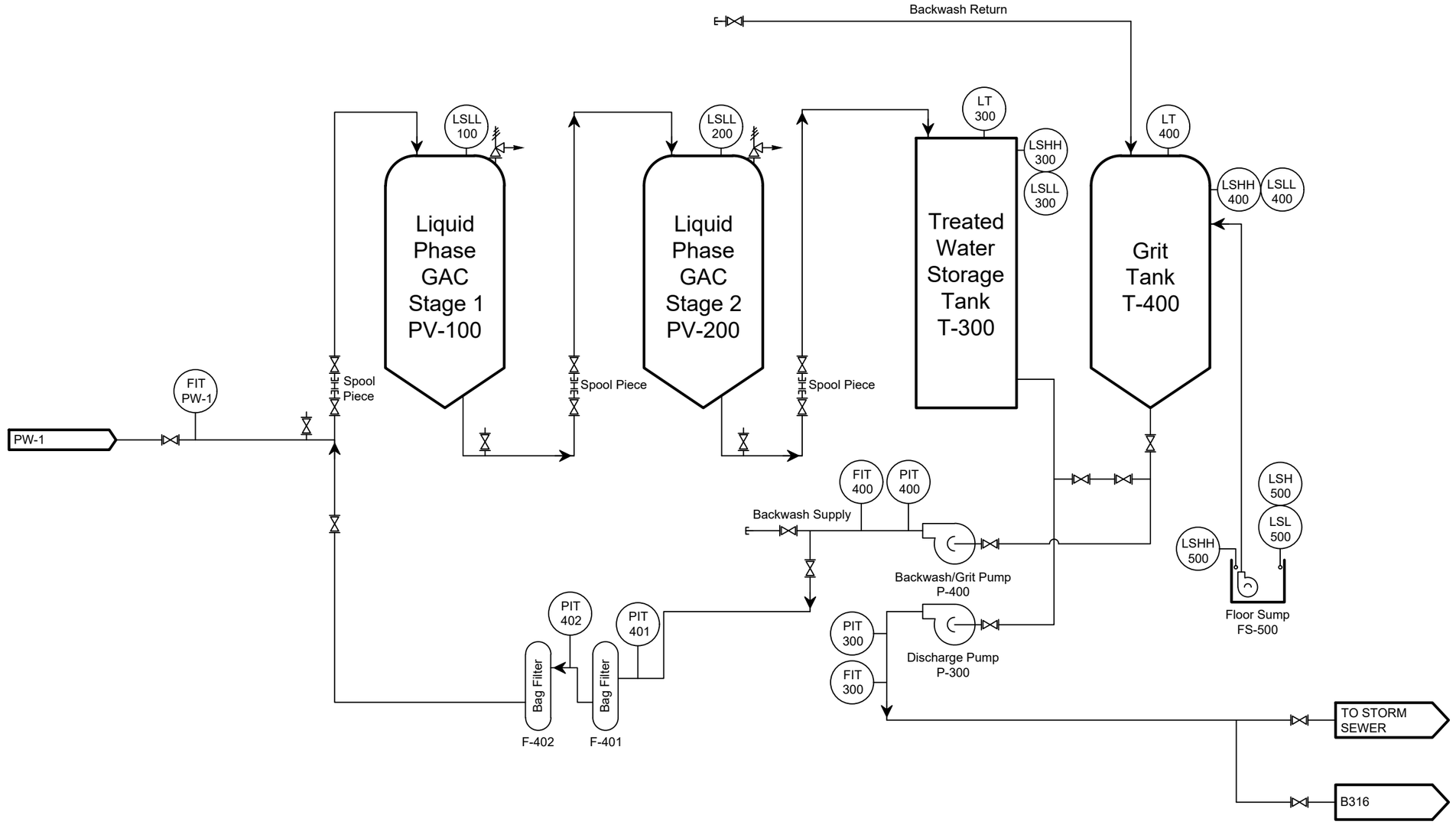


Figure 2-4

LEGEND:

- Sample Port
- Valve
- Cross Over
- Direction of Flow
- Anti-Siphon Valve
- Air Release Valve
- Instrument (XXXX / XXX)
- Pump

Not to Scale

STATE OF NEW YORK ★ MATTHEW T. LUCKMAN ★ LICENSED PROFESSIONAL ENGINEER 076619-1

Former IBM East Fishkill Facility

PW-1 Groundwater Treatment Facility
Process Flow Diagram

DRAWN BY: JPB	DATE: 5/7/2020	DRAWING NO. 15000-005-A5
CHECKED & APPROVED BY: MTL/CES		

GROUNDWATER SCIENCES, P.C.

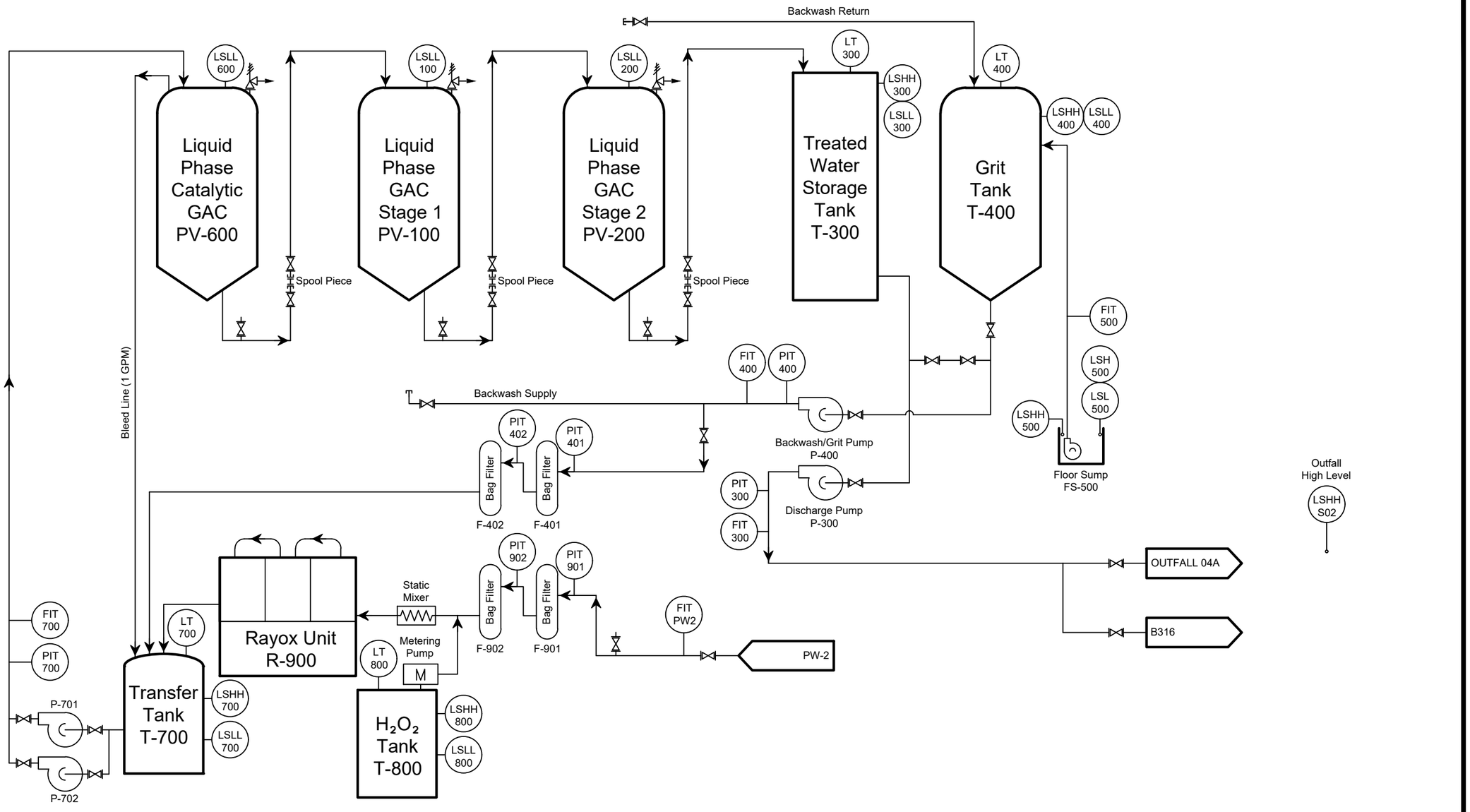


Figure 2-5

LEGEND:

- Sample Port
- Valve
- Cross Over
- Direction of Flow
- Anti-Siphon Valve
- Air Release Valve
- Instrument (xxxx / xxx)
- Pump

Not to Scale

Former IBM East Fishkill Facility

PW-2 Groundwater Treatment Facility
Process Flow Diagram

DRAWN BY: JPB	DATE: 5/7/2020	DRAWING NO. 15000-005-A6
CHECKED & APPROVED BY: MTL/CES		

GROUNDWATER SCIENCES, P.C.

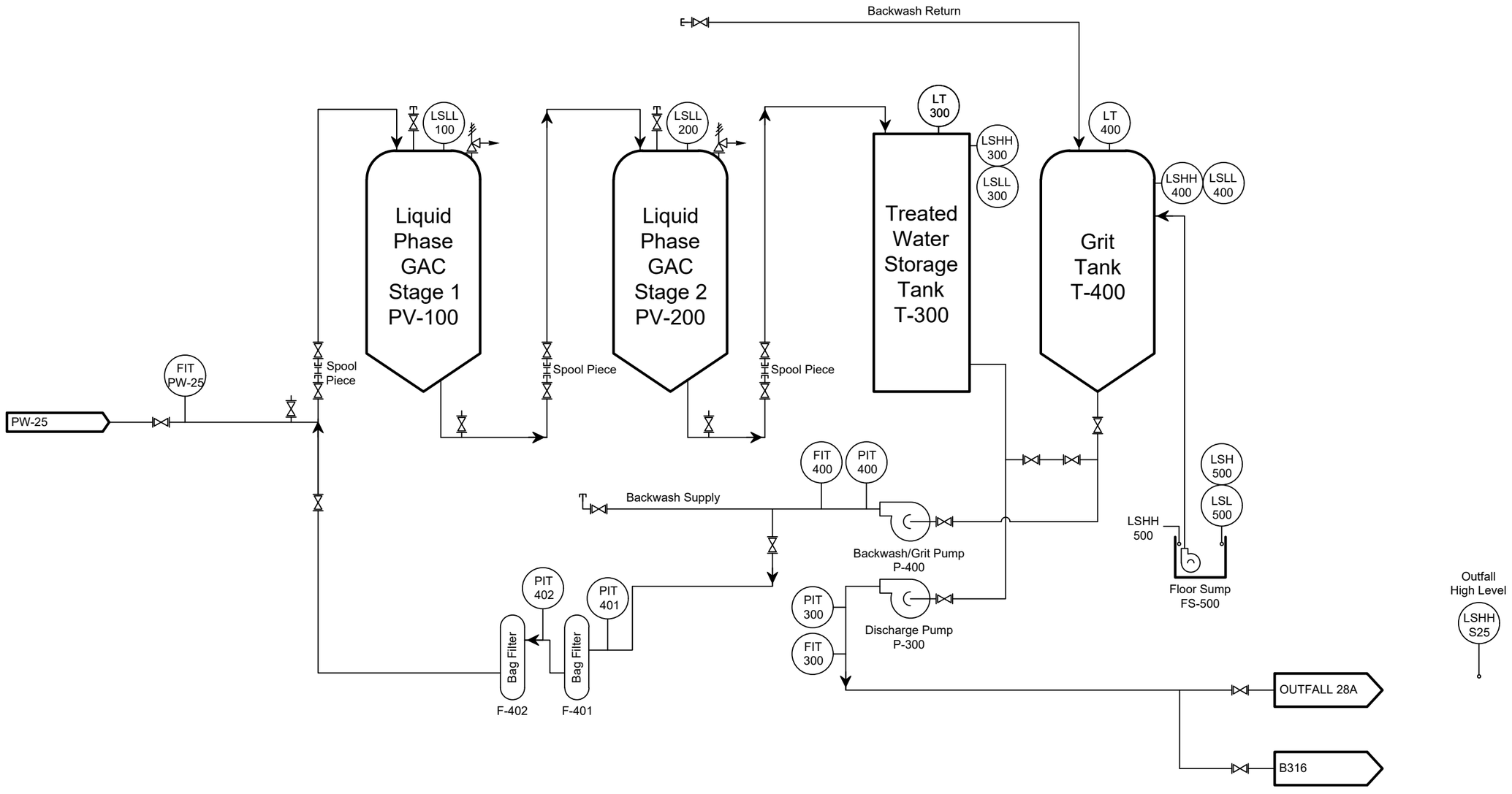


Figure 2-6

LEGEND:

- Sample Port
- Valve
- Cross Over
- Direction of Flow
- Anti-Siphon Valve
- Air Release Valve
- Instrument (XXXX / XXX)
- Pump

Not to Scale

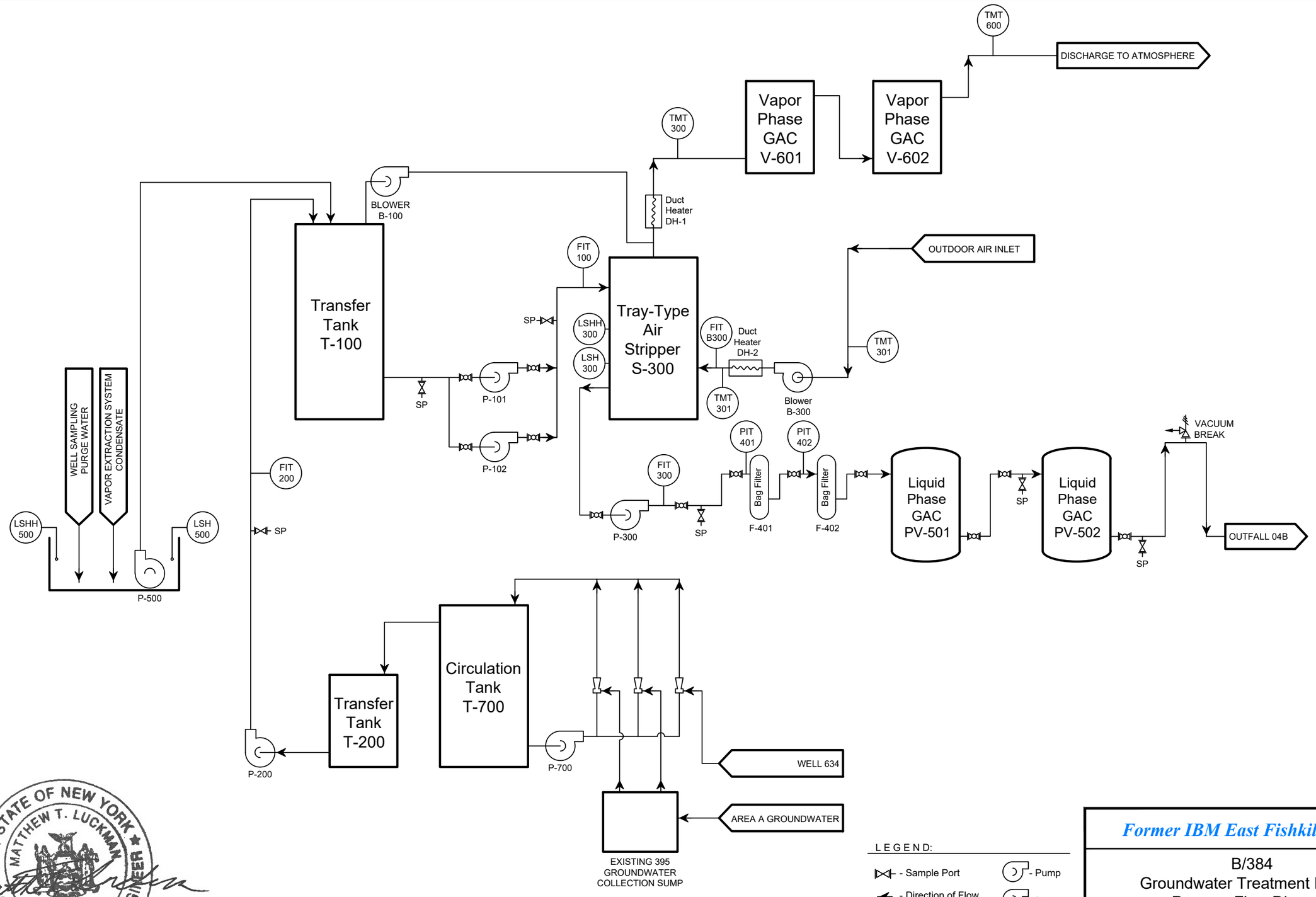
STATE OF NEW YORK ★ MATTHEW T. LUCKMAN ★ LICENSED PROFESSIONAL ENGINEER 076619-1

Former IBM East Fishkill Facility

PW-25 Groundwater Treatment Facility
Process Flow Diagram

DRAWN BY: JPB	DATE: 5/7/2020	DRAWING NO. 15000-005-A7
CHECKED & APPROVED BY: MTL/CES		

GROUNDWATER SCIENCES, P.C.



LEGEND:

- Sample Port
- Direction of Flow
- Instrument (xxxx / xxx)
- Pump
- Blower

Not to Scale

STATE OF NEW YORK ★ MATTHEW T. LUCKMAN ★ LICENSED PROFESSIONAL ENGINEER 076619-1

Figure 2-7

Former IBM East Fishkill Facility

B/384
Groundwater Treatment Facility
Process Flow Diagram

DRAWN BY: JPB	DATE: 5/7/2020	DRAWING NO. 15000-005-A4
CHECKED & APPROVED BY: MTL/CES		

GROUNDWATER SCIENCES, P.C.

Former IBM East Fishkill Facility
GW-010

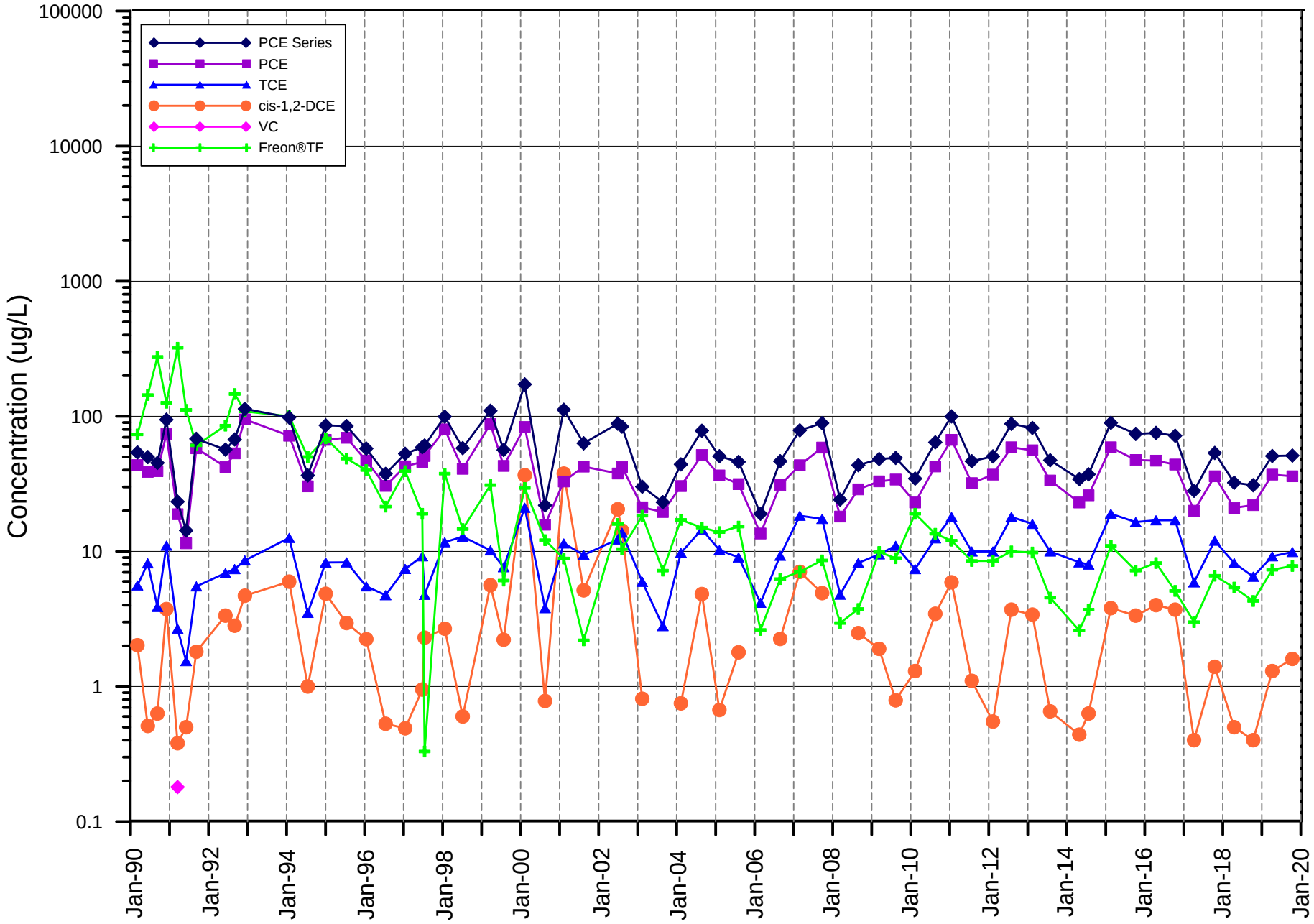


Figure 5-1

Former IBM East Fishkill Facility
GW-016

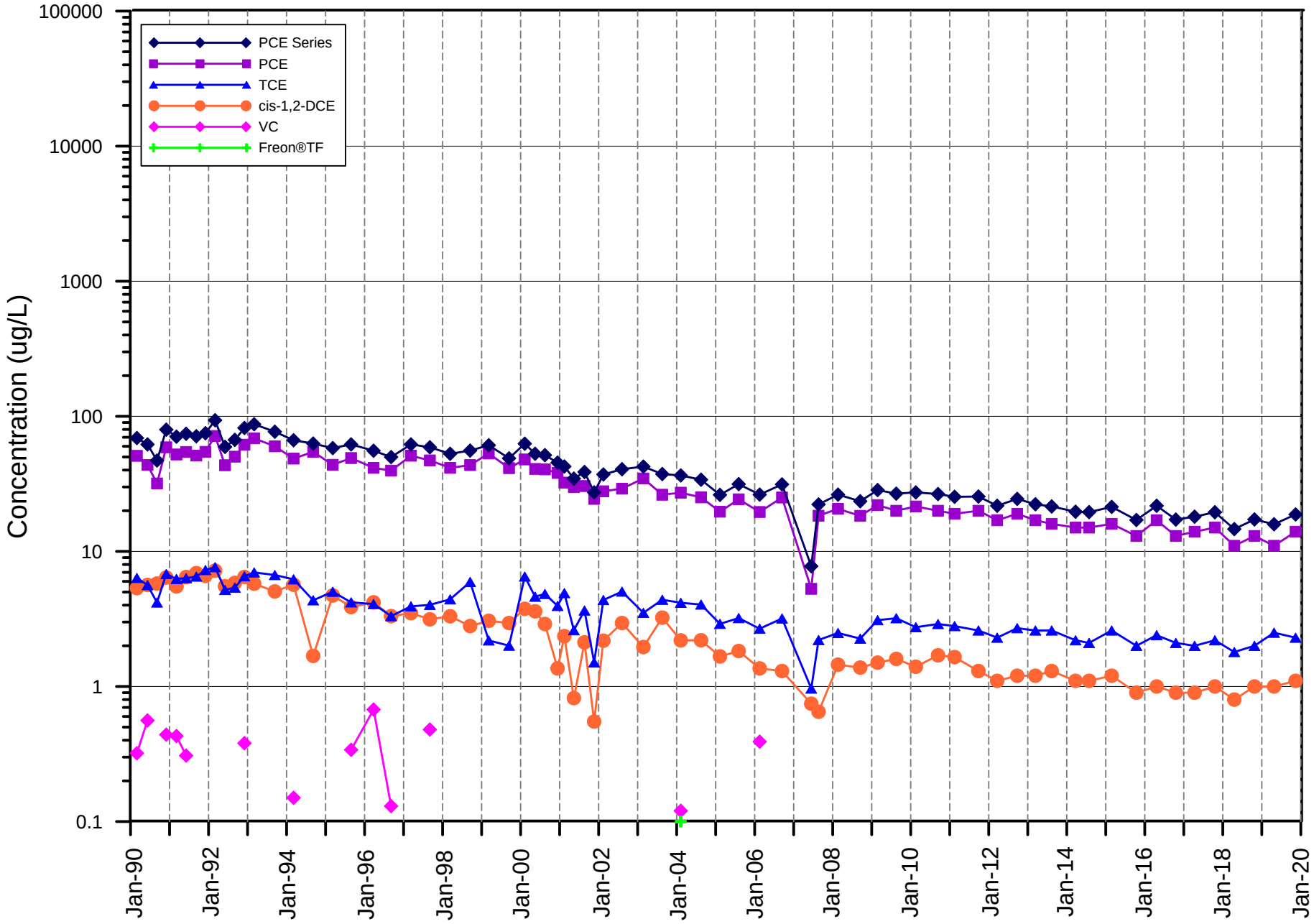


Figure 5-2

Former IBM East Fishkill Facility
GW-032/032A/032B

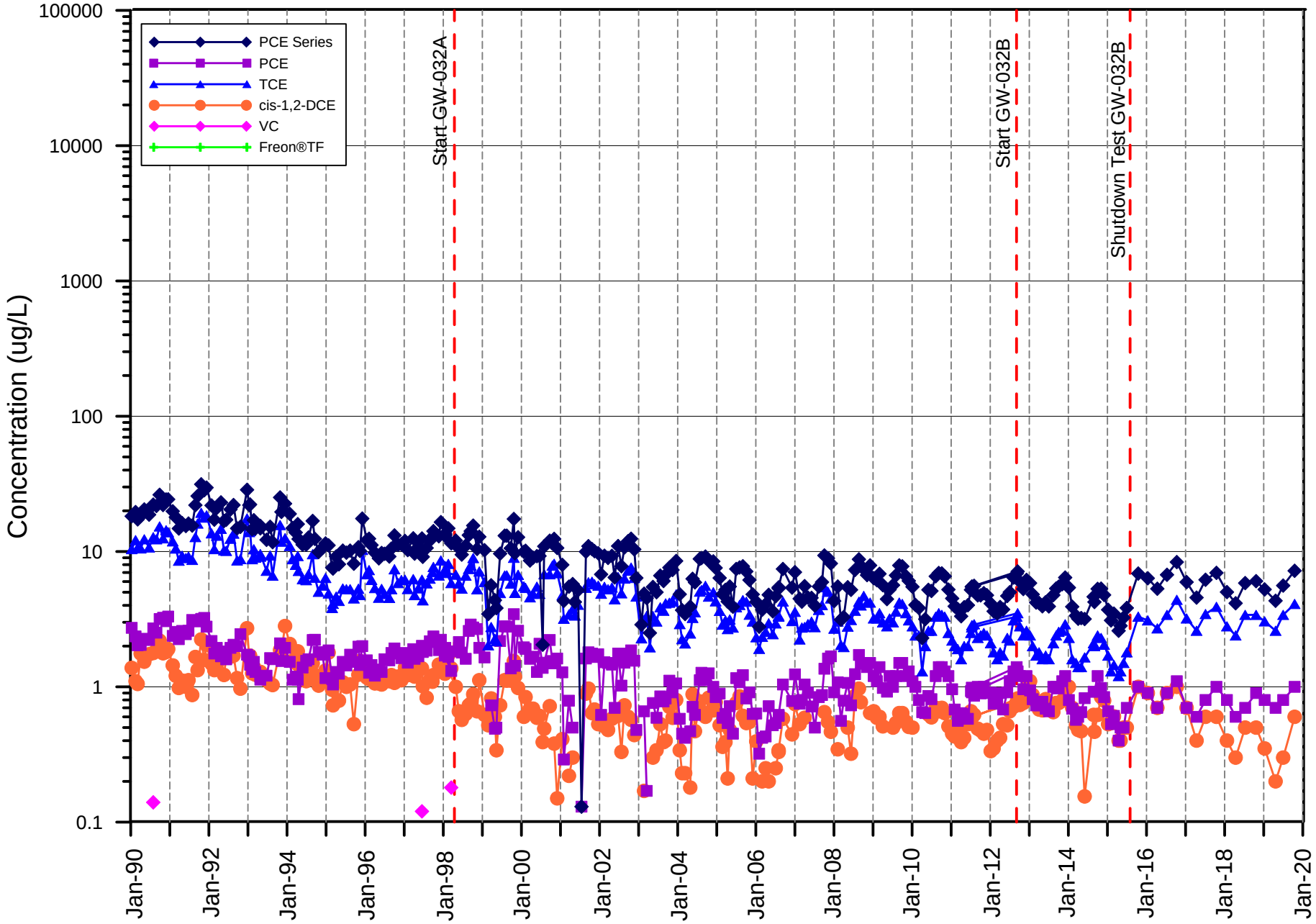


Figure 5-3

Former IBM East Fishkill Facility
GW-103

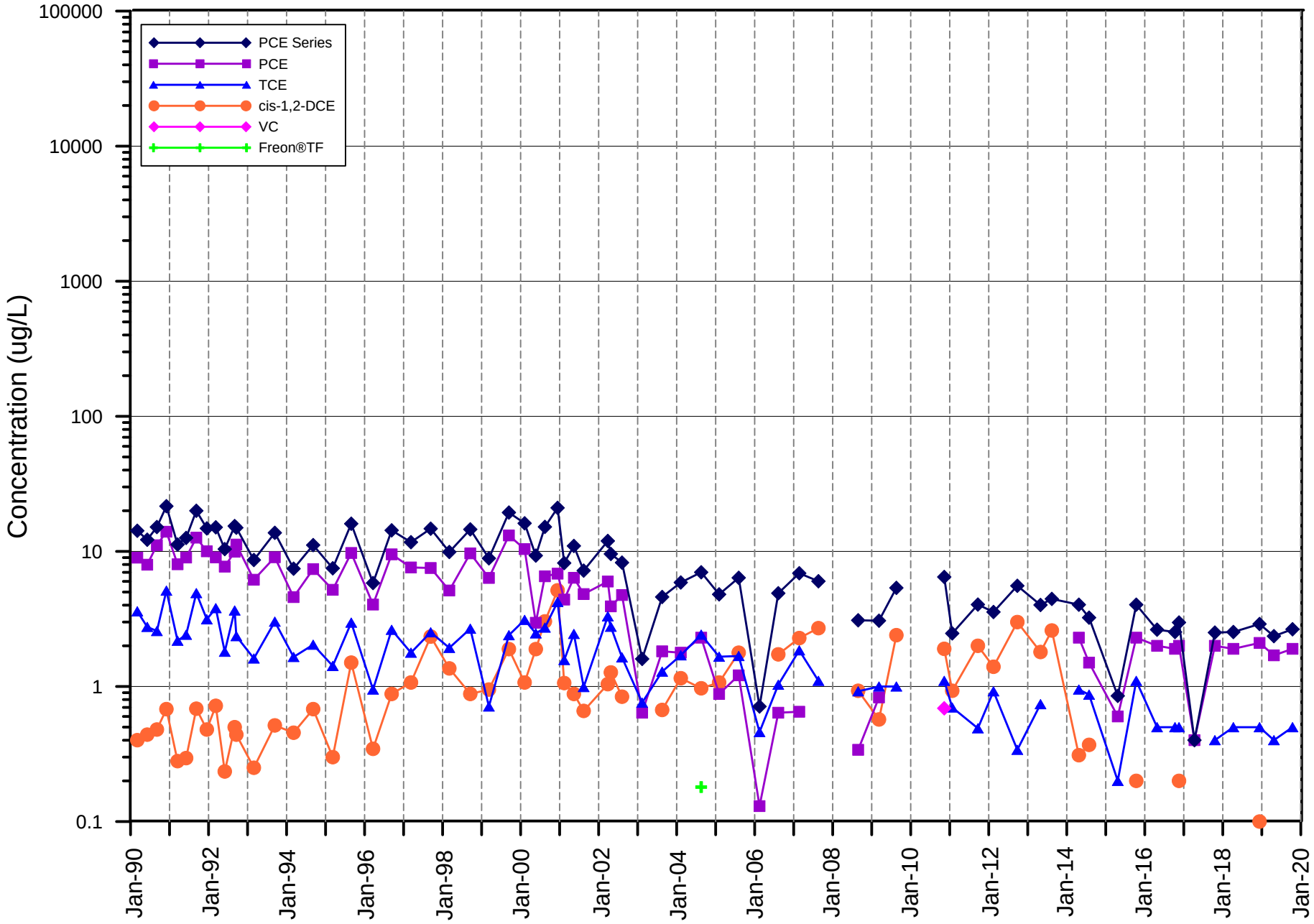


Figure 5-4

Former IBM East Fishkill Facility
GW-104

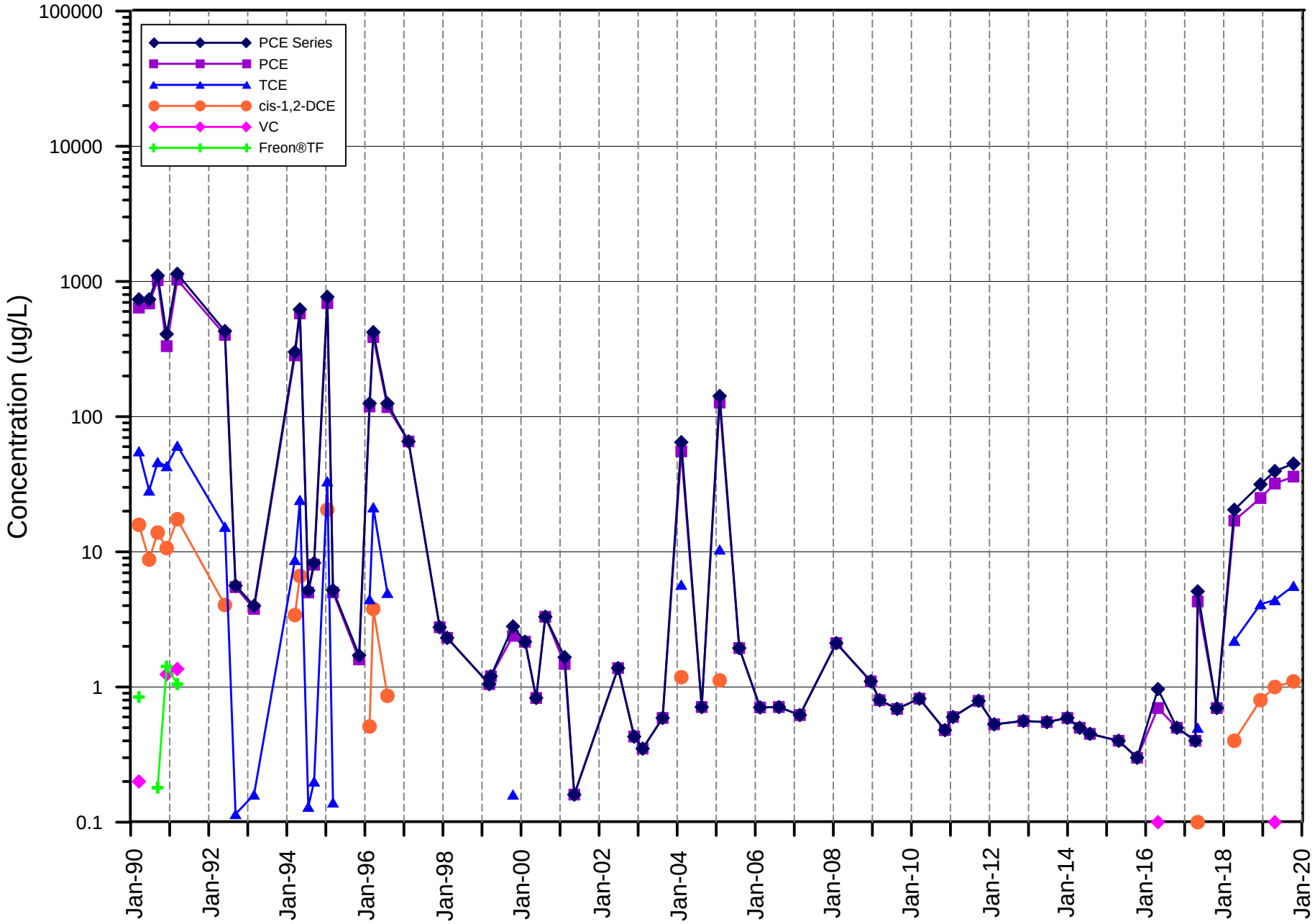


Figure 5-5

Former IBM East Fishkill Facility
GW-105

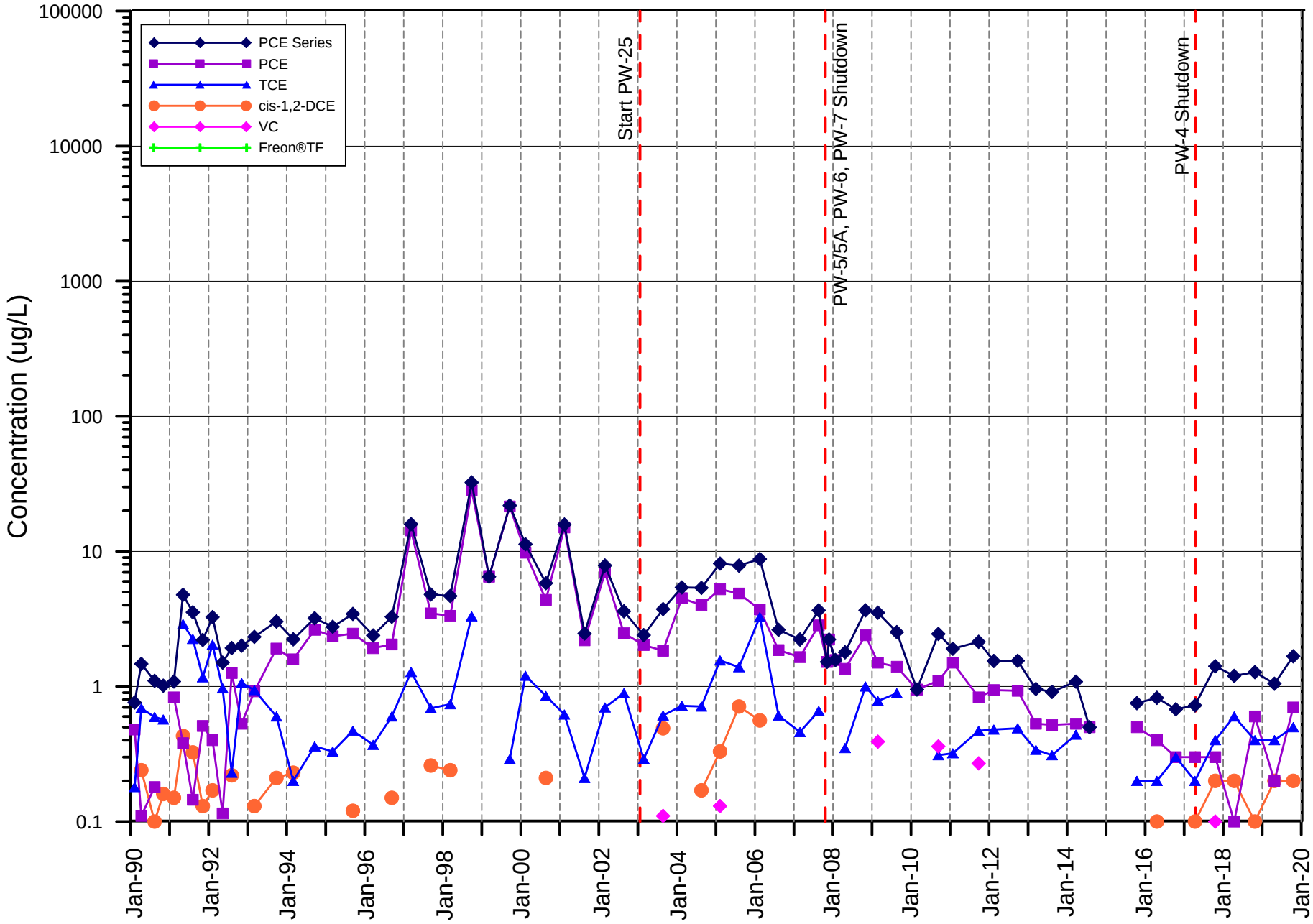


Figure 5-6

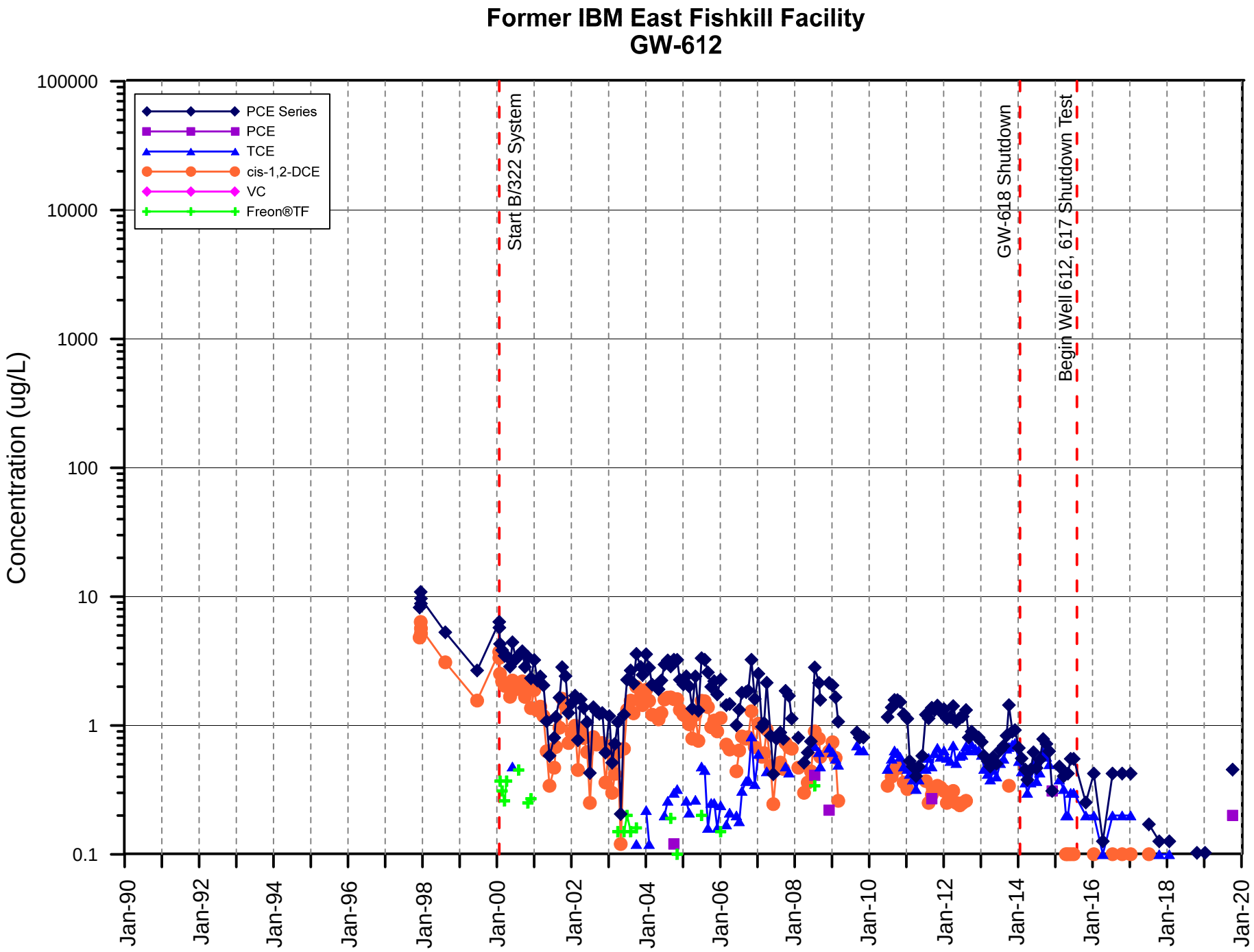

Former IBM East Fishkill Facility
GW-612
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
Start B/322 System
GW-618 Shutdown
Begin Well 612, 617 Shutdown Test
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20

Figure 5-7

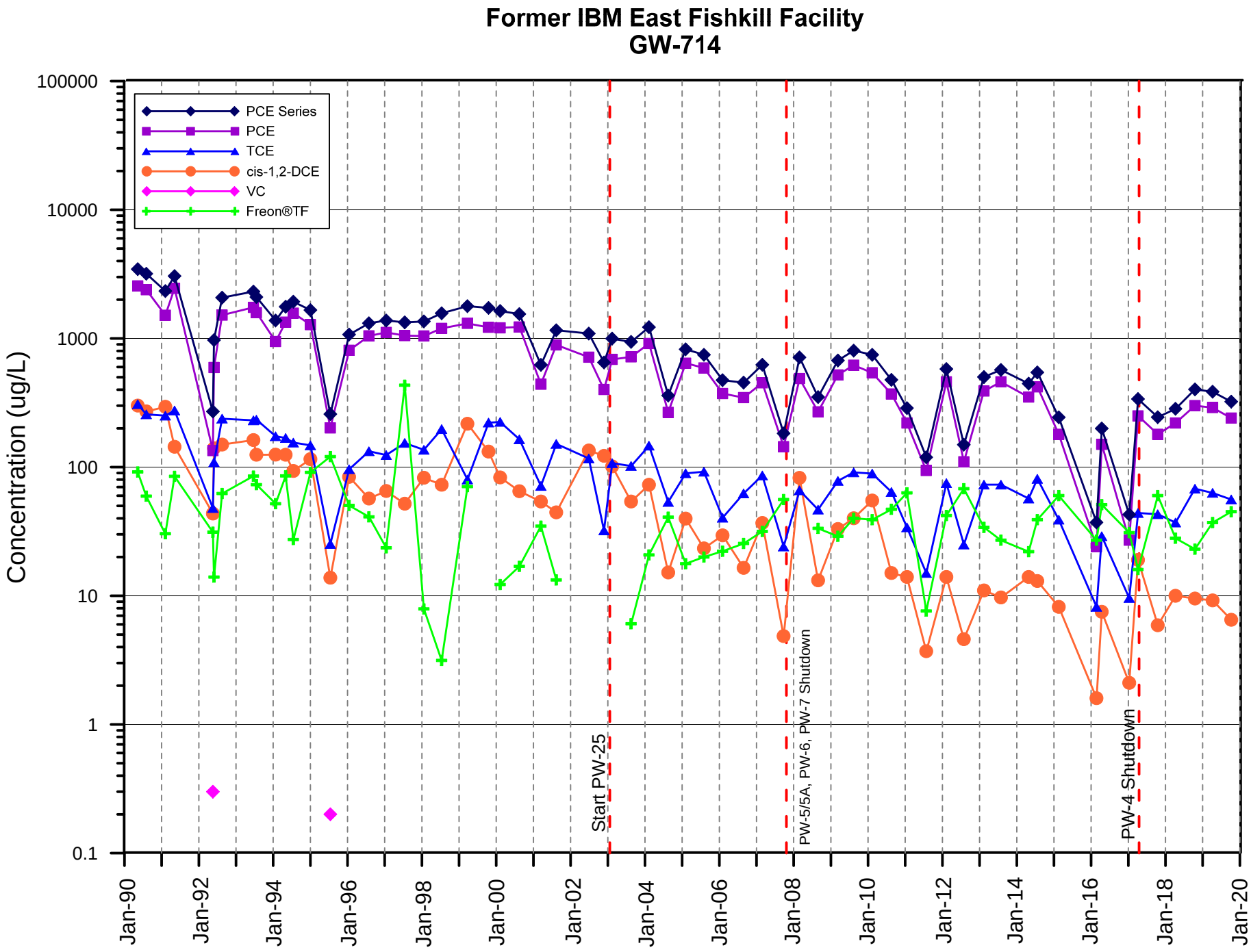

Former IBM East Fishkill Facility
GW-714
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Start PW-25
PW-5/5A, PW-6, PW-7 Shutdown
PW-4 Shutdown
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20

Figure 5-8

Former IBM East Fishkill Facility
GW-716

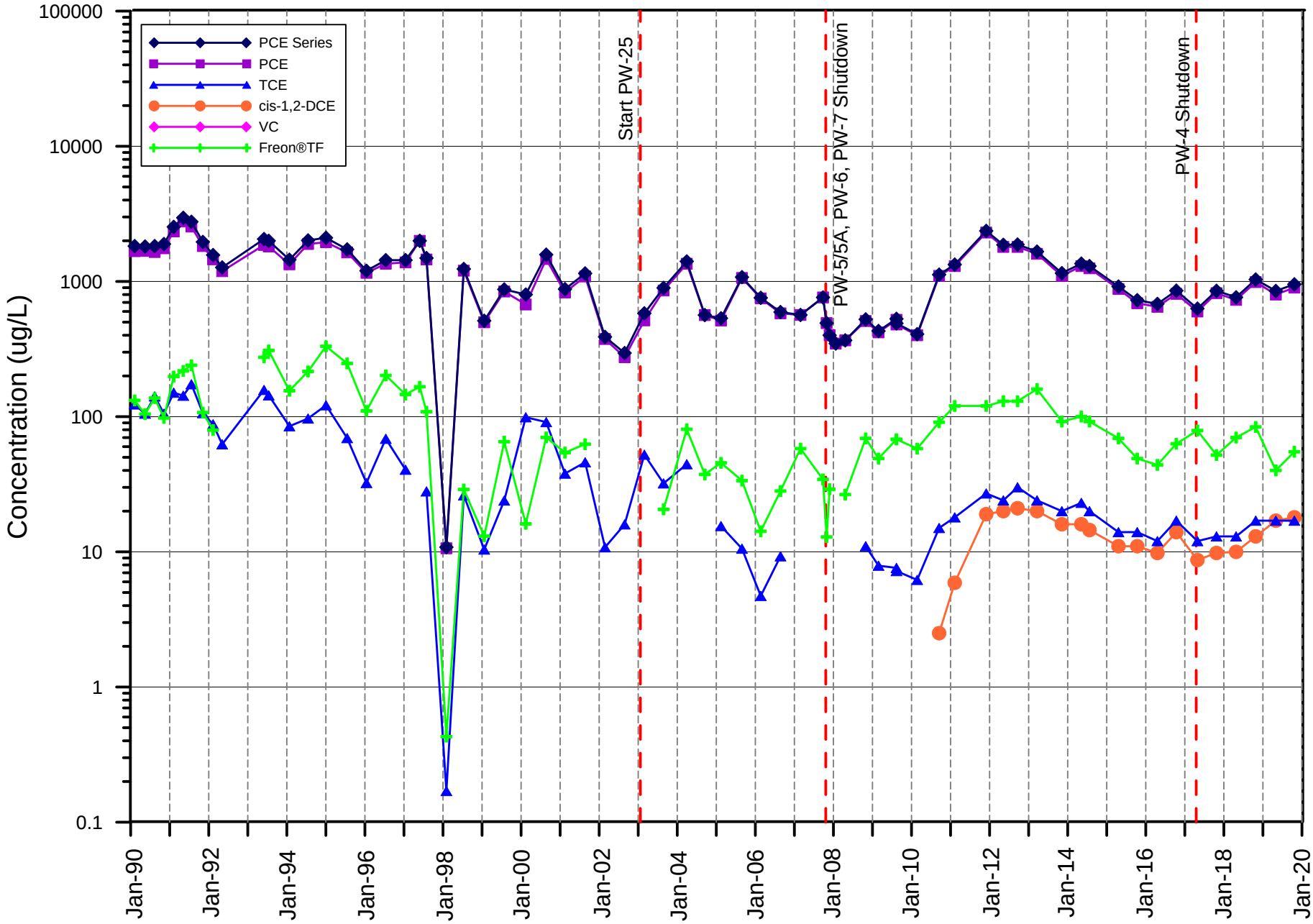


Figure 5-9

Former IBM East Fishkill Facility
GW-863/628

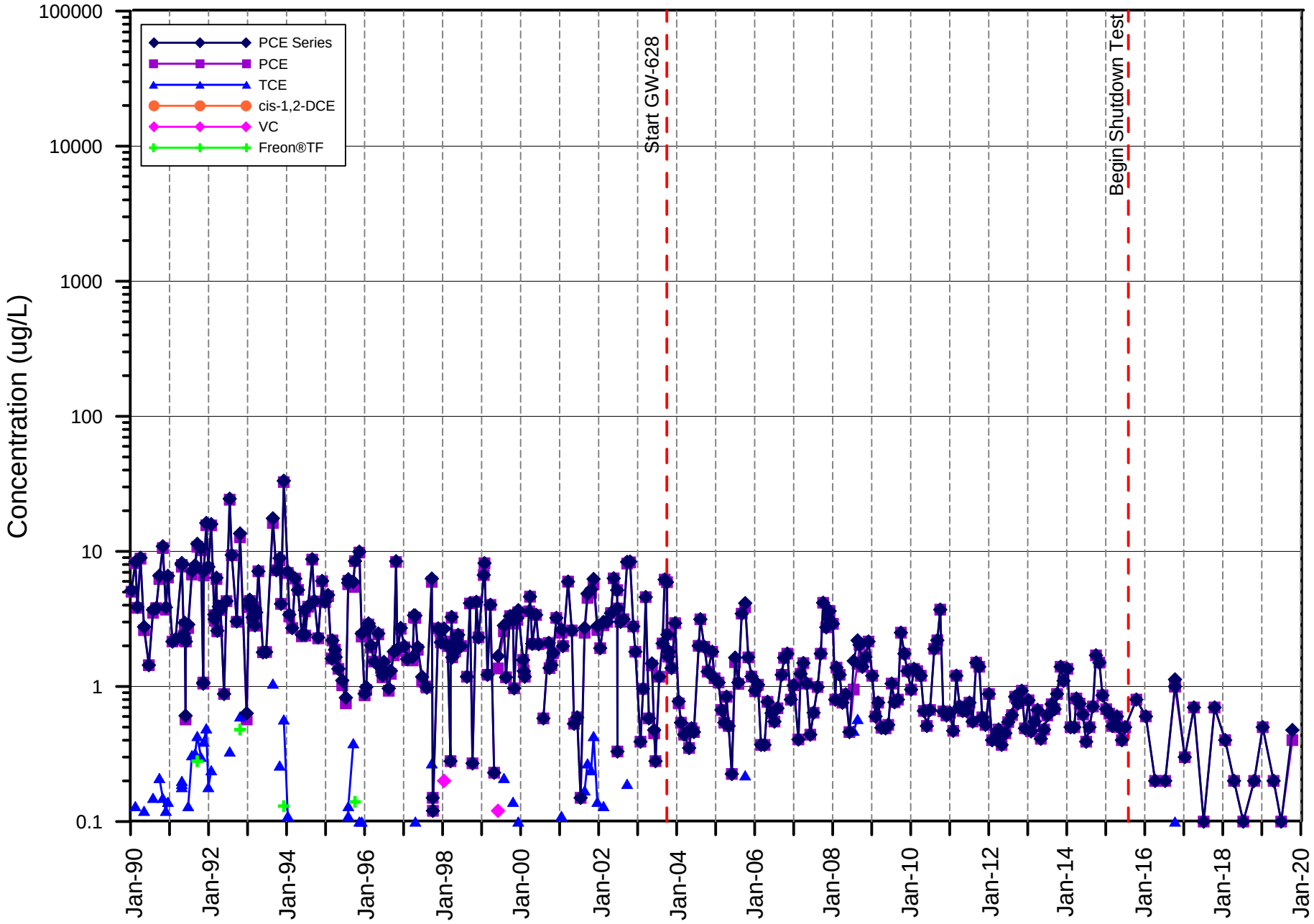


Figure 5-10

Former IBM East Fishkill Facility
GW-943

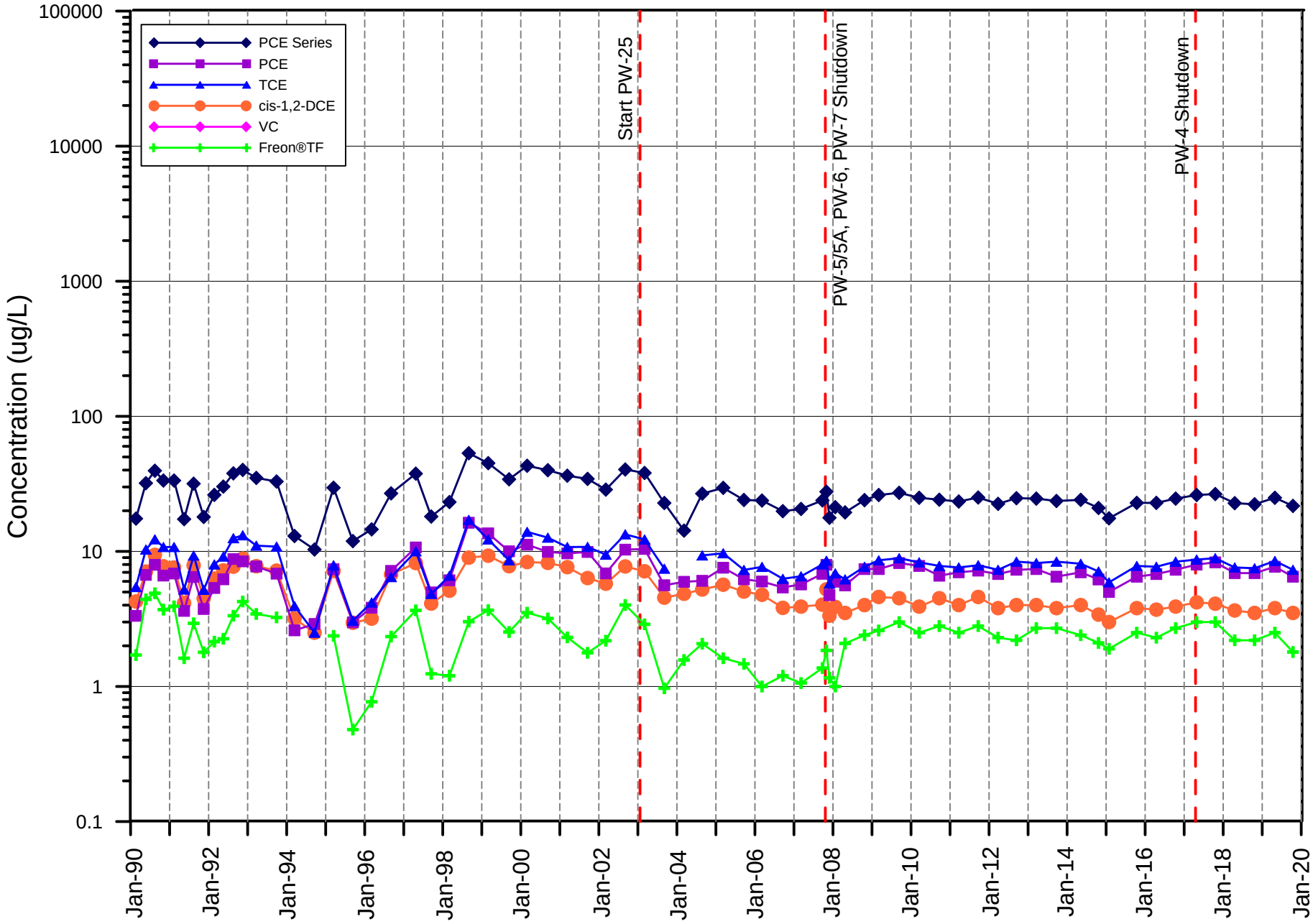


Figure 5-11

Former IBM East Fishkill Facility
PW-1

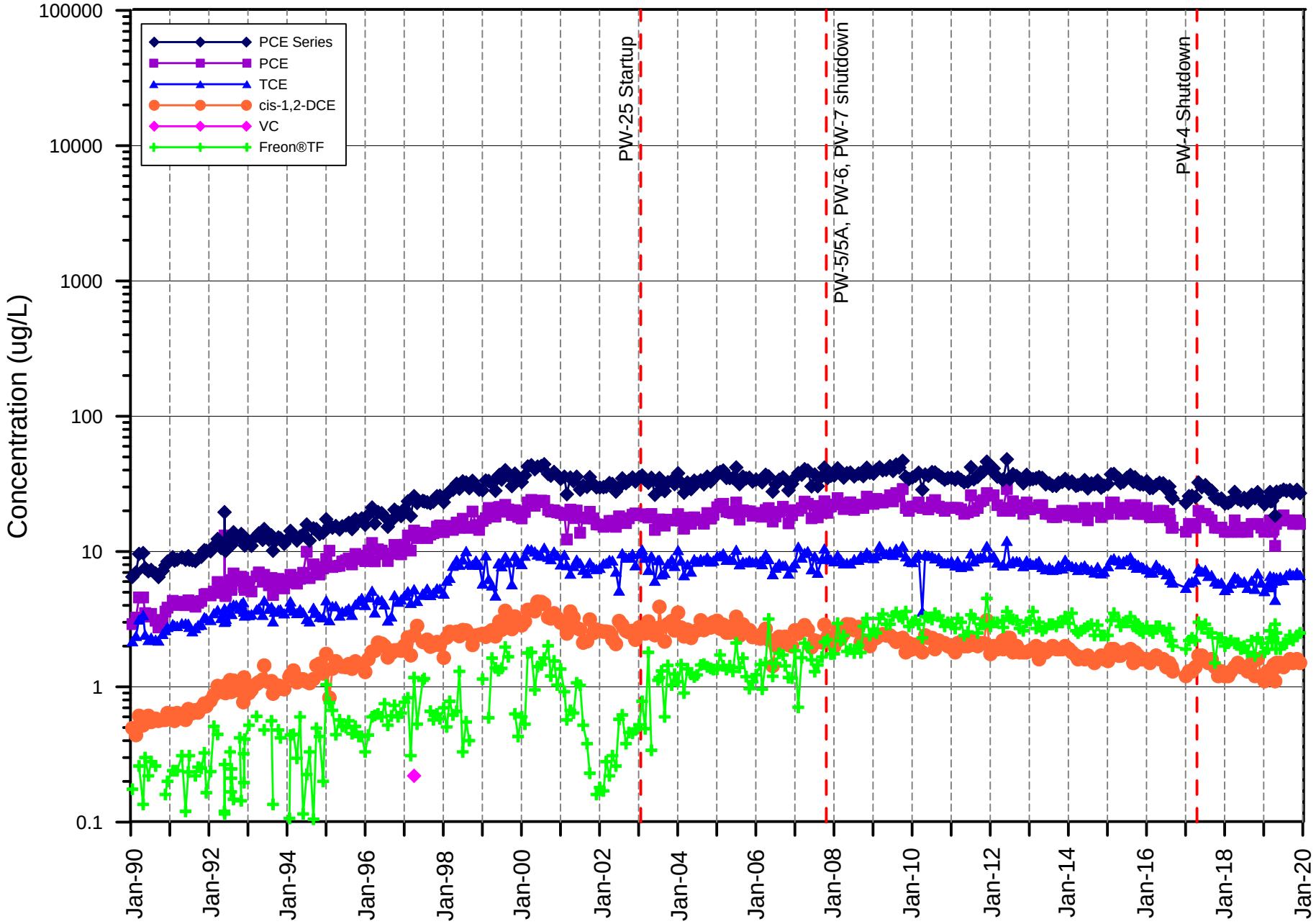


Figure 5-12

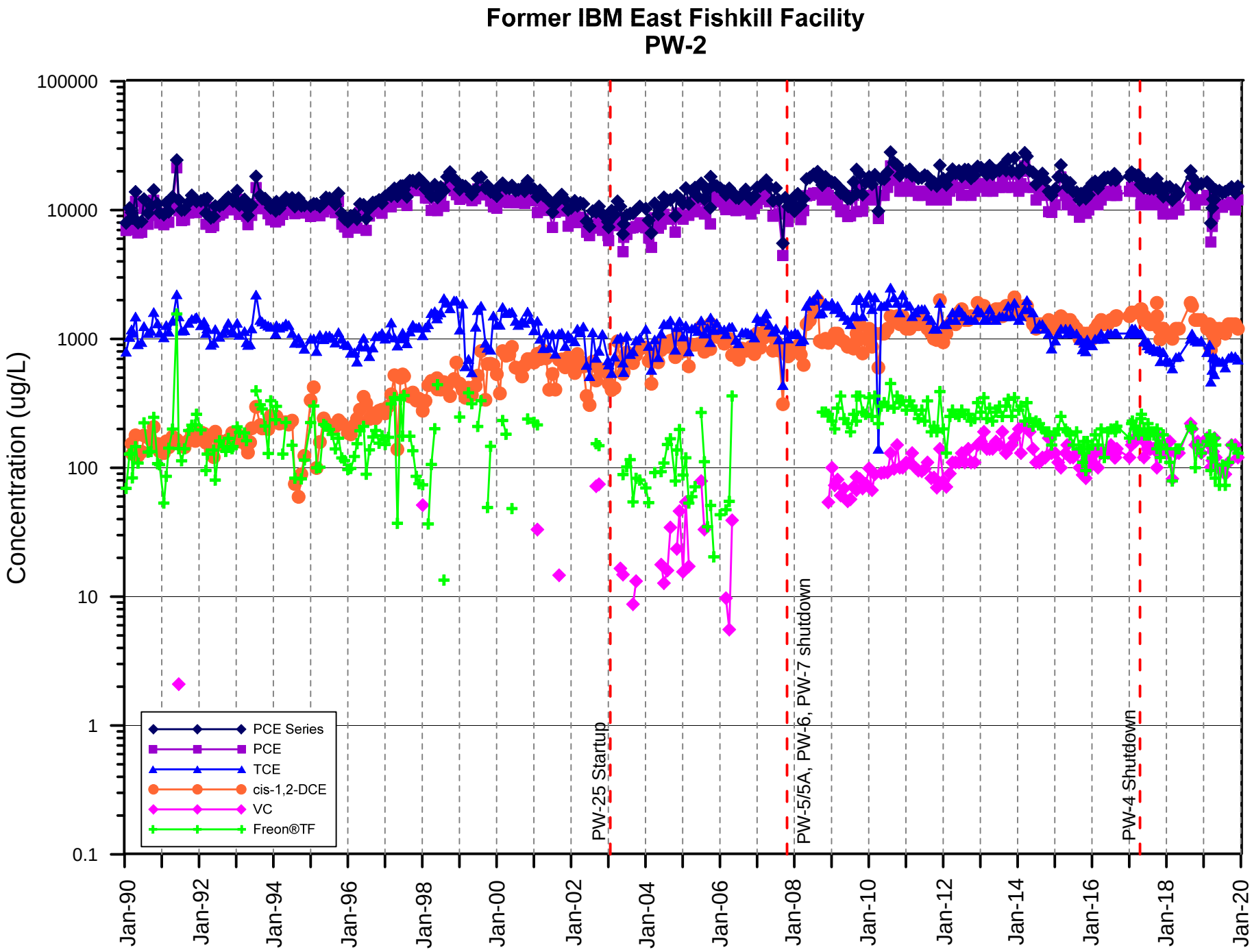

Former IBM East Fishkill Facility
PW-2
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
PW-25 Startup
PW-5/5A, PW-6, PW-7 shutdown
PW-4 Shutdown

Figure 5-13

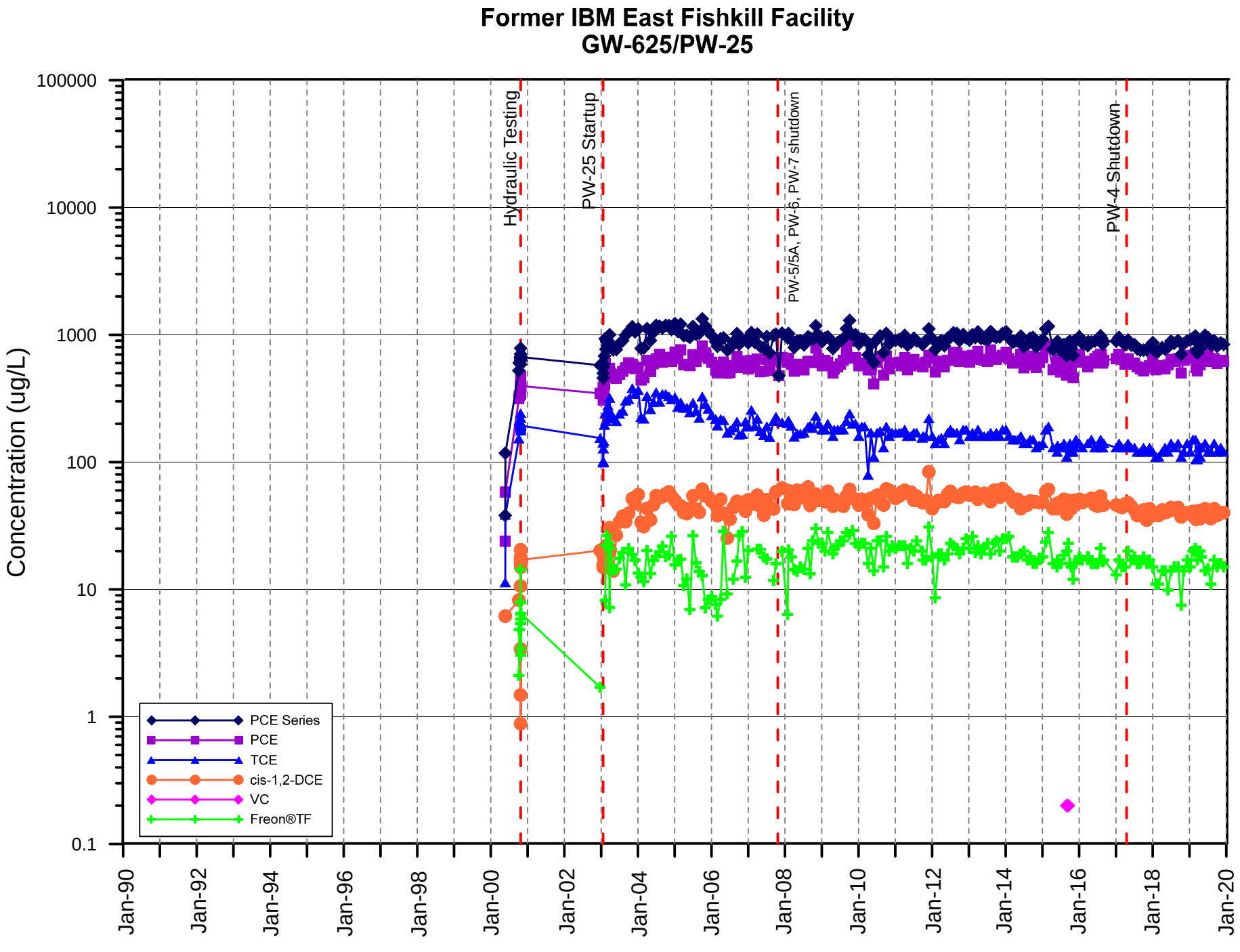

Former IBM East Fishkill Facility
GW-625/PW-25
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Hydraulic Testing
PW-25 Startup
PW-5/5A, PW-6, PW-7 shutdown
PW-4 Shutdown
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20

Figure 5-14

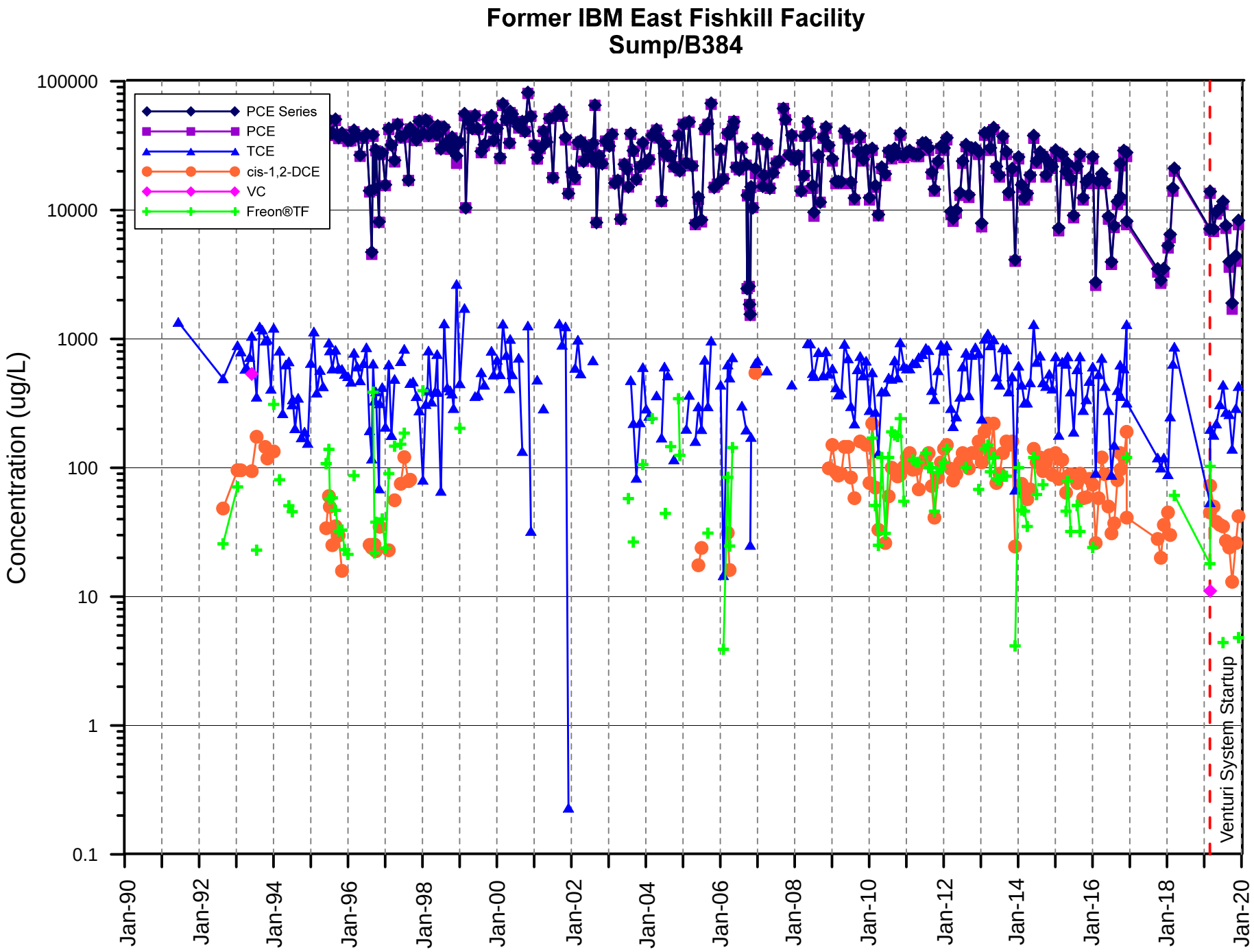

Former IBM East Fishkill Facility
Sump/B384
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20
Venturi System Startup

Figure 5-15

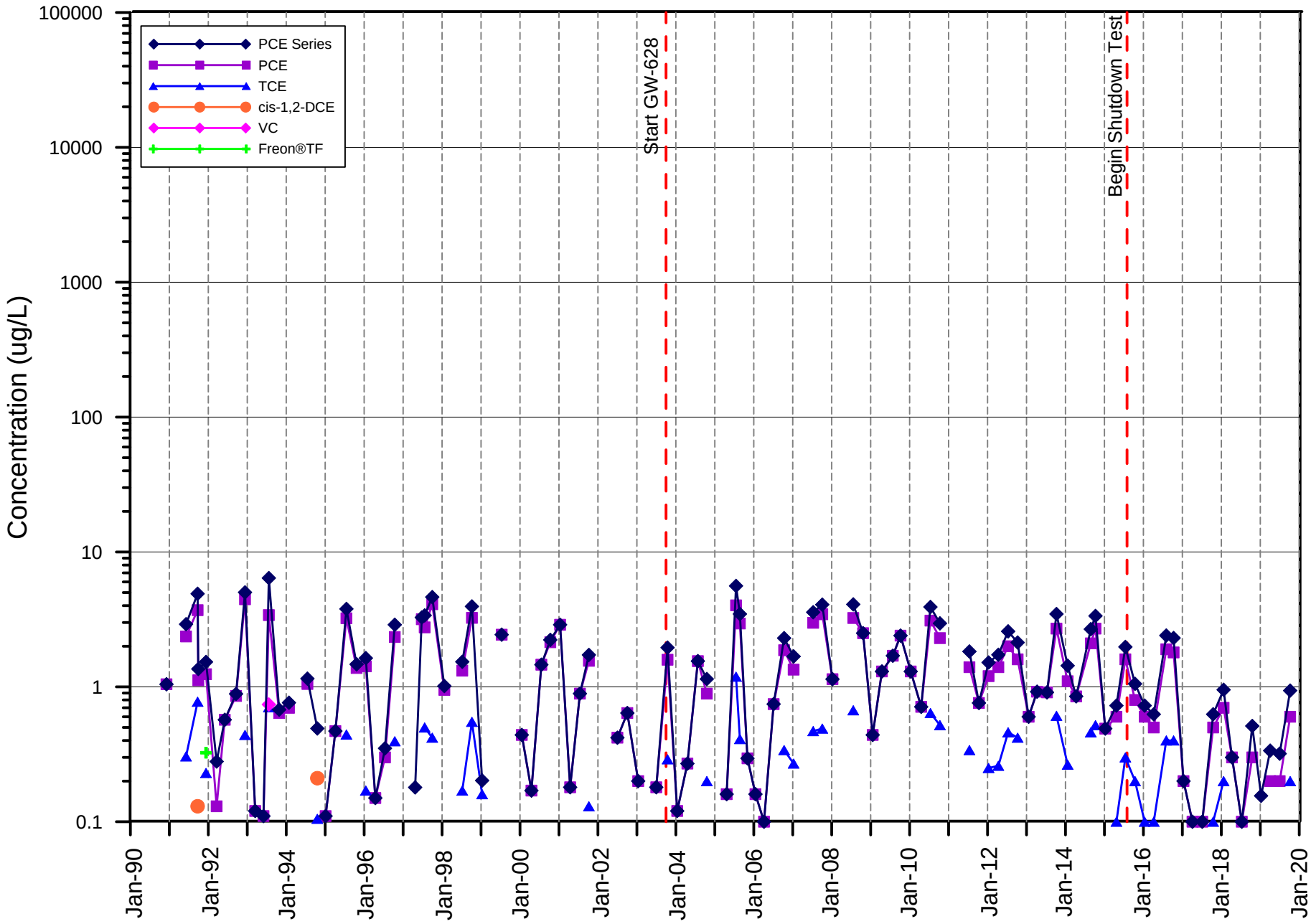

Former IBM East Fishkill Facility
GW-064
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
Start GW-628
Begin Shutdown Test
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20

Figure 5-16

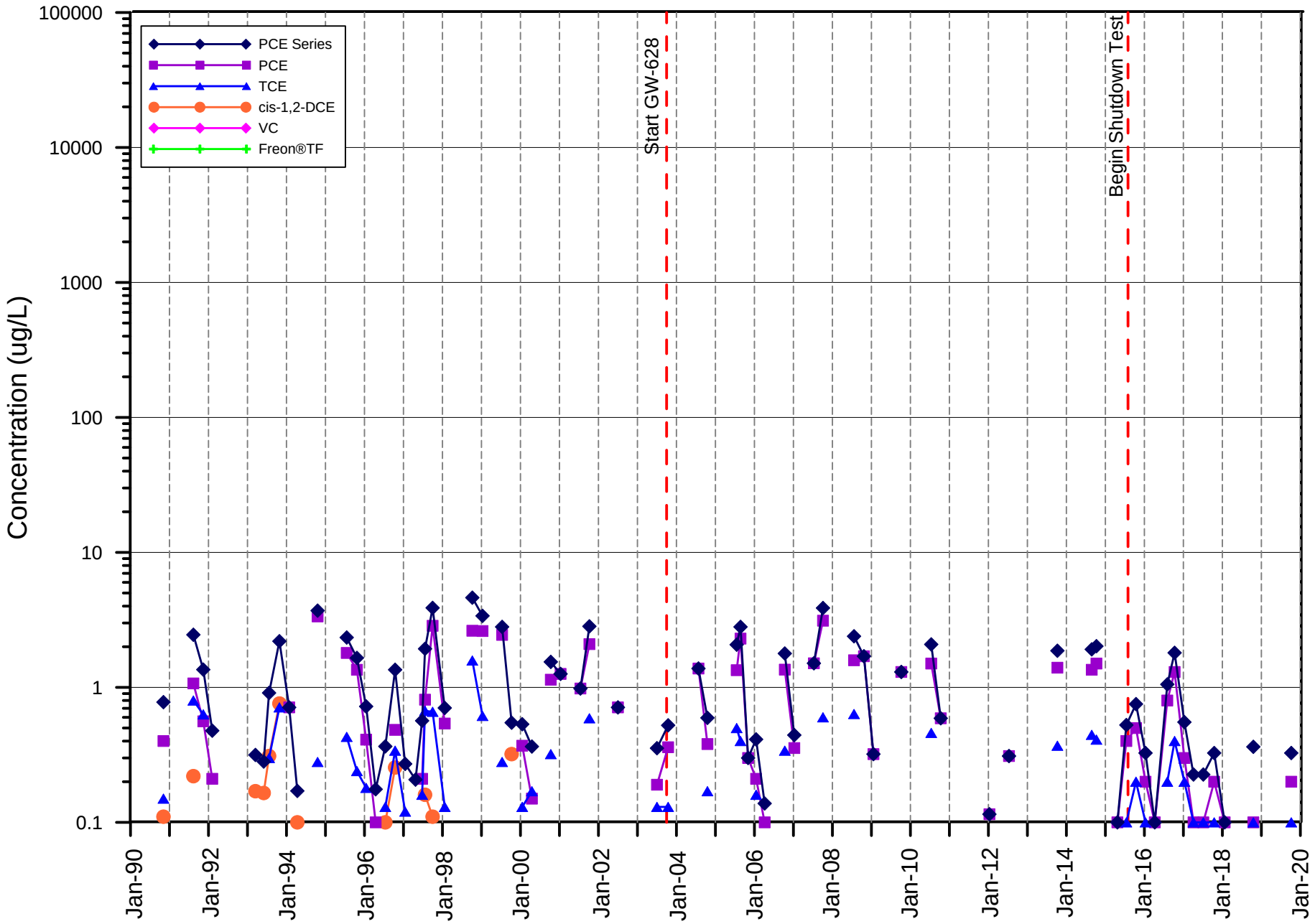

Former IBM East Fishkill Facility
GW-065
PCE Series
PCE
TCE
cis-1,2-DCE
VC
Freon®TF
Start GW-628
Begin Shutdown Test
Concentration (ug/L)
100000
10000
1000
100
10
1
0.1
Jan-90
Jan-92
Jan-94
Jan-96
Jan-98
Jan-00
Jan-02
Jan-04
Jan-06
Jan-08
Jan-10
Jan-12
Jan-14
Jan-16
Jan-18
Jan-20

Figure 5-17

Former IBM East Fishkill Facility
GW-066

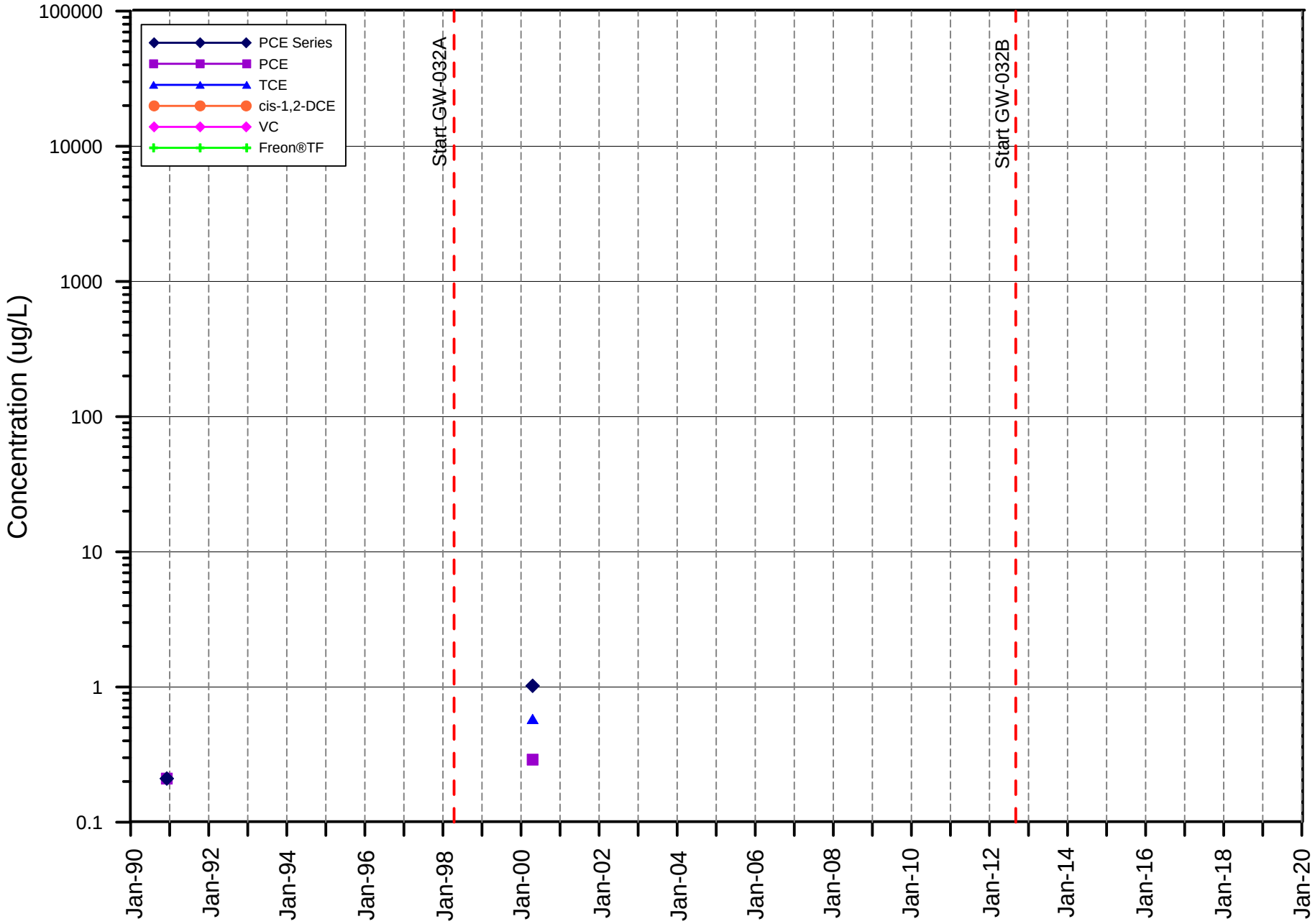


Figure 5-18

Former IBM East Fishkill Facility
GW-067

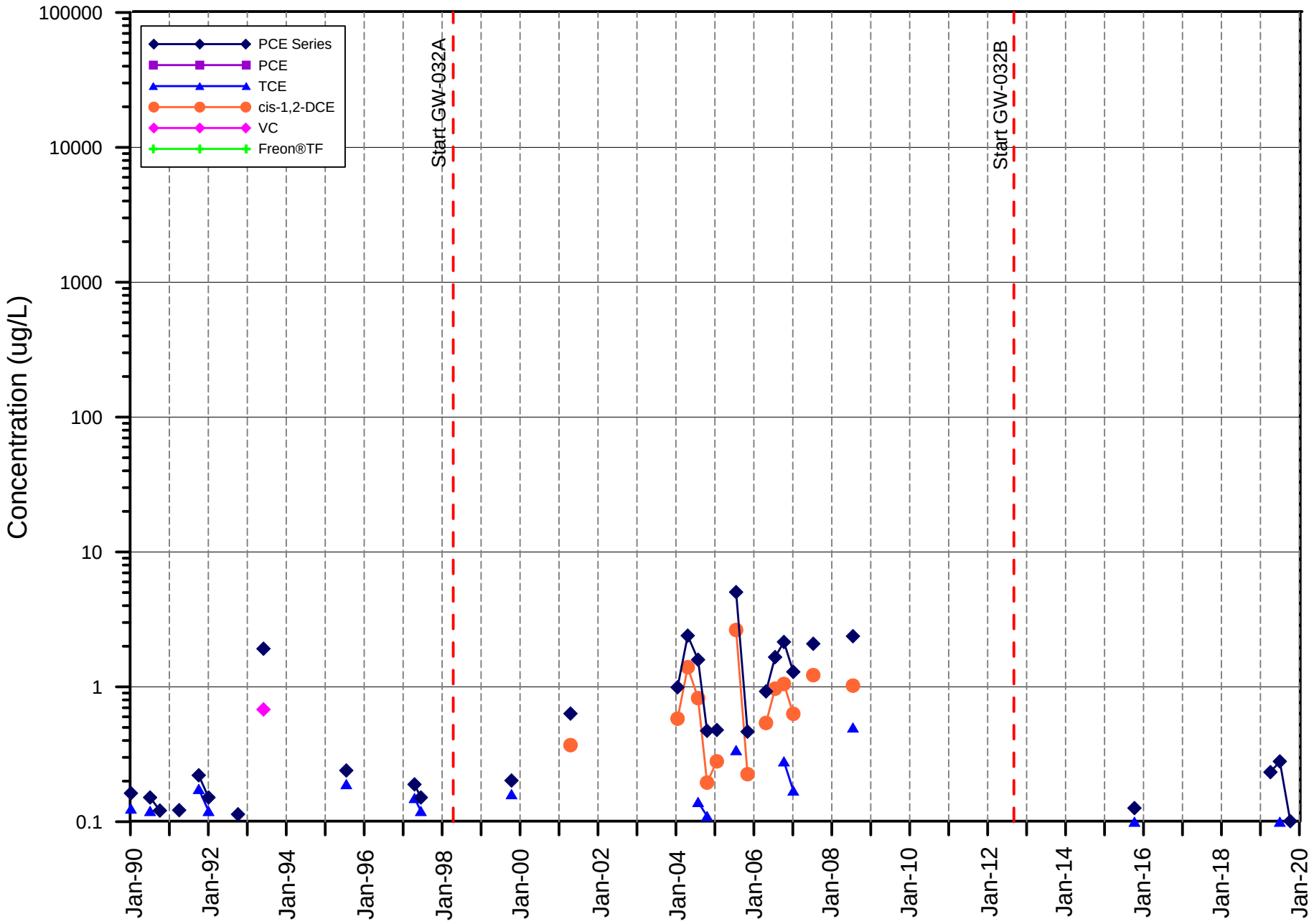


Figure 5-19

Former IBM East Fishkill Facility
GW-987

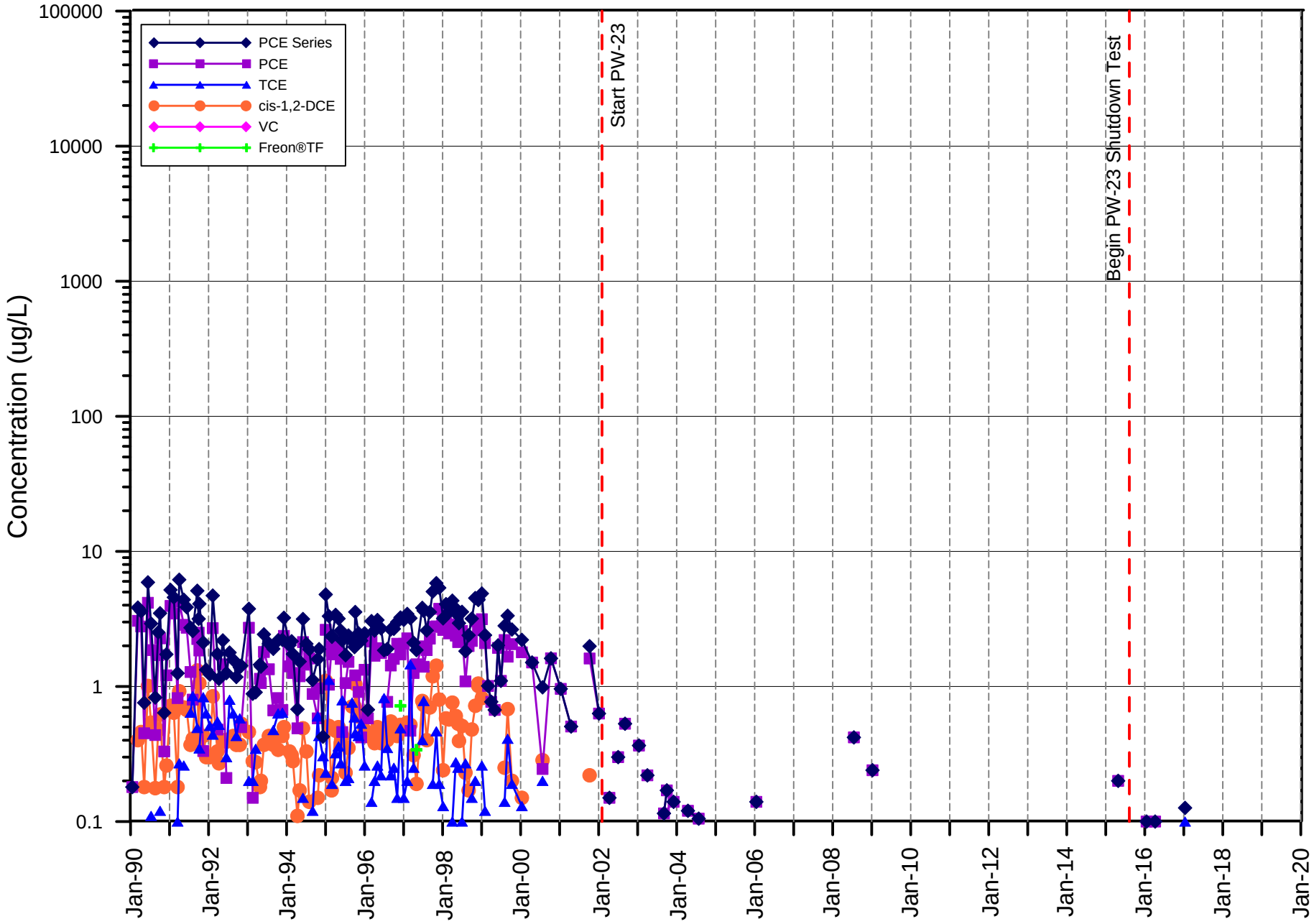


Figure 5-20

Former IBM East Fishkill Facility
GW-990

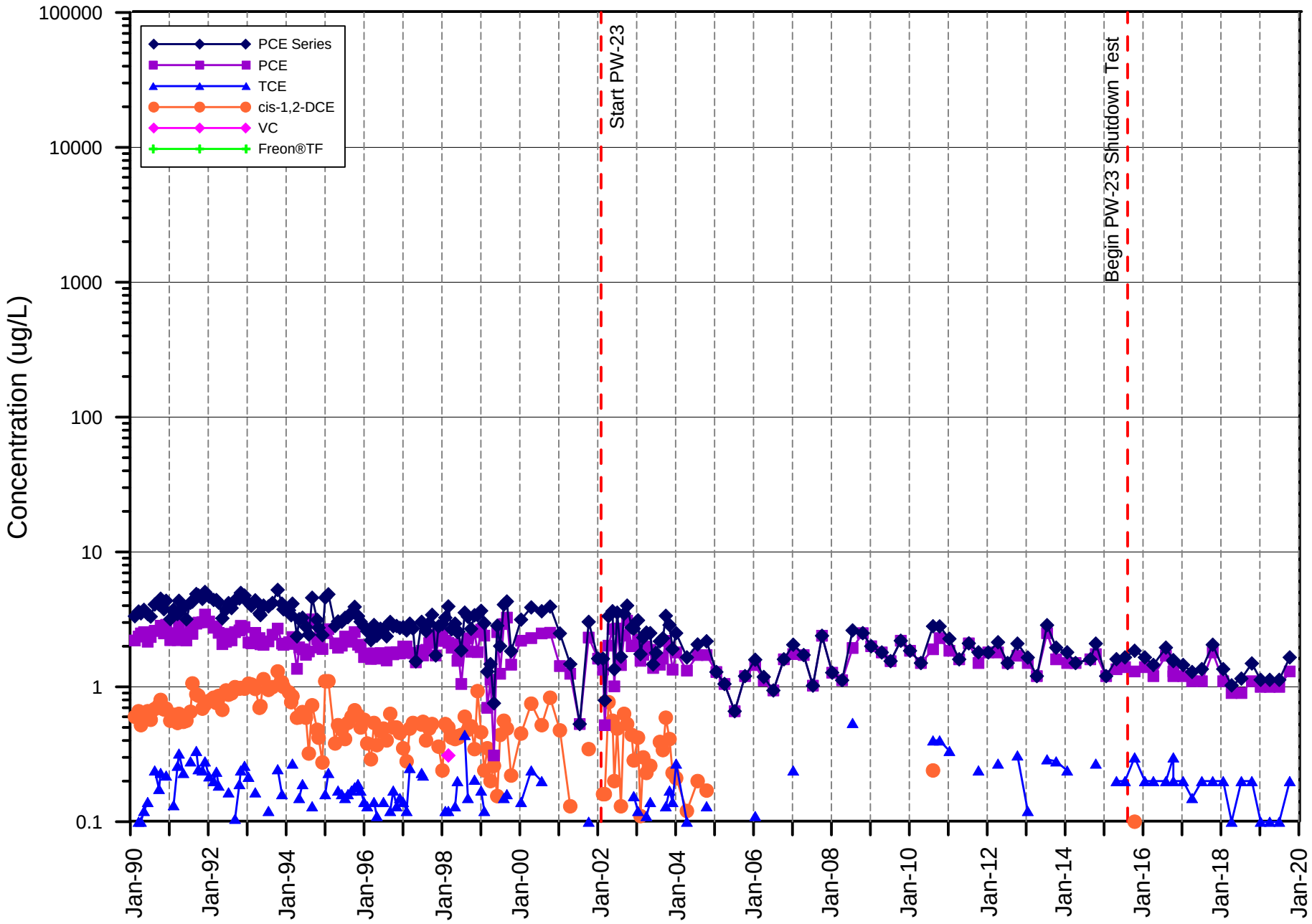


Figure 5-21

GlobalFoundries (~145 acres)		
Lot 1	(45.64 acres)	GlobalFoundries U.S 2 LLC
Lot 5	(98.94 acres)	GlobalFoundries U.S 2 LLC

i.Park (~290 acres)		
Lot 2	(48.34 acres)	i.Park East Fishkill I LLC
Lot 3	(23.85 acres)	i.Park East Fishkill I LLC
Lot 4	(13.72 acres)	i.Park East Fishkill LLC
Lot 6	(56.19 acres)	i.Park East Fishkill LLC
Lot 7	(85.05 acres)	i.Park East Fishkill LLC
Lot 8	(59.40 acres)	i.Park East Fishkill LLC
Building 303		
Building 309		

Notes:

Lot 2 Reversionary Clause - Buildings 303 and 309: In the event GlobalFoundries or its successors ceases to exist or operate the chip fab or the need for hazard waste collection is eliminated, then said portion of Lot 5 containing Buildings 303 and 309 shall revert to Lot 2 owner or its successors.

Lot 4 Reversionary Clause - Bulk Storage Tanks: In the event GlobalFoundries or its succesors ceases to exist or operate the chip fab or the need for hydrogen gas is eliminated, then said portion of Lot 5 east of East Drive containing hydrogen tanks shall revert to Lot 4 owner or its successors.

LEGEND

- Former IBM East Fishkill Facility Property Line
- Subdivision (GlobalFoundries U.S. 2 LLC)
- Subdivision (i.Park East Fishkill LLC)
- Subdivision (i.Park East Fishkill I LLC)
- Right-of-Way
- Fee Road

Irrevocable Offer of Cession and Dedication of Fee Roads:

South Drive	(Deed doc 02 2017 5782)
Fee Road IV and Fee Road VI	(Deed doc 02 2017 5783)
Fee Roads I, II, III and V	(Deed doc 02 2017 5784)

Plate 2-1

Site Basemap: Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C., Poughkeepsie, NY (XBASE-SVY_51421-00.dwg, 8/10/15); Parcels: XSUBD_51539-00.dwg
Offsite Basemap: "Groundwater Monitoring Basemap", IBM East Fishkill Facility (9718new.dwg, original date 12/21/98).

Scale 0 200' 400'

Former IBM East Fishkill Facility

Site Subdivision Map

DRAWN BY: MHM	DATE: 5/13/19	DRAWING NO. 95007-140-A1b
CHECKED & APPROVED BY: CES		

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- Soil Monitoring Well (for groundwater sampling and elevations)
- Soil Monitoring Well (for groundwater elevations only)
- Bedrock Monitoring Well (for groundwater sampling and elevations)
- Bedrock Monitoring Well (for groundwater elevations only)
- Soil/Bedrock Monitoring Well (for groundwater sampling and elevations)
- Soil/Bedrock Monitoring Well (for groundwater elevations only)
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Shallow Extraction Well (all in soil except well 628 in bedrock)
- Inactive Shallow Extraction Well

OU – Operable Unit

E0000 E1000 E2000 E3000 E4000 E5000 E6000 E7000 E8000

N9000 N8000 N7000 N6000 N5000 N4000

AREA A (OU5)

AREA B (OU3)

AREA C (LANDFILL) (OU6)

AREA D (OU4)

B/322 (OU7)

B/330 (OU8)

SOUTHEAST QUADRANT (OU9)

FORMER WEST COMPLEX

FORMER IBM RECREATION CENTER

JOHN JAY HIGH SCHOOL

B303 B304 B308 B309 B310 B320A B320B B321 B322 (STRUCTURAL STEEL) B323 B323A B300 B334 B330C B330D B330F B335 B338 B315 B316 B317 B386

PW-1 GTF PW-2 GTF PW-2R GTF

PW-1 PW-2 PW-4 PW-5A PW-5 PW-6 PW-7 PW-23 PW-25

B384 Sump

ROUTE 52 NORTH DRIVE WEST DRIVE EAST DRIVE SOUTH DRIVE FACILITY DRIVE UTILITY DRIVE ADMINISTRATION COURT SERVICE ROAD DEVELOPMENT DRIVE CENTER STREET OLD HOPEWELL ROAD LAKE KELLY ROAD

INTERSTATE 84

Former B630 Former B640 Former B650 Former B660

Scale 0 200' 400'

Plate 2-2

Former IBM East Fishkill Facility

Groundwater Monitoring Plan
Well Location Map

DRAWN BY: MHM/KA	DATE: 5/7/2020	DRAWING NO. 95007-086-E3
CHECKED & APPROVED BY: CES		

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- GMP Soil Monitoring Well
- GMP Soil Monitoring Well (for groundwater elevations only)
- GMP Soil/Bedrock Monitoring Well
- GMP Soil/Bedrock Monitoring Well (for groundwater elevations only)
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Shallow Extraction Well
- Inactive Shallow Extraction Well
- OU – Operable Unit
- 220 – Contour of Constant Potentiometric Head (feet amsl)
- 228.08 – Groundwater Elevation (feet amsl)
- Generalized Direction of Groundwater Flow
- Groundwater Divide
- Extent of Clay Mapping
- Extent of Glaciolacustrine Clay
- Inferred Areas of No Saturated Soil (Approximate)

Area of Concern	Extraction Point	Avg. April 2019 Flow Rate (GPM)
Area A	B384 Sump & GW-634	0.9

AREA A (OU5)
AREA B (OU3)
AREA C (LANDFILL) (OU5)
AREA D (OU4)
B/322 (OU7)
B/330 (OU8)
SOUTHEAST QUADRANT (OU9)
PW-1
PW-2
PW-25
PW-4
PW-5
PW-5A
PW-6
PW-7
PW-8
PW-23
B300
B302
B303
B304
B306
B308
B309
B310
B316
B317
B320A
B320B
B320C
B320D
B320E
B321
B322 (REMAINING STRUCTURE)
B323
B323A
B335
B336
B338
B384
B386
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
SCHOONMAKER ROAD
LAKE MILL ROAD
NORTH DRIVE
WEST DRIVE
EAST DRIVE
SOUTH DRIVE
FACILITY DRIVE
UTILITY DRIVE
ADMINISTRATION CHART
CENTER STREET
SERVICE ROAD
CHRISTOPHER DRIVE
ON-GROUNDS DRIVE

Scale
0 200' 400'

Plate 4-1

Former IBM East Fishkill Facility

Elevation Contour Map
Soil Groundwater Table
April 1-3, 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO. 95007-102-R2
CHECKED & APPROVED BY: CES		

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- GMP Bedrock Monitoring Well
- GMP Bedrock Monitoring Well (for groundwater elevations only)
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Soil Extraction Well
- OU – Operable Unit
- 200 – Contour of Constant Potentiometric Head (feet amsl)
- Generalized Direction of Groundwater Flow
- Groundwater Divide
- 164.54 – Groundwater Elevation (feet amsl) "<" symbol denotes a dry well. Elevation listed is the bottom elevation of the well

Note: Generally, the data used in contouring this plate is from the deepest of the bedrock wells in a well cluster and corresponds to a screened or open hole interval elevation between approximately 50 and 120 feet amsl. This elevation interval generally correlates with the principal water-bearing zones in the on-site deep bedrock production wells. Only groundwater elevation data from wells used in contouring is shown on this plate.

Extraction Well	Avg. Apr. 1–3, 2019 Flow Rate (GPM)
PW-1	139
PW-2	113
PW-4	OFFLINE
PW-25	219

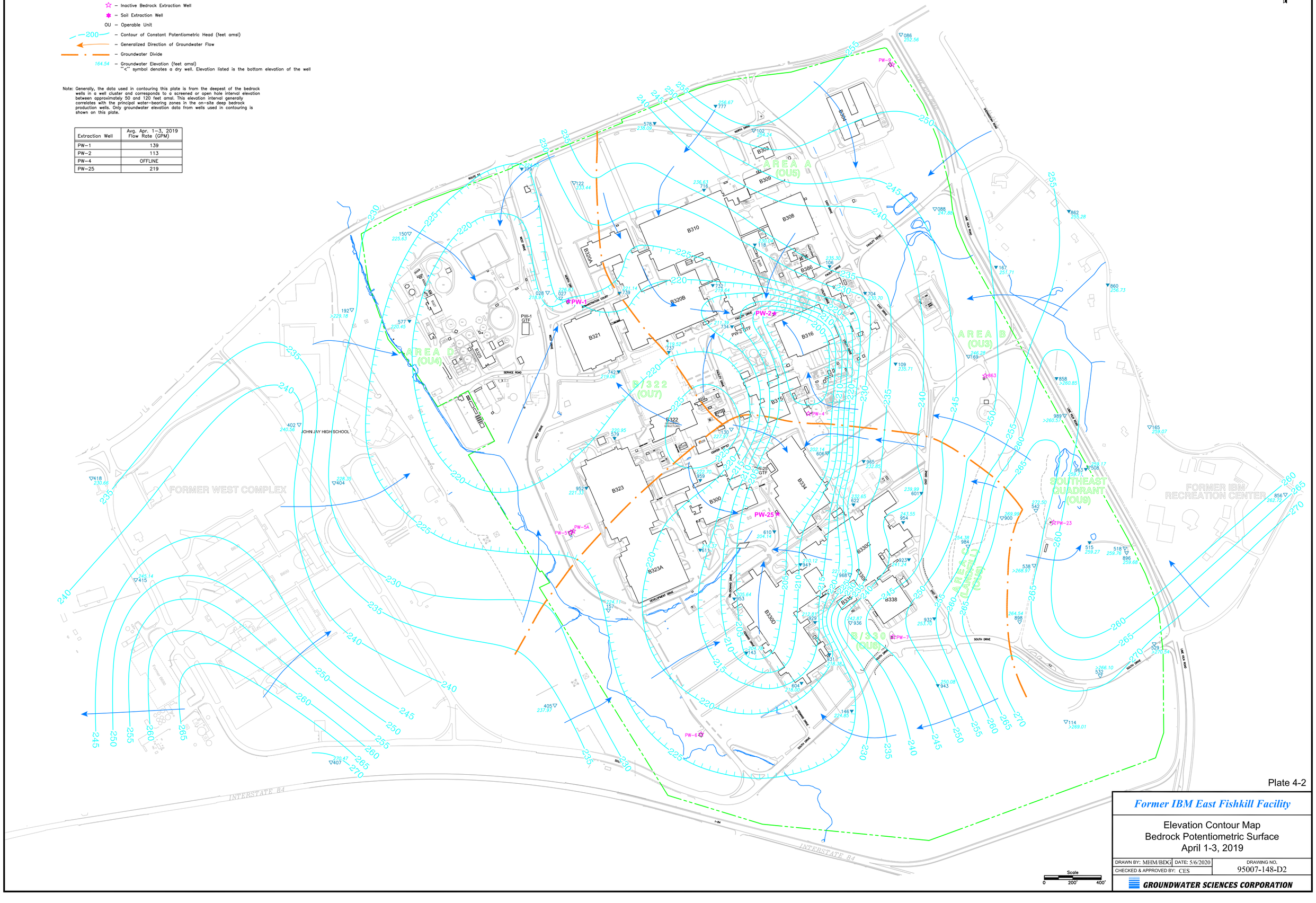


Plate 4-2

Former IBM East Fishkill Facility

Elevation Contour Map
Bedrock Potentiometric Surface
April 1-3, 2019

DRAWN BY: MHM/BDG	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007-148-D2

GROUNDWATER SCIENCES CORPORATION

Scale 0 200' 400'

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▲ - GMP Soil Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ✸ - Shallow Extraction Well
- ☼ - Inactive Shallow Extraction Well
- OU - Operable Unit
- PCE - Tetrachloroethene
- 5 - PCE Concentration Contour (ug/l)
- *49* - PCE Concentration (ug/l; April 4-May 2, 2019)
- *ND@"X"* - Not Detected at Laboratory Detection Limit "X"
- **Extent of Clay Mapping**
- **Extent of Glaciolacustrine Clay** (East Complex only) (Approximate)
- Inferred Areas of No Saturated Soil
- * - Sampled 6/10/2019

N

AREA A (OU 5)
AREA B (OU 3)
AREA D (OU 4)
B/322 (OU 7)
B/330 (OU 8)
AREA C LANDFILL (OU 6)
SOUTHEAST QUADRANT (OU 9)
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
SCHOONMAKER ROAD
LAKE HILL ROAD
NORTH DRIVE
WEST DRIVE
SOUTH DRIVE
EAST DRIVE
SERVICE ROAD
UTILITY ROAD
ADMINISTRATION COURT
HAILEY DRIVE
DEXTER STREET
DEVELOPMENT DRIVE
ON-GROUND PIPE
B303 B304 B308 B309 B310 B320A B320B B321 B322 B323 B323A B300 B316 B317 B375 B330C B330F B335 B338 B386
PW-1 GTF
PW-2 GTF
PW-25 GTF
PW-1 PW-2 PW-3 PW-4 PW-5 PW-5A PW-7 PW-23 PW-25
B384 Sump
Former B540 Former B650 Former B660 Former B690

Plate 5-1

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Soil PCE
April-May 2019

DRAWN BY: KA/DB	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_PCE_2Q2019_soil_1

GROUNDWATER SCIENCES CORPORATION

Scale
0 200' 400'

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▲ - GMP Soil Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ✸ - Shallow Extraction Well
- ☼ - Inactive Shallow Extraction Well
- OU - Operable Unit
- TCE - Trichloroethene
- 5 - TCE Concentration Contour (ug/l)
- 37 - TCE Concentration (ug/l; April 4-May 2, 2019)
- ND@"X" - Not Detected at Laboratory Detection Limit "X"
- Extent of Clay Mapping
- Extent of Glaciolacustrine Clay (East Complex only) (Approximate)
- Inferred Areas of No Saturated Soil
- * - Sampled 6/10/2019

Plate 5-2

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Soil TCE
April-May 2019

DRAWN BY: DB/KA	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_TCE_2Q2019_soil

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- GMP Soil Monitoring Well
- GMP Soil/Bedrock Monitoring Well
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Shallow Extraction Well
- Inactive Shallow Extraction Well

OU - Operable Unit

cis-1,2-DCE - cis-1,2-Dichloroethene

5 - cis-1,2-DCE Concentration Contour (ug/l)

10 - cis-1,2-DCE Concentration (ug/l; April 4-May 2, 2019)

ND@X* - Not Detected at Detection Limit "X"

- Extent of Clay Mapping

- Extent of Glaciolacustrine Clay (East Complex only) (Approximate)

- Inferred Areas of No Saturated Soil

* - Sampled 6/10/2019

AREA A (OU 5)

AREA B (OU 3)

AREA C LANDFILL (OU 6)

AREA D (OU 4)

B/322 (OU 7)

B/330 (OU 8)

SOUTHEAST QUADRANT (OU 9)

FORMER WEST COMPLEX

FORMER IBM RECREATION CENTER

JOHN JAY HIGH SCHOOL

INTERSTATE 84

Plate 5-3

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Soil cis-1,2-DCE
April-May 2019

DRAWN BY: KA/DB	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_cis12-DCE_2Q2019_soil_1

GROUNDWATER SCIENCES CORPORATION

Scale
0 200' 400'

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▲ - GMP Soil Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ✸ - Shallow Extraction Well
- ☼ - Inactive Shallow Extraction Well
- OU - Operable Unit
- VC - Vinyl Chloride
- 2 - VC Concentration Contour (ug/l)
- 58 - VC Concentration (ug/l; April 4-May 2, 2019)
- ND@"X" - Not Detected at Laboratory Detection Limit "X"
- Extent of Clay Mapping
- Extent of Glaciolacustrine Clay (East Complex only) (Approximate)
- Inferred Areas of No Saturated Soil
- * - Sampled 6/10/2019

AREA A (OU 5)
AREA B (OU 3)
AREA D (OU 4)
B/322 (OU 7)
B/330 (OU 8)
AREA C LANDFILL (OU 6)
SOUTHEAST QUADRANT (OU 9)
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
SCHOONMAKER ROAD
LAKE KELLY ROAD
NORTH DRIVE
WEST DRIVE
SOUTH DRIVE
EAST DRIVE
SERVICE ROAD
ADMINISTRATION COURT
FACILITY DRIVE
UTILITY ROAD
DEVELOPMENT DRIVE
CHAMBER STREET
B303, B304, B308, B309, B310, B320A, B320B, B321, B322 (PROCESS STRUCTURE), B323, B323A, B300, B304, B316, B317, B375, B386, B330C, B330D, B330E, B335, B338
PW-1 GTF, PW-2 GTF, PW-25 GTF
PW-1, PW-2, PW-4, PW-5, PW-5A, PW-6, PW-7, PW-23, PW-25
B384 Sump

Scale
0 200' 400'

Plate 5-4

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Soil VC
April-May 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_VC_2Q2019_soil_1

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▲ - GMP Soil Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ✸ - Shallow Bedrock Extraction Well
- ☼ - Inactive Shallow Extraction Well
- OU - Operable Unit
- 5 - Freon® TF Concentration Contour (ug/l)
- 28 - Freon® TF Concentration (ug/l; April 4-May 2, 2019)
- ND@"X" - Not Detected at Laboratory Detection Limit "X"
- **Extent of Glaciolacustrine Clay** (East Complex only)
- Inferred Areas of No Saturated Soil (Approximate)
- * - Sampled 6/10/2019

Plate 5-5

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Soil Freon® TF
April-May 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_FTF_2Q2019_soil_2

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▼ - GMP Bedrock Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ☼ - Inactive Shallow Bedrock Extraction Well
- OU - Operable Unit
- PCE - Tetrachloroethene
- 5 - PCE Concentration Contour (ug/l)
- *47* - PCE Concentration (ug/l; April 6-May 4, 2018 unless otherwise noted)
- *ND@"X"* - Not Detected at Laboratory Detection Limit "X"
- * - GW-610 sampled on 6/10/2019, GW-711 and GW-742 sampled on 6/5/2019, GW-960 sampled on 6/20/2019

AREA A (OU5)
AREA B (OU3)
AREA C (LANDFILL) (OU6)
AREA D (OU4)
B/322 (OU7)
B/330 (OU8)
SOUTHEAST QUADRANT (OU9)
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
LAKE KELLY ROAD
SCHOONER DRIVE
NORTH DRIVE
WEST DRIVE
EAST DRIVE
SOUTH DRIVE
FACILITY DRIVE
ADMINISTRATION DRIVE
SERVICE ROAD
UTILITY ROAD
DOCTOR STREET
DEVELOPMENT DRIVE
OLD SCHOOL DRIVE
B303
B304
B309
B310
B320A
B320B
B321
B322 (PEDESTRIAN STRUCTURE)
B323
B323A
B300
B330C
B330D
B338
B316
B317
B315
PW-1 GTF
PW-2 GTF
PW-3 GTF
PW-4
PW-5A
PW-6
PW-7
PW-23
PW-25 GTF

Plate 5-6

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Bedrock PCE
April-May 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO. 95007_PCE_2Q2019_BR_1
CHECKED & APPROVED BY: CES		

GROUNDWATER SCIENCES CORPORATION

Scale
0 200' 400'

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▼ - GMP Bedrock Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ☼ - Inactive Shallow Bedrock Extraction Well
- OU - Operable Unit
- TCE - Trichloroethene
- 5 - TCE Concentration Contour (ug/l)
- *14* - TCE Concentration (ug/l; April 9-May 4, 2018 unless otherwise noted)
- *ND@"X"* - Not Detected at Laboratory Detection Limit "X"
- * - GW-610 sampled on 6/10/2019, GW-711 and GW-742 sampled on 6/5/2019, GW-960 sampled on 6/20/2019

AREA A (OU5)
AREA B (OU3)
AREA C (LANDFILL) (OU6)
AREA D (OU4)
B/322 (OU7)
B/330 (OU8)
SOUTHEAST QUADRANT (OU9)
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
NORTH DRIVE
WEST DRIVE
EAST DRIVE
SOUTH DRIVE
FACILITY DRIVE
SERVICE ROAD
UTILITY ROAD
CENTER STREET
DEVELOPMENT DRIVE
OLD HOPEWELL DRIVE
ADMINISTRATION COURT
LAKE KELLY ROAD
SHONNARD ROAD
B303
B304
B309
B308
B310
B320A
B320B
B386
B317
B316
B315
B311
B322 (STRUCTURE)
B323
B323A
B300
B330C
B330F
B330D
B338
B325
B329
B330
B331
PW-1 GTF
PW-25 GTF
PW-1
PW-2
PW-3
PW-4
PW-5
PW-5A
PW-6
PW-7
PW-23
PW-25
Former B630
Former B640
Former B650
Former B660

Plate 5-7

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Bedrock TCE
April-May 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_TCE_2Q2019_BR_1

GROUNDWATER SCIENCES CORPORATION

Scale
0 200' 400'

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- GMP Bedrock Monitoring Well
- GMP Soil/Bedrock Monitoring Well
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Inactive Shallow Bedrock Extraction Well

OU - Operable Unit

cis-1,2-DCE - cis-1,2-Dichloroethene

5 - cis-1,2-DCE Concentration Contour (ug/l)

230 - cis-1,2-DCE Concentration (ug/l; April 9-May 4, 2018 unless otherwise noted)

ND@"X" - Not Detected at Laboratory Detection Limit "X"

* - GW-610 sampled on 6/10/2019, GW-711 and GW-742 sampled on 6/5/2019, GW-960 sampled on 6/20/2019

AREA A (OU5)

AREA B (OU3)

AREA C (LANDFILL) (OU6)

AREA D (OU4)

B/322 (OU7)

B/330 (OU8)

SOUTHEAST QUADRANT (OU9)

FORMER WEST COMPLEX

FORMER IBM RECREATION CENTER

JOHN JAY HIGH SCHOOL

INTERSTATE 84

Scale 0 200' 400'

Plate 5-8

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Bedrock cis-1,2-DCE
April-May 2019

DRAWN BY: KA/DB	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_cis12DCE_2Q2019_BR

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- ▼ - GMP Bedrock Monitoring Well
- ● - GMP Soil/Bedrock Monitoring Well
- ★ - Bedrock Extraction Well
- ☆ - Inactive Bedrock Extraction Well
- ☼ - Inactive Shallow Bedrock Extraction Well
- OU - Operable Unit
- VC - Vinyl Chloride
- 2 - VC Concentration Contour (ug/l)
- 130 - VC Concentration (ug/l; April 9-May 4, 2018 unless otherwise noted)
- ND@X* - Not Detected at Laboratory Detection Limit "X"
- * - GW-610 sampled on 6/10/2019, GW-711 and GW-742 sampled on 6/5/2019, GW-960 sampled on 6/20/2019

AREA A (OU5)
AREA B (OU3)
AREA C (LANDFILL) (OU6)
AREA D (OU4)
B/322 (OU7)
B/330 (OU8)
SOUTHEAST QUADRANT (OU9)
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
LAKE KITE ROAD
NORTH DRIVE
WEST DRIVE
EAST DRIVE
SOUTH DRIVE
ADMINISTRATION COURT
FACILITY DRIVE
UTILITY ROAD
SERVICE ROAD
CENTER STREET
DEVELOPMENT DRIVE
OLD ROUND DRIVE
B303, B304, B308, B309, B310, B320A, B320B, B321, B316, B317, B315, B322, B323, B323A, B300, B330C, B330F, B330D, B335, B338, B386, B388, B389, B390, B391, B392, B393, B394, B395, B396, B397, B398, B399, B400, B401, B402, B403, B404, B405, B406, B407, B408, B409, B410, B411, B412, B413, B414, B415, B416, B417, B418, B419, B420, B421, B422, B423, B424, B425, B426, B427, B428, B429, B430, B431, B432, B433, B434, B435, B436, B437, B438, B439, B440, B441, B442, B443, B444, B445, B446, B447, B448, B449, B450, B451, B452, B453, B454, B455, B456, B457, B458, B459, B460, B461, B462, B463, B464, B465, B466, B467, B468, B469, B470, B471, B472, B473, B474, B475, B476, B477, B478, B479, B480, B481, B482, B483, B484, B485, B486, B487, B488, B489, B490, B491, B492, B493, B494, B495, B496, B497, B498, B499, B500, B501, B502, B503, B504, B505, B506, B507, B508, B509, B510, B511, B512, B513, B514, B515, B516, B517, B518, B519, B520, B521, B522, B523, B524, B525, B526, B527, B528, B529, B530, B531, B532, B533, B534, B535, B536, B537, B538, B539, B540, B550, B560, B630, Former B560, Former B650
PW-1 GTF, PW-2, PW-2A, PW-3, PW-4, PW-5, PW-5A, PW-6, PW-7, PW-23, PW-25 GTF

Plate 5-9

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Bedrock VC
April-May 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO.
CHECKED & APPROVED BY: CES		95007_VC_2Q2019_BR_1

GROUNDWATER SCIENCES CORPORATION

Scale
0 200' 400'

LEGEND

- Former IBM East Fishkill Facility Property Line
- Former Structure
- GMP Bedrock Monitoring Well
- GMP Soil/Bedrock Monitoring Well
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Inactive Shallow Bedrock Extraction Well
- OU - Operable Unit
- 5 - Freon® TF Concentration Contour (ug/l)
- 160 - Freon® TF Concentration (ug/l; April 9-May 4, 2018 unless otherwise noted)
- ND@"X" - Not Detected at Laboratory Detection Limit "X"
- * - GW-610 sampled on 6/10/2019, GW-711 and GW-742 sampled on 6/5/2019, GW-960 sampled on 6/20/2019

AREA A (OU5)
AREA B (OU3)
AREA C (LANDFILL) (OU6)
AREA D (OU4)
B/322 (OU7)
B/330 (OU8)
SOUTHEAST QUADRANT (OU9)
FORMER WEST COMPLEX
FORMER IBM RECREATION CENTER
JOHN JAY HIGH SCHOOL
INTERSTATE 84
ROUTE 52
LAKE KEL ROAD
NORTH DRIVE
WEST DRIVE
EAST DRIVE
SOUTH DRIVE
ADMINISTRATION COURT
HALSEY DRIVE
UTILITY ROAD
SERVICE ROAD
CENTER STREET
DU PONT DRIVE
DUCHAMP DRIVE
B300, B303, B304, B308, B309, B310, B320A, B320B, B321, B322 (STRUCTURE), B323, B323A, B330C, B330D, B330F, B335, B338, B386, B387, B316, B317, B315, B325, B326, B328, B329, B630, B640, B650, Former B660, Former B662
PW-1 GTF, PW-2 GTF, PW-25 GTF, PW-1, PW-2, PW-3, PW-4, PW-5, PW-5A, PW-6, PW-7, PW-23, PW-25
Scale: 0 200' 400'

Plate 5-10

Former IBM East Fishkill Facility

Isoconcentration Contour Map
Bedrock Freon® TF
April-May 2019

DRAWN BY: KA	DATE: 5/6/2020	DRAWING NO. 95007_FTF_2Q2019_BR_2
CHECKED & APPROVED BY: CES		

GROUNDWATER SCIENCES CORPORATION

LEGEND

- Soil Monitoring Well (for groundwater sampling & elevations)
- Soil Monitoring Well (for groundwater elevations only)
- Bedrock Monitoring Well (for groundwater sampling & elevations)
- Bedrock Monitoring Well (for groundwater elevations only)
- Other Bedrock Monitoring Well
- Soil/Bedrock Monitoring Well (for groundwater sampling & elevations)
- Soil/Bedrock Monitoring Well (for groundwater elevations only)
- Bedrock Extraction Well
- Inactive Bedrock Extraction Well
- Shallow Extraction Well (all in soil except well 628 in bedrock)
- Inactive Shallow Extraction Well

OU - Operable Unit

- Former IBM East Fishkill Facility Property Line
- Monitoring Location Selected for PFAS Sampling
- Monitoring Location Selected for 1,4-Dioxane Sampling

Approximate

Scale

0 200' 400'

AREA A
AREA B
AREA C (LANDFILL)
AREA D
SOUTHEAST QUADRANT
B/322
B/330
B300
B303
B304
B309
B310
B316
B320A
B320B
B321
B322 (REMAINING STRUCTURE)
B323
B323A
B330C
B330D
B330F
B334
B335
B338
B384
B384 Sump
B317
B315
B630
B640
B650
Former B650
B655
JOHN JAY HIGH SCHOOL
INTERSTATE 84
PW-1
PW-2
PW-3
PW-4
PW-5
PW-5A
PW-6
PW-7
PW-23
PW-25
061
064
065
066
067
085
990
714
1012
732
960
931
559
032B

Plate 5-11

Former IBM East Fishkill Facility

Fourth Quarter 2019
PFAS and 1,4-Dioxane
Sampling Locations

DRAWN BY: JPB/DAB	DATE: 3/5/2020	DRAWING NO. 95007-086-F2
CHECKED & APPROVED BY: CES		

GROUNDWATER SCIENCES CORPORATION

Appendix A

Limitations

APPENDIX A

LIMITATIONS

1. The findings and conclusions in this report are based on data collected from widely spaced monitoring wells. The figures and plates depict inferred conditions during a specified time period. Alternate interpretations are possible. Spatial and temporal variations will result in conditions that are different from those depicted within this report. If additional investigations reveal the nature and extent of these variations, it may be necessary to re-evaluate the conclusions of this report.

2. The generalized soil and bedrock profile described in the text is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed in part on the data obtained from soil and groundwater samples from subsurface explorations observed and logged by others. The nature and extent of variations between these explorations may not become evident until further investigation or remediation.

3. Water level measurements have been recorded by GSC at times and under conditions stated within the text of this report. Note that fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors not evident at the time measurements were made.

4. The subsurface conditions presented 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 GSC has reviewed that data and information as stated in this report, any of GSC's conclusions that have relied on that information will be contingent on its validity. Should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by GSC and the conclusions presented herein may be modified accordingly.

5. This report has been prepared for, and is intended for the exclusive use of the IBM Corporation. The contents of this report should not be relied upon by any other party without the express written consent of IBM and GSC. No other warranty, express or implied, is made.

6. In the event that any changes in the nature, design, or location of the facilities are planned, the conclusions contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing by GSC. GSC is not responsible for any claims, damages, or liability associated with interpretation of data provide in this report or re-use of the data provided in this report without the express written authorization of GSC.

Appendix B

Well Specifications and Lists

Table B-1: Hydraulic Effectiveness Monitoring Wells
Table B-2: Well Specifications for the Corrective Action Performance Monitoring Network
Table B-3: Sampling Schedule for the Corrective Action Performance Monitoring Network

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
002	275.39	8518.014	4537.868
003	275.32	8515.747	4538.284
005	255.16	7772.055	6134.484
006	254.38	7764.886	6126.095
007	257.35	7592.128	5547.170
008	265.29	8072.229	5042.508
009	265.35	8067.344	5043.589
010	270.76	8076.990	4661.237
011	266.47	7831.768	4697.559
013	263.26	7630.268	4904.651
014	262.60	7626.342	4906.258
015	262.86	7622.508	4907.920
016	254.91	7140.621	5083.247
017	254.31	7133.611	5089.249
018	257.78	7150.694	4924.310
019	257.70	7155.420	4922.857
020	250.88	6920.006	5024.650
022	250.88	6916.125	5015.190
027	260.24	7204.062	3450.750
028	259.22	7244.167	3358.706
030	232.87	7531.247	2282.942
032B	233.09	6701.970	2690.670
035	249.53	6773.709	3152.987
038	250.61	6320.836	4765.408
039	249.87	6322.183	4769.064
044	267.36	6897.844	5984.595
046	267.59	6649.354	6428.358
048	264.31	5756.458	6897.932
049	266.41	5256.598	6835.595
050	264.51	5251.734	6838.602
053	266.58	4965.757	6073.504
054	264.57	4696.491	5978.780
059	235.94	4833.049	3997.592
060	235.68	4828.527	4000.564
061	244.66	4136.068	4504.733
062	250.13	4322.084	5469.567
063	250.25	4320.995	5467.872
064	259.23	7040.533	6596.366
065	258.76	7055.103	6595.751
066	229.84	6987.994	2265.582
067	234.42	6463.455	2607.405
068	233.85	6253.894	2982.574

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
069	253.69	4482.364	6084.653
075	259.51	7366.983	3317.645
085	276.34	9058.705	5844.268
086	276.34	9058.705	5844.268
087	256.00	7832.757	6082.700
088	256.00	7832.757	6082.700
091	264.37	4806.212	7610.031
092	264.37	4806.212	7610.031
096	275.48	8066.420	5550.380
097	277.69	8070.910	5548.480
098	277.69	8070.910	5548.480
100	267.09	8383.665	4803.894
101	267.09	8384.262	4808.809
102	267.09	8384.262	4808.809
103	257.59	7422.942	5337.874
104	257.59	7422.942	5337.874
105	257.74	7426.962	5342.224
106	257.74	7426.962	5342.224
108	255.45	6742.206	5806.444
109	255.45	6742.206	5806.444
112	269.38	4285.998	7014.122
113	269.01	4227.305	7004.293
114	269.01	4227.305	7004.293
118	263.06	7579.473	4816.285
121	263.18	8015.845	3544.898
122	263.18	8015.845	3544.898
129	252.37	6282.508	4651.089
130	252.37	6282.508	4651.089
143	251.08	4709.770	4756.370
145	253.90	4301.093	5498.184
146	253.90	4301.093	5498.184
147	234.55	7663.575	2397.319
150	234.78	7659.624	2386.796
151	241.06	6279.506	3076.270
156	242.58	5003.112	3793.197
157	243.09	5009.063	3786.807
158	245.05	4084.387	4549.216
161	259.63	7206.137	3378.741
164	273.99	6299.089	7593.114
165	273.99	6299.089	7593.114
166	254.58	7422.875	6512.986
167	254.58	7422.875	6512.986

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
168	265.12	6794.614	6318.692
169	265.12	6794.614	6318.692
170	229.55	6965.743	2292.464
178	267.22	5685.196	5758.662
180	248.31	5035.183	5203.440
181	248.88	4988.890	5242.059
182	236.11	5859.220	2687.226
183	236.11	5859.220	2687.226
185	237.04	6481.471	2316.242
186	237.04	6481.471	2316.242
191	229.18	7123.366	1981.277
192	229.18	7123.366	1981.277
200	266.77	7694.652	4014.447
204	252.79	6694.859	4521.394
224	256.86	6741.816	3477.018
226	233.54	6151.658	3101.790
227	233.08	6144.019	3108.542
400	241.81	6939.843	1437.518
401	242.22	6935.937	1437.490
402	248.66	6315.556	1611.175
403	249.39	5909.759	1848.452
404	248.45	5905.340	1856.890
405	258.01	4341.985	3409.956
407	345.71	3941.830	1834.730
415	265.73	5224.890	461.160
416	252.61	5985.020	129.180
418	253.40	5938.351	149.519
500	259.89	7545.320	6326.260
501	257.76	7580.570	6317.010
502	259.26	6219.330	7079.510
503	259.88	6183.280	7102.810
504	259.88	6087.120	7153.830
505	259.90	6087.120	7153.830
506	263.85	6010.120	7146.450
507	262.80	6014.130	7163.870
508	262.80	6014.130	7163.870
509	265.32	5912.440	7234.330
510	263.31	5808.400	7224.900
511	263.70	5812.890	7254.280
512	260.94	5734.740	7337.260
513	261.91	5717.960	7357.420
514	261.45	5488.000	7183.300

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
515	260.81	5486.400	7170.800
516	262.73	5428.830	7424.550
517	262.58	5445.700	7419.710
518	262.58	5445.700	7419.710
519	264.51	5182.090	7626.300
520	262.28	6648.150	6936.870
521	262.24	6688.820	6912.930
522	262.45	6713.370	6899.050
523	273.28	6108.470	8049.880
524	272.91	6095.860	7992.490
525	273.08	6106.720	8040.160
526	271.25	4797.560	7658.790
527	270.38	4770.130	7620.990
528	270.54	4773.360	7625.630
529	270.54	4773.360	7625.630
530	265.25	4538.130	7213.110
531	266.10	4549.280	7245.530
532	266.10	4549.280	7245.530
533	266.56	4566.230	7019.720
534	266.25	4548.820	7051.260
535	266.34	4555.640	7037.660
536	269.12	5346.300	6788.300
537	268.97	5324.500	6780.240
538	268.97	5324.500	6780.240
539	270.44	5478.760	6773.550
541	279.98	5711.500	6793.650
542	279.98	5711.500	6793.650
543	263.07	5956.040	6877.880
544	265.72	5988.650	6843.350
545	264.96	6143.040	6928.740
546	266.92	6098.760	6897.090
547	266.11	6140.200	6908.280
548	261.84	5796.160	6945.380
549	262.09	5833.700	6918.700
550	262.09	5833.700	6918.700
551	267.54	5648.190	6900.200
553	267.42	5510.740	6953.610
554	267.31	5525.200	6942.580
556	266.76	5382.290	6916.300
557	268.22	5304.090	6831.390
558	284.02	5270.310	6223.150
559	282.75	5251.530	6221.420

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
560	282.73	5251.530	6221.420
561	296.33	5445.380	6239.200
562	285.63	5584.350	6294.510
563	285.63	5584.350	6294.510
564	289.59	5835.500	6318.800
565	285.69	6081.080	6428.040
566	285.69	6081.080	6428.040
567	266.64	6656.400	6502.600
568	279.50	6487.650	6526.560
569	279.99	6491.880	6539.820
570	279.99	6491.880	6539.820
571	286.39	6274.080	6265.500
572	251.13	4806.400	5115.400
574	269.09	5547.400	5776.000
576	265.95	5657.000	5807.900
577	230.42	7043.390	2387.000
578	272.35	8432.860	4112.480
579	247.54	6219.930	3828.970
580	258.99	6538.850	4344.560
581	267.23	8381.000	4797.100
600	265.91	5838.318	5989.885
601	266.08	5833.022	5988.055
602	253.38	4841.290	5230.675
603	252.54	4493.647	5141.553
604	252.66	4497.252	5144.622
605	253.01	4931.463	4777.329
606	253.27	6115.035	5326.621
607	253.77	5020.203	5360.277
608	255.51	5688.197	5270.023
609	249.18	6188.755	5261.662
610	250.87	5562.575	4953.575
611	244.23	5432.960	4432.190
612	249.89	6407.200	3337.800
613	249.02	6445.900	3265.700
614	230.29	6719.000	2684.000
615	230.82	6710.600	2688.600
616	231.14	6692.800	2698.500
617	248.91	6410.800	3250.200
618	239.17	6276.600	3011.900
619	267.00	6635.600	6432.000
620	259.27	7232.300	3381.700
621	255.80	6776.700	4356.100

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
622	268.08	5752.000	5510.200
623	246.74	5719.497	4864.655
624	246.31	5592.540	4175.380
626	304.58	5357.900	7953.800
627	262.88	6925.360	4251.830
640	253.22	4792.669	4837.987
700	248.79	7121.200	5605.400
701	248.83	7124.900	5603.600
702	255.09	7252.100	5584.800
703	254.89	7255.900	5582.500
704	255.00	7239.500	5591.700
705	259.94	7651.700	5262.600
706	259.92	7649.400	5260.000
707	260.94	7722.600	5252.000
708	260.83	7727.700	5249.900
709	263.98	8017.500	5015.800
710	263.93	7996.700	5047.200
711	263.69	8023.400	5014.200
712	265.48	8180.400	4989.600
714	266.26	8063.100	4772.200
716	272.14	7964.440	4457.970
717	277.47	8063.080	5531.360
718	278.69	8048.650	5496.710
719	279.03	8076.750	5467.890
720	275.43	8012.780	5463.900
721	259.92	8290.600	5327.000
722	260.15	8294.500	5330.900
723	269.98	8653.200	5304.700
724	269.70	8649.400	5298.500
725	263.25	8775.600	5647.800
726	262.93	8769.300	5650.200
727	263.49	8779.800	5645.200
728	259.64	8454.300	5785.900
729	260.29	8480.800	5776.200
730	259.41	8448.000	5788.100
732	265.17	7294.800	4520.600
734	261.79	7004.400	4656.100
735	261.06	6828.700	4210.900
737	261.20	6824.500	4211.700
739	261.35	7240.400	3863.800
740	260.62	6685.900	3852.800
742	260.46	6687.600	3858.300

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
743	261.06	7234.500	3862.800
744	254.46	7887.200	5717.200
745	254.47	7890.300	5716.300
746	254.05	7731.800	5780.900
747	263.77	8480.700	5057.300
748	267.95	8152.000	4774.100
749	263.16	8484.600	5544.700
750	257.15	8325.200	5779.300
751	254.24	6760.000	4728.100
752	260.87	6913.000	4791.600
753	248.38	6755.800	5125.000
754	249.19	6587.200	3187.000
755	238.91	6392.400	3029.900
756	252.61	5000.100	5501.900
757	234.36	6678.800	2706.900
758	260.71	7896.780	5188.710
759	261.20	7893.170	5179.772
760	261.07	7897.478	4995.327
761	264.13	8271.640	5101.240
763	268.68	8252.690	4640.574
766	258.99	6501.571	3979.481
767	252.26	6363.480	3913.980
768	253.31	6506.100	3763.540
769	256.86	6569.128	3624.668
770	252.45	6469.710	3671.010
771	252.32	6466.790	3664.890
772	241.83	6208.100	3561.150
773	248.26	6417.860	3323.160
774	244.92	6089.045	3305.752
775	244.65	5886.936	3333.238
776	272.19	8431.465	4148.300
777	276.03	8555.239	4540.041
779	263.34	8113.332	3177.082
782	241.89	6868.581	2812.497
783	242.98	4995.956	3803.820
789	242.66	5542.741	3561.687
791	243.35	5736.641	3395.917
792	243.01	5913.540	3607.460
793	248.89	6174.694	3830.274
799	242.83	4995.150	3809.957
816	263.53	7821.917	4858.527
818	263.58	7728.867	4846.227

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
819	266.09	7683.873	4739.418
820	263.17	7587.709	4815.166
821	259.25	7595.669	4883.064
822	259.69	7611.786	4925.902
823	262.89	7546.746	5030.185
824	263.17	7533.202	4998.828
826	266.23	7787.289	4717.390
827	266.28	7838.292	4706.758
830	268.16	6631.393	6507.576
831	268.16	6631.393	6507.576
832	281.62	6446.260	6390.277
833	281.62	6446.260	6390.277
835	287.32	5732.456	6298.291
836	287.32	5732.456	6298.291
837	286.45	5650.743	6266.199
838	268.43	5053.607	6148.528
839	235.12	6671.416	2869.429
855	274.71	5839.970	8554.478
856	274.25	5824.081	8548.398
857	262.41	6655.420	6927.500
858	260.85	6639.380	6938.800
859	262.80	7312.421	7300.249
860	262.83	7298.574	7298.820
861	267.06	7826.369	7016.729
862	266.13	7816.150	7025.670
863	266.77	6658.536	6436.742
864	263.22	7793.411	4822.753
895	262.21	5420.504	7427.220
896	262.04	5414.132	7431.928
897	270.06	4934.338	6682.141
898	270.12	4928.359	6679.239
899	303.02	5649.460	6555.720
900	302.69	5658.950	6554.370
902	259.14	6196.074	7092.091
903	258.99	6231.299	7073.207
910	271.16	8404.686	5263.731
921	262.48	5383.703	5909.176
922	262.71	5370.449	5919.909
923	262.76	5366.539	5900.128
924	262.83	5382.716	5890.598
928	252.16	4924.716	5240.517
929	252.16	4924.716	5240.517

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
930	251.84	4664.774	5357.051
931	252.10	4697.190	5340.540
932	267.11	4950.680	6078.512
934	250.21	6719.264	4854.781
935	254.14	4921.320	5488.640
936	254.14	4921.320	5488.640
941	254.52	5331.321	5137.291
943	254.23	4481.165	6103.694
944	254.11	4488.497	6097.271
946	249.87	6172.939	3845.249
947	249.44	6176.877	3837.508
948	249.98	6170.128	3845.793
949	248.46	6194.257	3939.047
952	245.34	5869.760	3631.250
953	251.77	5090.590	4671.000
954	268.20	5627.761	5859.991
955	268.20	5631.698	5865.731
956	268.23	5636.339	5872.566
957	268.28	5640.382	5878.574
958	266.66	4786.231	7605.657
959	251.45	5923.400	4432.322
960	251.40	5938.559	4428.870
962	271.82	8425.917	4187.017
963	264.55	6001.330	7144.318
964	264.55	6001.330	7144.318
965	255.40	6056.588	5582.108
966	255.28	6064.807	5592.027
968	271.29	5257.910	5484.861
976	234.73	7274.448	2489.640
980	260.46	7292.800	5019.300
983	305.52	5459.845	6315.578
984	305.45	5459.845	6315.578
985	304.86	5466.675	6322.653
986	304.70	5466.675	6322.653
987	260.20	6384.320	6988.373
988	260.56	6379.532	6995.451
989	260.57	6379.532	6995.451
990	260.08	6361.989	6999.717
991	260.10	6355.954	7002.989
992	260.12	6355.954	7002.989
993	264.50	7465.500	4029.200
994	264.32	7274.400	4052.900

Table B-1
Hydraulic Effectiveness Monitoring Wells

Well	M.P. Elev. (ft amsl)	Coordinates	
		Northing	Easting
997	257.11	7710.200	5463.800
998	258.02	7789.600	5428.600
999	257.25	7794.100	5426.400

Key:

M.P. = Measuring Point

ft amsl = feet above mean sea level

All coordinates in feet relative to site grid

Table B-2: Well Specifications
Corrective Action Performance Monitoring Network

Well Number	Current M.P. Elevation (ft amsl)	Baseline Depth to Bottom (ft below M.P.)	Baseline Elevation of Bottom (ft amsl)	Well Diameter (inches)	Screen Length (feet)	Completion Date	Area of Concern/ OU	Upgradient (U), Downgradient (D), Sidegradient (S), or Source
007	257.35	48.1	209.3	2.00	10.0	11/07/1979	Area A (OU5)	NA
010	270.76	53.8	217.0	2.00	15.0	04/16/1979	Area A (OU5)	Source
015	262.86	28.3	234.6	2.00	20.0	04/05/1979	Area A (OU5)	Source
016	254.91	51.1	203.8	4.00	10.0	10/03/1979	Area A (OU5)	D
032B	233.09	22.2	210.9	4.00	5.0	06/14/2011	Area D (OU4)	Source
046	267.59	19.2	248.4	4.00	10.0	11/07/1979	Area B (OU3)	Source
048	264.31	15.7	248.6	4.00	5.0	11/01/1979	SEQ (OU9)	Source
053	266.58	38.7	227.9	2.00	15.0	03/02/1979	Area C (OU6)	D
054	264.57	28.5	236.1	4.00	10.0	11/06/1979	Area C (OU6)	D
059	235.94	17.4	218.5	4.00	10.0	11/01/1979	B/330 (OU8)	U/S
060	235.68	46.4	189.3	4.00	10.0	11/01/1979	B/330 (OU8)	U/S
061	244.66	29.4	215.3	4.00	20.0	03/29/1979	B/330 (OU8)	U/S
064	259.23	18.2	241.0	4.00	10.0	03/10/1980	Area B (OU3)	D
065	258.76	43.5	215.3	4.00	10.0	03/18/1980	Area B (OU3)	D
066	229.84	11.0	218.8	4.00	5.0	03/11/1980	Area D (OU4)	U
067	234.42	14.7	219.7	2.00	10.0	03/11/1980	Area D (OU4)	U
068	233.85	23.1	210.8	4.00	15.0	03/19/1980	B/322 (OU7)	D
069	253.69	15.5	238.2	4.00	5.0	03/24/1980	Area C (OU6)	S
085	276.34	123.0	153.3	2.00	3.0	12/10/1980	BR (OU2)	NA
087	256.00	109.7	146.3	2.00	5.0	12/02/1980	BR (OU2)	NA
103	257.59	14.6	243.0	2.00	1.0	11/21/1980	Area A (OU5)	D
104	257.59	32.2	225.4	2.00	1.0	11/21/1980	Area A (OU5)	D
105	257.74	105.4	152.3	2.00	3.0	12/01/1980	BR (OU2)	NA
106	257.74	150.2	107.5	2.00	5.0	12/01/1980	BR (OU2)	NA
109	255.45	162.6	92.9	2.00	3.0	12/04/1980	BR (OU2)	NA
113	269.01	110.6	158.4	2.00	5.0	01/14/1981	BR (OU2)	NA
118	263.06	153.5	109.6	2.00	5.0	12/20/1980	Area A (OU5)	Source
143	251.08	145.9	105.2	2.00	3.0	12/09/1980	B/330+BR	U
146	253.90	147.7	106.2	2.00	5.0	01/20/1981	B/330+BR	U
151	241.06	18.4	222.7	2.00	1.0	11/17/1980	B/322 (OU7)	D
156	242.58	86.8	155.8	2.00	3.0	12/05/1980	BR (OU2)	NA
167	254.58	148.1	106.5	2.00	3.0	04/21/1981	BR (OU2)	NA
178	267.22	26.2	241.0	2.00	5.0	04/22/1981	B/330 (OU8)	D
181	248.88	18.1	230.8	4.00	5.0	04/26/1981	B/330 (OU8)	Source
204	252.79	12.9	239.9	2.00	10.0	06/14/1991	Area A (OU5)	U(B/322), D(AA)
502	259.26	35.9	223.4	2.00	10.0	12/23/1986	SEQ (OU9)	D
520	262.28	24.8	237.5	2.00	10.0	12/11/1986	SEQ (OU9)	D
521	262.24	34.9	227.3	2.00	5.0	03/17/1987	BR (OU2)	D
545	264.96	29.8	235.2	2.00	20.5	01/17/1987	SEQ (OU9)	D
559	282.75	83.5	199.3	2.00	10.0	05/05/1987	Area C (OU6)	Source
561	296.33	38.3	258.0	2.00	4.0	04/22/1987	Area C (OU6)	Source
563	285.63	130.0	155.6	2.00	15.0	04/28/1987	Area C+BR	U
564	289.59	94.5	195.1	2.00	5.0	04/21/1987	BR (OU2)	NA
571	286.39	15.0	271.4	2.00	4.0	03/17/1987	Area B (OU3)	U
572	251.13	16.6	234.5	2.00	5.0	04/13/1989	B/330 (OU8)	Source
574	269.09	32.6	236.5	2.00	5.0	10/19/1989	B/330 (OU8)	Source
576	265.95	19.9	246.1	2.00	5.0	12/17/1991	B/330 (OU8)	Source
577	230.42	223.3	7.1	2.00	20.0	12/22/1994	BR (OU2)	NA
579	247.54	254.2	-6.7	2.00	20.0	04/06/1995	B/322+BR	NA
580	258.99	19.2	239.8	2.00	10.0	03/31/1995	B/322 (OU7)	U
581	267.23	28.9	238.3	2.00	5.0	06/20/1996	Area A (OU5)	U
600	265.91	19.9	246.0	2.00	10.0	11/01/1996	B/330 (OU8)	U/S
601	266.08	137.7	128.4	2.00	5.0	10/16/1996	B/330 (OU8)	S
602	253.38	22.5	230.9	2.00	10.0	10/30/1996	B/330 (OU8)	S
603	252.54	26.0	226.5	2.00	10.0	10/31/1996	B/330 (OU8)	U

Table B-2: Well Specifications
Corrective Action Performance Monitoring Network

Well Number	Current M.P. Elevation (ft amsl)	Baseline Depth to Bottom (ft below M.P.)	Baseline Elevation of Bottom (ft amsl)	Well Diameter (inches)	Screen Length (feet)	Completion Date	Area of Concern/ OU	Upgradient (U), Downgradient (D), Sidegradient (S), or Source
604	252.66	139.4	113.3	2.00	10.0	10/18/1996	B/330 (OU8)	U
607	253.77	118.9	134.9	2.00	20.0	12/06/1996	B/330+BR	Source
609	249.18	235.3	13.9	2.00	10.0	12/13/1996	B/330+BR	D
610	250.87	180.6	70.3	2.00	20.0	12/20/1996	B/330+BR	D/S
611	244.23	216.6	27.6	2.00	20.0	01/30/1997	B/330+BR	D/S
612	249.89	33.4	216.5	4.00	15.2	12/02/1997	B/322 (OU7)	D
622	268.08	218.3	49.8	2.00	20.1	02/10/1999	B/330+BR	D
623	246.74	338.7	-92.0	2.00	15.0	02/26/1999	B/330+BR	D
624	246.31	364.0	-117.7	2.00	10.0	03/12/1999	B/330+BR	D
627	262.88	18.7	244.2	2.00	10.0	04/17/2000	B/322 (OU7)	U(B/322), D(AA)
628	267.42	64.2	203.2	4.00	40.0	04/12/2001	Area B (OU3)	Source
640	253.22	20.2	233.0	2.00	10.0	12/08/2009	B/330 (OU8)	D
701	248.83	20.0	228.8	2.00	5.0	12/04/1986	Area A (OU5)	D
702	255.09	17.7	237.4	2.00	5.0	12/05/1986	Area A (OU5)	D
706	259.92	45.4	214.5	2.00	10.0	11/22/1986	Area A (OU5)	D
711	263.69	349.3	-85.6	6.00	OPEN HOLE	10/15/1986	BR (OU2)	NA
714	266.26	37.4	228.9	2.00	10.0	11/28/1986	Area A (OU5)	Source
716	272.14	171.2	100.9	4.00	20.0	10/20/1986	BR (OU2)	NA
720	275.43	53.1	222.3	2.00	22.5	01/07/1987	Area A (OU5)	U
722	260.15	350.6	-90.5	6.00	OPEN HOLE	10/03/1986	BR (OU2)	NA
732	265.17	248.0	17.2	4.00	80.0	10/28/1986	Area A (OU5)	D
734	261.79	219.7	42.1	2.00	30.0	11/05/1986	Area A (OU5)	D
735	261.06	25.5	235.6	2.00	10.0	12/11/1986	B/322 (OU7)	Source
737	261.20	192.2	69.0	2.00	30.0	07/07/1987	B/322+BR	Source
739	261.35	214.4	47.0	4.00	40.0	10/26/1986	BR (OU2)	NA
740	260.62	25.3	235.3	2.00	10.0	12/06/1986	B/322 (OU7)	D
742	260.46	221.6	38.9	4.00	80.0	10/30/1986	B/322+BR	NA
743	261.06	19.5	241.6	2.00	10.0	05/09/1987	B/322 (OU7)	U/S
744	254.46	28.7	225.8	2.00	5.0	08/18/1987	Area A (OU5)	U
745	254.47	14.4	240.1	2.00	5.0	08/19/1987	Area A (OU5)	U
751	254.24	13.4	240.8	4.00	6.0	07/23/1987	Area A (OU5)	D
753	248.38	13.1	235.3	4.00	3.6	07/27/1987	Area A (OU5)	D
754	249.19	22.8	226.4	4.00	15.0	07/17/1987	B/322 (OU7)	D/S
755	238.91	23.2	215.7	4.00	16.0	07/17/1987	B/322 (OU7)	D/S
756	252.61	20.0	232.6	4.00	12.0	07/09/1987	B/330 (OU8)	D
757	234.36	20.3	214.1	2.00	10.0	09/25/1987	Area D (OU4)	Source
761	264.13	32.6	231.5	2.00	10.0	11/09/1990	Area A (OU5)	U
763	268.68	49.7	219.0	2.00	5.0	10/12/1990	Area A (OU5)	U
766	258.99	25.6	233.4	2.00	5.0	10/24/1990	B/322 (OU7)	Source
767	252.26	18.4	233.9	2.00	10.0	11/20/1990	B/322 (OU7)	Source
768	253.31	22.8	230.5	2.00	10.0	10/19/1990	B/322 (OU7)	D
769	256.86	26.9	230.0	2.00	10.0	10/22/1990	B/322 (OU7)	D
771	252.32	18.7	233.6	2.00	5.0	10/18/1990	B/322 (OU7)	D
772	241.83	18.8	223.0	2.00	10.0	11/20/1990	B/322 (OU7)	D
773	248.26	28.9	219.4	2.00	10.0	11/19/1990	B/322 (OU7)	D
774	244.92	30.1	214.8	2.00	10.0	10/23/1990	B/322 (OU7)	D
775	244.65	30.4	214.3	2.00	10.0	11/16/1990	B/322 (OU7)	D
777	276.03	130.5	145.5	2.00	10.0	12/21/1990	BR (OU2)	NA
779	263.34	233.0	30.3	2.00	10.0	12/21/1990	BR (OU2)	NA
789	242.66	21.3	221.4	2.00	10.0	05/09/1991	B/322 (OU7)	D
791	243.35	22.5	220.9	2.00	10.0	05/02/1991	B/322 (OU7)	D
792	243.01	20.9	222.1	2.00	10.0	06/04/1991	B/322 (OU7)	D
793	248.89	29.5	219.4	2.00	10.0	06/11/1991	B/322 (OU7)	D
832	281.62	30.4	251.2	2.00	5.0	03/23/1982	Area B (OU3)	U
857	261.41	110.1	151.3	4.00	3.0	06/28/1982	BR (OU2)	NA

Table B-2: Well Specifications
Corrective Action Performance Monitoring Network

Well Number	Current M.P. Elevation (ft amsl)	Baseline Depth to Bottom (ft below M.P.)	Baseline Elevation of Bottom (ft amsl)	Well Diameter (inches)	Screen Length (feet)	Completion Date	Area of Concern/ OU	Upgradient (U), Downgradient (D), Sidegradient (S), or Source
858	260.85	159.0	101.9	4.00	5.0	06/25/1982	BR (OU2)	NA
921	262.48	86.2	176.3	3.75	10.0	03/27/1984	B/330 (OU8)	D
922	262.71	116.6	146.1	3.75	10.0	04/24/1984	B/330 (OU8)	D
923	262.76	160.9	101.9	2.00	10.0	04/04/1984	B/330 (OU8)	D
929	252.16	152.9	99.3	2.00	10.0	06/14/1984	B/330 (OU8)	U
931	252.10	151.5	100.6	3.75	10.0	05/23/1984	B/330 (OU8)	S
932	267.11	172.8	94.3	4.00	20.0	05/24/1984	Area C+BR	D
941	254.52	134.1	120.4	4.00	20.0	12/08/1984	B/330 (OU8)	D
943	254.23	144.1	110.1	4.00	20.0	01/09/1985	Area C+BR	D
944	254.11	71.9	182.2	4.00	20.0	01/14/1985	Area C (OU6)	D
952	245.34	198.0	47.3	4.00	40.0	02/01/1985	B/322+BR	NA
953	251.77	153.1	98.7	4.00	10.0	02/07/1985	B/330+BR	D/S
954	268.20	172.5	95.7	4.00	20.0	02/12/1985	B/330 (OU8)	U
956	268.23	107.7	160.5	4.00	10.0	02/18/1985	B/330 (OU8)	U
958	266.66	106.4	160.3	4.00	20.0	02/20/1986	BR (OU2)	NA
959	251.45	157.4	94.1	4.00	10.0	02/21/1985	B/322+BR	Source
960	251.40	90.6	160.8	4.00	20.0	02/22/1985	B/322+BR	Source
963	264.55	165.4	99.2	2.00	20.0	03/01/1985	BR (OU2)	NA
964	264.55	95.3	169.3	2.00	10.0	03/01/1985	BR (OU2)	NA
965	255.40	144.8	110.6	4.00	10.0	03/05/1985	B/330+BR	U
966	255.28	126.3	129.0	4.00	35.0	03/06/1985	B/330+BR	U
987	260.20	44.8	215.4	6.00	10.0	08/04/1986	SEQ (OU9)	D
990	260.08	20.8	239.3	4.00	5.0	08/06/1986	SEQ (OU9)	D
998	258.02	21.8	236.2	2.00	5.0	07/27/1987	Area A (OU5)	D
999	257.25	52.9	204.4	2.00	10.0	07/23/1987	Area A (OU5)	D
PW-1	262.24	541	-278.8	12.0	OPEN HOLE	1962	BR (OU2)	NA
PW-2	255.34	277.5	-22.2	12.0	OPEN HOLE	1963	BR (OU2)	NA
PW-4*	248.73	265	-16.3	8.0	40.0	1968	BR (OU2)	NA
PW-5*	241.88	542	-300.1	10.0	OPEN HOLE	1970	BR (OU2)	NA
PW-5A*	242.01	522	-280.0	12.0	425.7	1984	BR (OU2)	NA
PW-6*	244.19	439	-194.8	12.0	OPEN HOLE	1979	BR (OU2)	NA
PW-7*	268.16	747	-478.8	12.0	OPEN HOLE	1979	B/330+BR	D
PW-9*	263.50	702	-438.5	14.0	OPEN HOLE	1981	BR (OU2)	NA
PW-23	267.03	48.0	219.0	6.00	OPEN HOLE	03/03/1987	SEQ (OU9)	Source
PW-25	250.53	432.3	-181.8	10.0	91.1	06/15/2000	B/330+BR	NA

Key:

Area A = Area A (OU5)
Area B = Area B (OU3)
Area C = Landfill (OU6)
Area D = Area D (OU4)
B/322 = Building 322 (OU7)
B/330 = Building 330 (OU8)

BR = Bedrock (OU2)
SEQ = Southeast Quadrant (OU9)
NA = Not applicable or not available
ft amsl = feet above mean sea level
M.P. = measuring point (generally a survey mark at top of inner monitoring pipe or casing
* =PW-4, PW5/5A, PW-6, PW-7, PW-9 are sampled only when in use (water supply emergencies only).

Table B-3: Sampling Schedule
Corrective Action Performance Monitoring Network

Well	Area of Concern/OU	Inorganics[&]	VOC Frequency	Monitoring Category				
				CAM	PCT	CRM	POC	AM
007	Area A (OU5)	Cr	A					X
010	Area A (OU5)	Cr	S	X		X		
015	Area A (OU5)	Cr, TF	S	X				
016	Area A (OU5)		S	X		X		
032B	Area D (OU4)		Q	X		X		
046	Area B (OU3)		Q	X				
048	SEQ (OU9)		Q	X				
053	Area C (OU6)		S	X				
054	Area C (OU6)		S	X				
059	B/330 (OU8)		A					X
060	B/330 (OU8)		A					X
061	B/330 (OU8)		A					X
064	Area B (OU3)		Q	X			X	
065	Area B (OU3)		Q	X			X	
066	Area D (OU4)		Q	X			X	
067	Area D (OU4)		Q	X			X	
068	B/322 (OU7)	As	Q	X				
069	Area C (OU6)		A					X
085	BR (OU2)		S	X				
087	BR (OU2)		S	X				
103	Area A (OU5)		S	X		X		
104	Area A (OU5)	Cr	S	X		X		
105	BR (OU2)		S	X		X		
106	BR (OU2)		A					X
109	BR (OU2)		S	X				
113	BR (OU2)		S	X				
118	Area A (OU5)		A					X
143	B/330+BR		A					X
146	B/330+BR		A					X
151	B/322 (OU7)		S	X				
156	BR (OU2)		S	X				
167	BR (OU2)		S	X				
178	B/330 (OU8)		A					X
181	B/330 (OU8)		S	X				
204	Area A (OU5)	Cr	A					X
502	SEQ (OU9)		A					X
520	SEQ (OU9)		S	X				
521	BR (OU2)		S	X				
545	SEQ (OU9)		S	X				
559	Area C (OU6)		S	X				
561	Area C (OU6)		S	X				
563	Area C+BR		S	X				
564	BR (OU2)		S	X				
571	Area B (OU3)		A					X
572	B/330 (OU8)		A					X
574	B/330 (OU8)		A					X
576	B/330 (OU8)		S	X				

Table B-3: Sampling Schedule
Corrective Action Performance Monitoring Network

Well	Area of Concern/OU	Inorganics[&]	VOC Frequency	Monitoring Category				
				CAM	PCT	CRM	POC	AM
577	BR (OU2)		S	X				
579	B/322+BR		A					X
580	B/322 (OU7)	Cr, TF	A					X
581	Area A (OU5)	Cr	A					X
600	B/330 (OU8)		A					X
601	B/330 (OU8)		S	X				
602	B/330 (OU8)		A					X
603	B/330 (OU8)		A					X
604	B/330 (OU8)		A					X
607	B/330+BR		S	X				
609	B/330+BR		S	X				
610	B/330+BR		S	X				
611	B/330+BR		A					X
612	B/322 (OU7)		Q	X		X		
622	B/330+BR		S	X				
623	B/330+BR		S	X				
624	B/330+BR		S	X				
627	B/322 (OU7)	As, Ni, TF	A					X
628	Area B (OU3)		Q	X		X		
640	B/330 (OU8)		S	X				
701	Area A (OU5)	Cr	A					X
702	Area A (OU5)		S	X				
706	Area A (OU5)	TF	S	X				
711	BR (OU2)		A					X
714	Area A (OU5)		S	X		X		
716	BR (OU2)		S	X		X		
720	Area A (OU5)		S	X				
722	BR (OU2)		A					X
732	Area A (OU5)		S	X				
734	Area A (OU5)		S	X				
735	B/322 (OU7)	As, TF	S	X				
737	B/322+BR		S	X				
739	BR (OU2)		A					X
740	B/322 (OU7)	Cr, TF	A	X				
742	B/322+BR		S	X				
743	B/322 (OU7)		A					X
744	Area A (OU5)		S	X				
745	Area A (OU5)		A					X
751	Area A (OU5)		A					X
753	Area A (OU5)		A					X
754	B/322 (OU7)	Cr	A					X
755	B/322 (OU7)		S	X				
756	B/330 (OU8)		A					X
757	Area D (OU4)		S	X				
761	Area A (OU5)	Cr	A					X
763	Area A (OU5)	Cr	A					X
766	B/322 (OU7)	As, Cr, Ni, TF	S	X				

Table B-3: Sampling Schedule
Corrective Action Performance Monitoring Network

Well	Area of Concern/OU	Inorganics[&]	VOC Frequency	Monitoring Category				
				CAM	PCT	CRM	POC	AM
767	B/322 (OU7)	As, Cr, TF	S	X				
768	B/322 (OU7)	As, Cr, Ni, TF	S	X				
769	B/322 (OU7)	As, Cr, Ni, TF	S	X				
771	B/322 (OU7)	Cr	A					X
772	B/322 (OU7)	As, Cr, Ni	S	X				
773	B/322 (OU7)	Cr	A					X
774	B/322 (OU7)	Cr	S	X				
775	B/322 (OU7)	Cr	A					X
777	BR (OU2)		S	X				
779	BR (OU2)		S	X				
789	B/322 (OU7)	Cr	A					X
791	B/322 (OU7)	Cr	A					X
792	B/322 (OU7)	As, Cr	A					X
793	B/322 (OU7)	As, Cr, Ni, TF	S	X				
832	Area B (OU3)		A					X
857	BR (OU2)		S	X				
858	BR (OU2)		S	X				
921	B/330 (OU8)		S	X				
922	B/330 (OU8)		S	X				
923	B/330 (OU8)		S	X				
929	B/330 (OU8)		S	X				
931	B/330 (OU8)		S	X				
932	Area C+BR		S	X				
941	B/330 (OU8)		S	X				
943	Area C+BR		S	X		X		
944	Area C (OU6)		S	X				
952	B/322+BR	As, Cr	S	X				
953	B/330+BR		S	X				
954	B/330 (OU8)		S	X				
956	B/330 (OU8)		S	X				
958	BR (OU2)		S	X				
959	B/322+BR	As	S	X				
960	B/322+BR	As	S	X				
963	BR (OU2)		S	X				
964	BR (OU2)		S	X				
965	B/330+BR		A					X
966	B/330+BR		S	X				
987	SEQ (OU9)		Q	X			X	
990	SEQ (OU9)		Q	X			X	
998	Area A (OU5)		S	X				
999	Area A (OU5)		S	X				
GACIN/316	BR (OU2)		M		X	X		
PW-1	BR (OU2)		M	X	X	X		
PW-2	BR (OU2)		M	X	X	X		
PW-4*	BR (OU2)		M					
PW-5A*	BR (OU2)		M					
PW-6*	BR (OU2)		M					

Table B-3: Sampling Schedule
Corrective Action Performance Monitoring Network

Well	Area of Concern/OU	Inorganics[&]	VOC Frequency	Monitoring Category				
				CAM	PCT	CRM	POC	AM
PW-7*	B/330+BR		M					
PW-9*	BR (OU2)		M					
PW-23	SEQ (OU9)		Q	X				
PW-25	B/330+BR		M	X	X	X		
SUMP/B384	Area A (OU5)	Cr, TF (Monthly)	M	X	X	X		

Key:

Area A = Area A (OU5)
Area B = Area B (OU3)
Area C = Landfill (OU6)
Area D = Area D (OU4)
B/322 = Building 322 (OU7)
B/330 = Building 330 (OU8)
BR = Bedrock (OU2)
SEQ = Southeast Quadrant (OU9)

A = Annual
S = Semiannual
Q = Quarterly
M = Monthly

CAM = Corrective Action Monitoring
PCT = Process Control for Treatment
CRM = Contaminant Reduction Monitoring
POC = Point of Compliance Monitoring
AM = Annual Monitoring

[&] Unfiltered and filtered metals, sampled annually unless noted. Total Fluoride (TF) will be unfiltered.
*Sampled only when used for water supply emergency.

Appendix C

Groundwater Collection and Mass Removal Data

Table C-1: Pumping Volumes for Groundwater Collection Wells/Sumps, 2019
Table C-2: Mass Removal Data for Volatile Organic Compounds, 2019

Table C-1: Groundwater Extraction Volumes (gallons)
Former IBM East Fishkilll Facility
January 2019 to December 2019

Period		Location			
from	to	PW-1	PW-2	PW-25	B/384 Sump
1-Jan-19	31-Jan-19	4,853,219	5,253,196	9,401,821	-
1-Feb-19	28-Feb-19	5,829,715	4,801,353	8,537,164	21,870
1-Mar-19	31-Mar-19	6,453,422	5,023,130	9,649,566	59,581
1-Apr-19	30-Apr-19	6,020,377	4,885,987	9,481,831	37,196
1-May-19	31-May-19	6,180,554	5,111,896	9,791,141	52,673
1-Jun-19	30-Jun-19	5,820,276	4,385,653	9,525,872	40,739
1-Jul-19	31-Jul-19	6,005,228	4,307,225	7,710,449	33,080
1-Aug-19	31-Aug-19	5,815,731	4,495,953	10,351,849	29,644
1-Sep-19	30-Sep-19	5,467,880	4,319,927	10,151,928	16,805
1-Oct-19	31-Oct-19	5,776,296	4,463,995	10,490,196	17,151
1-Nov-19	30-Nov-19	5,557,489	3,993,407	10,151,936	20,798
1-Dec-19	31-Dec-19	3,995,011	4,463,991	10,489,830	38,052
12-Month Volume (gal)		67,775,199	55,505,715	115,733,582	367,590
***Average Rate (gpm)**		129	106	220	0.8

Volume Extracted from January 1, 2019 through December 31, 2019:

PW-1 GTF	67,775,199	Bedrock
PW-2 GTF	55,505,715	Bedrock
PW-25 GTF	115,733,582	Bedrock
B/384 GTF	367,590	Overburden
Total	239,014,495	gallons

*B/384 Sump average flow rate calculated from startup on February 25, 2019 through December 31, 2019

Table C-2: Mass Removal Data for Volatile Organic Compounds
Former IBM East Fishkilll Facility
January 2019 to December 2019

		Chemical Concentrations (ug/l)								Pounds of Chemicals Removed									
Location	Period	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon® 113)	1,2-Dichloro-1,2,2-Trifluoroethane (Freon® 123a)	Other VOCs*	Volume Pumped (gallons)	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon® 113)	1,2-Dichloro-1,2,2-Trifluoroethane (Freon® 123a)	*Other VOCs	Total VOCs Removed (pounds)	Period	Location	Pounds Removed January - December 2019
PW-1	Jan-19	14.0	5.1	1.1	0.0	1.8	0.1	0.0	4,853,219	0.57	0.21	0.04	0.00	0.07	0.00	0.00	0.89	Jan-19	PW-1	15.3
	Feb-19	15.0	5.6	1.3	0.0	1.9	0.1	0.0	5,829,715	0.73	0.27	0.06	0.00	0.09	0.00	0.00	1.16	Feb-19		
	Mar-19	15.0	5.9	3.8	0.0	2.4	0.0	0.0	6,453,422	0.81	0.32	0.20	0.00	0.13	0.00	0.00	1.46	Mar-19		
	Apr-19	14.5	6.5	1.5	0.0	4.6	0.0	0.0	6,020,377	0.73	0.33	0.07	0.00	0.23	0.00	0.00	1.36	Apr-19		
	May-19	17.0	6.4	1.5	0.0	2.5	0.1	0.0	6,180,554	0.88	0.33	0.08	0.00	0.13	0.00	0.00	1.42	May-19		
	Jun-19	17.0	6.5	1.5	0.0	1.9	0.1	1.0	5,820,276	0.83	0.32	0.07	0.00	0.09	0.00	0.05	1.36	Jun-19		
	Jul-19	18.5	6.2	1.4	0.0	2.1	0.4	0.6	6,005,228	0.93	0.31	0.07	0.00	0.11	0.02	0.03	1.46	Jul-19		
	Aug-19	17.0	6.7	1.5	0.0	2.1	0.1	1.1	5,815,731	0.82	0.33	0.07	0.00	0.10	0.00	0.05	1.38	Aug-19		
	Sep-19	17.0	6.9	1.6	0.0	2.4	0.1	0.0	5,467,880	0.78	0.31	0.07	0.00	0.11	0.00	0.00	1.28	Sep-19		
	Oct-19	16.0	6.7	1.5	0.0	2.2	0.1	0.0	5,776,296	0.77	0.32	0.07	0.00	0.11	0.00	0.00	1.28	Oct-19		
	Nov-19	17.0	7.0	1.6	0.0	2.4	0.1	0.0	5,557,489	0.79	0.32	0.07	0.00	0.11	0.00	0.00	1.30	Nov-19		
	Dec-19	16.0	6.7	1.5	0.0	2.5	0.1	0.0	3,995,011	0.53	0.22	0.05	0.00	0.08	0.00	0.00	0.89	Dec-19		
PW-2	Jan-19	13000.0	880.0	1300.0	130.0	170.0	12.0	0.0	5,253,196	569.85	38.57	56.98	5.70	7.45	0.53	0.00	679.08	Jan-19	PW-2	6126.1
	Feb-19	13000.0	790.0	1200.0	170.0	160.0	12.0	6.3	4,801,353	520.83	31.65	48.08	6.81	6.41	0.48	0.25	614.52	Feb-19		
	Mar-19	9300.0	710.0	1130.0	130.0	150.0	5.6	2.8	5,023,130	389.81	29.76	47.36	5.45	6.29	0.24	0.12	479.02	Mar-19		
	Apr-19	8950.0	700.0	1075.0	135.0	155.0	10.2	2.6	4,885,987	364.90	28.54	43.83	5.50	6.32	0.41	0.11	449.61	Apr-19		
	May-19	11000.0	710.0	1200.0	120.0	150.0	0.0	0.0	5,111,896	469.21	30.29	51.19	5.12	6.40	0.00	0.00	562.20	May-19		
	Jun-19	11000.0	660.0	1200.0	98.0	73.0	8.4	0.0	4,385,653	402.55	24.15	43.91	3.59	2.67	0.31	0.00	477.18	Jun-19		
	Jul-19	10500.0	670.0	1150.0	97.5	105.0	9.5	2.2	4,307,225	377.38	24.08	41.33	3.50	3.77	0.34	0.08	450.49	Jul-19		
	Aug-19	11000.0	600.0	1100.0	89.0	73.0	0.0	0.0	4,495,953	412.67	22.51	41.27	3.34	2.74	0.00	0.00	482.53	Aug-19		
	Sep-19	11000.0	710.0	1300.0	110.0	110.0	9.5	0.0	4,319,927	396.52	25.59	46.86	3.97	3.97	0.34	0.00	477.24	Sep-19		
	Oct-19	11500.0	735.0	1300.0	150.0	150.0	12.5	2.5	4,463,995	428.37	27.38	48.42	5.59	5.59	0.47	0.09	515.90	Oct-19		
	Nov-19	10000.0	730.0	1300.0	150.0	140.0	12.0	0.0	3,993,407	333.22	24.33	43.32	5.00	4.67	0.40	0.00	410.93	Nov-19		
	Dec-19	12000.0	690.0	1200.0	120.0	130.0	10.0	7.3	4,463,991	446.99	25.70	44.70	4.47	4.84	0.37	0.27	527.35	Dec-19		
PW-25	Jan-19	690.0	120.0	39.0	0.0	15.0	0.0	0.0	9,401,821	54.13	9.41	3.06	0.00	1.18	0.00	0.00	67.78	Jan-19	PW-25	807.3
	Feb-19	680.0	150.0	41.0	0.0	20.0	0.0	0.0	8,537,164	48.44	10.69	2.92	0.00	1.42	0.00	0.00	63.47	Feb-19		
	Mar-19	603.3	123.3	38.7	0.0	20.0	0.3	1.2	9,649,566	48.58	9.93	3.11	0.00	1.61	0.03	0.10	63.36	Mar-19		
	Apr-19	610.0	130.0	41.5	0.0	20.0	0.5	0.0	9,481,831	48.26	10.29	3.28	0.00	1.58	0.04	0.00	63.45	Apr-19		
	May-19	670.0	130.0	40.0	0.0	18.0	0.0	0.0	9,791,141	54.74	10.62	3.27	0.00	1.47	0.00	0.00	70.10	May-19		
	Jun-19	740.0	140.0	43.0	0.0	14.0	0.5	4.6	9,525,872	58.82	11.13	3.42	0.00	1.11	0.04	0.37	74.88	Jun-19		
	Jul-19	730.0	120.0	39.5	0.0	14.5	0.4	0.0	7,710,449	46.97	7.72	2.54	0.00	0.93	0.03	0.00	58.19	Jul-19		
	Aug-19	620.0	120.0	36.0	0.0	11.0	0.0	0.0	10,351,849	53.56	10.37	3.11	0.00	0.95	0.00	0.00	67.98	Aug-19		
	Sep-19	650.0	140.0	43.0	0.0	17.0	0.0	0.0	10,151,928	55.06	11.86	3.64	0.00	1.44	0.00	0.00	72.00	Sep-19		
	Oct-19	595.0	120.0	38.0	0.0	15.0	0.5	0.0	10,490,196	52.08	10.50	3.33	0.00	1.31	0.04	0.00	67.27	Oct-19		
	Nov-19	630.0	130.0	40.0	0.0	16.0	0.4	0.0	10,151,936	53.37	11.01	3.39	0.00	1.36	0.03	0.00	69.16	Nov-19		
	Dec-19	620.0	120.0	40.0	0.0	15.0	0.4	0.0	10,489,830	54.27	10.50	3.50	0.00	1.31	0.04	0.00	69.62	Dec-19		
B/384 Sump	Jan-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	Jan-19	B/384 Sump	27.6
	Feb-19	7000.0	54.0	45.0	0.0	18.0	0.0	0.0	21,870	1.28	0.01	0.01	0.00	0.00	0.00	0.00	1.30	Feb-19		
	Mar-19	13500.0	200.0	72.5	1.1	107.5	0.0	15.6	59,581	6.71	0.10	0.04	0.00	0.05	0.00	0.01	6.91	Mar-19		
	Apr-19	6800.0	180.0	50.0	0.0	0.0	0.0	0.0	37,196	2.11	0.06	0.02	0.00	0.00	0.00	0.00	2.18	Apr-19		
	May-19	9300.0	220.0	38.0	0.0	0.0	0.0	0.0	52,673	4.09	0.10	0.02	0.00	0.00	0.00	0.00	4.20	May-19		
	Jun-19	9900.0	310.0	36.0	0.0	0.0	0.0	53.0	40,739	3.37	0.11	0.01	0.00	0.00	0.00	0.02	3.50	Jun-19		
	Jul-19	11000.0	440.0	35.0	0.0	4.4	0.0	3.1	33,080	3.04	0.12	0.01	0.00	0.00	0.00	0.00	3.17	Jul-19		
	Aug-19	7200.0	270.0	27.0	0.0	0.0	0.0	0.0	29,644	1.78	0.07	0.01	0.00	0.00	0.00	0.00	1.85	Aug-19		
	Sep-19	3600.0	2600.0	24.0	0.0	0.0	0.0	0.0	16,805	0.50	0.36	0.00	0.00	0.00	0.00	0.00	0.87	Sep-19		
	Oct-19	1700.0	140.0	13.0	0.0	0.0	0.0	2.5	17,151	0.24	0.02	0.00	0.00	0.00	0.00	0.00	0.27	Oct-19		
	Nov-19	4000.0	290.0	26.0	0.0	0.0	0.0	4.4	20,798	0.69	0.05	0.00	0.00	0.00	0.00	0.00	0.75	Nov-19		
	Dec-19	7700.0	430.0	42.0	0.0	4.8	0.0	0.0	38,052	2.44	0.14	0.01	0.00	0.00	0.00	0.00	2.60	Dec-19		
								Totals	239,382,085	5776.0	461.3	596.9	58.0	78.2	4.2	1.5	6976			

*Other VOCs
Trichlorofluoromethane
Dichlorodifluoromethane
1,1,1-Trichloroethane
Chlorobenzene
1,2-Dichlorobenzene
Acetone
m,p-Xylene
o-Xylene
Acetone

Appendix D

Quarterly Groundwater Elevation Data, 2019
B/384 Supplemental Groundwater Elevation Data, 2019
B/322 and B/323 Supplemental Groundwater Elevation Data, 2019

IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
002	01/02/2019	260.80	04/01/2019	258.26	07/10/2019	255.87	10/01/2019	251.31
003	01/02/2019	260.79	04/01/2019	258.31	07/10/2019	255.92	10/01/2019	251.25
005	01/02/2019	251.19	04/01/2019	249.86	07/08/2019	248.89	10/01/2019	247.18
006	01/02/2019	250.84	04/01/2019	249.61	07/08/2019	248.62	10/01/2019	246.98
007	01/02/2019	248.92	04/01/2019	248.65	07/09/2019	248.07	10/02/2019	247.54
008	01/02/2019	252.15	04/02/2019	250.37	07/10/2019	249.29	10/02/2019	245.16
009	01/02/2019	252.28	04/02/2019	250.37	07/10/2019	249.31	10/02/2019	244.97
010	01/02/2019	247.26	04/01/2019	244.57	07/10/2019	242.86	10/02/2019	236.83
011	01/02/2019	255.20	04/02/2019	254.64	07/10/2019	254.69	10/02/2019	253.21
013	01/04/2019	242.20	04/03/2019	239.80	07/10/2019	238.74	10/04/2019	234.16
014	01/04/2019	239.67	04/03/2019	237.06	07/10/2019	236.30	10/04/2019	231.58
015	01/04/2019	250.62	04/03/2019	246.70	07/10/2019	246.22	10/04/2019	244.96
016	01/07/2019	237.99	04/02/2019	235.76	07/10/2019	235.23	10/02/2019	232.23
017	01/07/2019	246.51	04/02/2019	245.34	07/10/2019	245.19	10/02/2019	244.68
018	01/07/2019	218.98	04/02/2019	215.31	07/10/2019	215.58	10/02/2019	211.96
019	01/07/2019	247.64	04/02/2019	246.55	07/10/2019	246.32	10/02/2019	245.80
020	01/07/2019	238.75	04/03/2019	237.12	07/09/2019	236.28	10/02/2019	233.82
022	01/07/2019	243.63	04/03/2019	243.57	07/09/2019	243.17	10/02/2019	243.18
027	01/03/2019	230.78	04/01/2019	226.83	07/10/2019	224.84	10/01/2019	219.69
028	01/03/2019	226.22	04/01/2019	218.97	07/10/2019	217.32	10/01/2019	212.46
030	01/02/2019	228.49	04/01/2019	228.06	07/09/2019	226.57	10/01/2019	224.09
032B	01/02/2019	229.41	04/01/2019	229.02	07/09/2019	228.07	10/01/2019	226.63
035	01/02/2019	242.95	04/01/2019	242.78	07/09/2019	242.45	10/01/2019	241.35
038	01/03/2019	235.31	04/03/2019	232.63	07/09/2019	232.63	10/02/2019	228.83
039	01/03/2019	235.08	04/03/2019	232.30	07/09/2019	232.23	10/02/2019	227.89
044	01/04/2019	248.34	04/02/2019	245.66	07/08/2019	246.36	10/02/2019	245.64
046	01/02/2019	263.22	04/02/2019	260.62	07/08/2019	257.04	10/01/2019	250.66
048	01/02/2019	259.12	04/02/2019	258.68	07/08/2019	258.09	10/01/2019	256.68
049	01/02/2019	261.25	04/02/2019	259.71	07/08/2019	258.51	10/01/2019	257.23
050	01/02/2019	261.66	04/02/2019	260.11	07/08/2019	258.89	10/01/2019	257.63
053	01/04/2019	254.41	04/02/2019	253.28	07/10/2019	251.12	10/02/2019	247.21
054	01/02/2019	254.02	04/01/2019	252.44	07/08/2019	250.67	10/01/2019	247.82
059	01/02/2019	231.32	04/01/2019	231.24	07/08/2019	230.31	10/01/2019	227.30
060	01/03/2019	229.23	04/01/2019	228.65	07/08/2019	227.38	10/01/2019	222.98
061	01/02/2019	236.56	04/01/2019	236.14	07/08/2019	235.72	10/01/2019	234.53
062	01/07/2019	249.63	04/02/2019	247.12	07/08/2019	247.33	10/01/2019	235.99
063	01/07/2019	246.49	04/02/2019	246.10	07/08/2019	242.09	10/01/2019	235.67
064	01/02/2019	255.77	04/01/2019	255.49	07/08/2019	254.37	10/01/2019	251.10
065	01/02/2019	255.76	04/01/2019	255.46	07/08/2019	254.33	10/01/2019	251.09
066	01/02/2019	225.76	04/01/2019	225.26	07/09/2019	223.94	10/01/2019	223.01
067	01/02/2019	227.86	04/01/2019	227.31	07/09/2019	226.77	10/01/2019	226.08
068	01/03/2019	231.88	04/01/2019	230.93	07/09/2019	230.32	10/01/2019	229.82
069	01/02/2019	251.08	04/01/2019	250.95	07/08/2019	249.78	10/01/2019	247.04
075	01/02/2019	245.46	04/01/2019	244.83	07/08/2019	244.28	10/01/2019	243.03
085	01/02/2019	255.96	04/01/2019	253.44	07/08/2019	250.93	10/01/2019	247.58
086	01/02/2019	254.86	04/01/2019	252.56	07/08/2019	251.69	10/01/2019	248.15
087	01/02/2019	249.24	04/01/2019	248.15	07/08/2019	247.48	10/01/2019	246.00
088	01/02/2019	248.89	04/01/2019	247.88	07/08/2019	247.26	10/01/2019	245.97
091	01/02/2019	260.49	04/01/2019	260.04	07/08/2019	259.22	10/01/2019	257.81

Key:
FLOW: Flowing Water
NA: Not Accessible
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IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
092	01/02/2019	260.54	04/01/2019	260.11	07/08/2019	259.31	10/01/2019	257.85
096	01/02/2019	249.77	04/01/2019	248.99	07/10/2019	248.48	10/01/2019	246.46
097	01/02/2019	249.38	04/01/2019	248.86	07/10/2019	248.41	10/01/2019	246.38
098	01/02/2019	249.51	04/01/2019	248.65	07/10/2019	247.91	10/01/2019	245.97
100	01/02/2019	255.75	04/01/2019	253.51	07/10/2019	251.86	10/01/2019	246.73
101	01/02/2019	255.36	04/01/2019	253.12	07/10/2019	251.47	10/01/2019	246.40
102	01/02/2019	254.29	04/01/2019	254.24	07/10/2019	253.09	10/01/2019	249.18
103	01/07/2019	249.21	04/02/2019	248.87	07/09/2019	248.45	10/03/2019	248.11
104	01/07/2019	241.91	04/02/2019	240.15	07/09/2019	239.81	10/03/2019	237.04
105	01/07/2019	239.69	04/02/2019	237.74	07/09/2019	237.61	10/03/2019	234.62
106	01/07/2019	237.65	04/02/2019	235.30	07/09/2019	234.99	10/03/2019	231.80
108	01/04/2019	238.96	04/02/2019	238.49	07/09/2019	237.80	10/02/2019	236.33
109	01/04/2019	237.13	04/02/2019	235.71	07/09/2019	234.87	10/02/2019	232.45
112	01/02/2019	266.85	04/01/2019	266.24	07/08/2019	264.78	10/01/2019	259.75
113	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	FLOW	10/01/2019	264.11
114	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	267.91	10/01/2019	263.06
118	01/04/2019	233.12	04/03/2019	230.04	07/10/2019	229.70	10/04/2019	224.44
121	01/02/2019	242.59	04/01/2019	237.39	07/10/2019	231.18	10/01/2019	224.11
122	01/03/2019	238.88	04/01/2019	233.44	07/10/2019	228.66	10/01/2019	220.98
129	01/07/2019	228.26	04/03/2019	229.34	07/09/2019	230.17	10/08/2019	230.16
130	01/07/2019	227.24	04/03/2019	227.97	07/09/2019	228.30	10/08/2019	227.64
143	01/04/2019	204.49	04/01/2019	204.78	07/10/2019	203.88	10/01/2019	195.88
145	01/02/2019	226.39	04/01/2019	226.20	07/08/2019	223.57	10/01/2019	216.63
146	01/02/2019	224.89	04/01/2019	224.85	07/08/2019	222.31	10/01/2019	215.50
147	01/02/2019	231.63	04/01/2019	231.55	07/09/2019	229.48	10/01/2019	DRY
150	01/03/2019	230.38	04/01/2019	225.63	07/09/2019	223.15	10/01/2019	216.97
151	01/02/2019	231.98	04/01/2019	231.41	07/09/2019	230.82	10/01/2019	230.28
156	01/03/2019	228.60	04/01/2019	227.86	07/08/2019	227.18	10/01/2019	223.69
157	01/03/2019	222.58	04/01/2019	224.11	07/08/2019	224.56	10/01/2019	223.04
158	01/02/2019	238.40	04/01/2019	237.55	07/08/2019	235.60	10/01/2019	231.14
161	01/02/2019	245.43	04/01/2019	244.89	07/10/2019	244.43	10/01/2019	243.14
164	01/04/2019	260.69	04/01/2019	259.08	07/12/2019	257.24	10/02/2019	255.41
165	01/04/2019	260.64	04/01/2019	259.07	07/12/2019	257.23	10/02/2019	255.37
166	01/02/2019	253.51	04/02/2019	251.66	07/08/2019	250.46	10/01/2019	247.71
167	01/02/2019	253.66	04/02/2019	251.71	07/08/2019	250.35	10/01/2019	247.42
168	01/07/2019	247.32	04/02/2019	247.94	07/08/2019	244.96	10/01/2019	242.50
169	01/07/2019	248.40	04/02/2019	246.28	07/08/2019	243.82	10/01/2019	240.72
170	01/02/2019	226.36	04/01/2019	225.57	07/09/2019	224.22	10/01/2019	222.92
178	01/04/2019	252.44	04/01/2019	250.82	07/10/2019	249.27	10/02/2019	244.64
180	01/04/2019	247.63	04/02/2019	247.71	07/10/2019	247.26	10/02/2019	245.41
181	01/04/2019	247.11	04/02/2019	246.48	07/10/2019	246.57	10/02/2019	245.15
182	01/07/2019	228.97	04/03/2019	227.92	07/08/2019	227.24	10/03/2019	225.72
183	01/07/2019	228.85	04/03/2019	227.87	07/08/2019	227.25	10/03/2019	225.68
185	01/07/2019	232.81	04/03/2019	228.63	07/08/2019	226.74	10/03/2019	221.47
186	01/07/2019	229.54	04/03/2019	228.26	07/08/2019	226.65	10/03/2019	221.56
191	01/07/2019	FLOW	04/03/2019	226.26	07/08/2019	223.63	10/03/2019	218.31
192	01/07/2019	FLOW	04/03/2019	FLOW	07/08/2019	224.15	10/03/2019	217.00
200	01/02/2019	248.36	04/01/2019	246.81	07/10/2019	246.58	10/01/2019	244.93
204	01/03/2019	245.77	04/03/2019	245.51	07/09/2019	245.04	10/02/2019	243.69

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IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
224	01/03/2019	241.61	04/01/2019	241.62	07/09/2019	241.06	10/01/2019	240.57
226	01/02/2019	229.93	04/01/2019	229.55	07/09/2019	229.27	10/01/2019	228.75
227	01/03/2019	226.48	04/01/2019	224.70	07/09/2019	224.25	10/01/2019	221.34
400	01/07/2019	233.63	04/02/2019	232.37	07/09/2019	231.88	10/02/2019	DRY
401	01/07/2019	236.04	04/02/2019	234.09	07/09/2019	233.17	10/02/2019	228.85
402	01/07/2019	242.15	04/02/2019	240.56	07/09/2019	221.28	10/02/2019	211.52
403	01/07/2019	241.93	04/02/2019	241.77	07/09/2019	239.99	10/02/2019	237.54
404	01/07/2019	229.37	04/02/2019	228.35	07/09/2019	227.63	10/02/2019	222.17
405	01/07/2019	237.92	04/02/2019	237.97	07/09/2019	236.89	10/02/2019	231.78
407	01/07/2019	271.48	04/02/2019	270.47	07/09/2019	268.46	10/02/2019	263.48
415	01/07/2019	246.43	04/02/2019	245.14	07/09/2019	245.40	10/01/2019	244.34
416	01/07/2019	246.64	04/02/2019	245.05	07/09/2019	244.27	10/01/2019	242.41
418	01/07/2019	238.34	04/02/2019	230.66	07/09/2019	235.50	10/01/2019	229.35
500	01/02/2019	249.93	04/01/2019	249.22	07/08/2019	248.69	10/01/2019	247.41
501	01/02/2019	251.25	04/02/2019	250.67	07/08/2019	250.40	10/01/2019	250.03
502	01/02/2019	FLOW	04/02/2019	258.24	07/08/2019	257.64	10/01/2019	256.11
503	01/02/2019	259.48	04/02/2019	252.80	07/08/2019	258.04	10/01/2019	256.72
504	01/02/2019	FLOW	04/02/2019	259.04	07/08/2019	259.58	10/01/2019	256.75
505	01/02/2019	FLOW	04/02/2019	259.15	07/08/2019	FLOW	10/01/2019	257.02
506	01/02/2019	258.87	04/01/2019	258.60	07/08/2019	258.23	10/01/2019	256.97
507	01/02/2019	259.90	04/01/2019	259.12	07/08/2019	258.26	10/01/2019	256.85
508	01/02/2019	260.02	04/01/2019	259.17	07/08/2019	258.30	10/01/2019	256.84
509	01/02/2019	260.02	04/01/2019	259.24	07/08/2019	258.36	10/01/2019	256.92
510	01/02/2019	259.57	04/01/2019	259.03	07/08/2019	258.31	10/01/2019	256.91
511	01/02/2019	259.63	04/01/2019	259.00	07/08/2019	258.13	10/01/2019	256.68
512	01/02/2019	259.72	04/02/2019	259.28	07/08/2019	258.61	10/01/2019	256.51
513	01/02/2019	260.44	04/02/2019	259.71	07/08/2019	258.99	10/01/2019	257.58
514	01/02/2019	259.18	04/01/2019	258.82	07/08/2019	258.72	10/01/2019	258.01
515	01/02/2019	260.10	04/01/2019	259.27	07/08/2019	258.39	10/01/2019	257.05
516	01/02/2019	260.36	04/01/2019	259.76	07/08/2019	259.01	10/01/2019	257.43
517	01/02/2019	260.15	04/01/2019	259.57	07/08/2019	258.82	10/01/2019	257.41
518	01/02/2019	260.38	04/01/2019	259.76	07/08/2019	258.98	10/01/2019	257.52
519	01/02/2019	261.79	04/02/2019	260.77	07/08/2019	259.86	10/01/2019	258.27
520	01/02/2019	257.47	04/02/2019	256.73	07/08/2019	256.08	10/01/2019	255.19
521	01/02/2019	260.24	04/02/2019	258.14	07/08/2019	256.37	10/01/2019	254.88
522	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	FLOW	10/01/2019	256.23
523	01/04/2019	266.73	04/01/2019	264.79	07/12/2019	263.24	10/02/2019	261.40
524	01/04/2019	267.05	04/01/2019	265.01	07/12/2019	263.34	10/02/2019	261.42
525	01/04/2019	266.22	04/05/2019	264.07	07/12/2019	262.58	10/02/2019	260.30
526	01/02/2019	266.17	04/01/2019	263.59	07/08/2019	260.59	10/01/2019	258.26
527	01/02/2019	263.98	04/01/2019	263.08	07/08/2019	261.23	10/01/2019	258.18
528	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	FLOW	10/01/2019	269.56
529	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	FLOW	10/01/2019	269.71
530	01/02/2019	262.54	04/01/2019	262.08	07/08/2019	260.82	10/01/2019	257.69
531	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	FLOW	10/01/2019	263.13
532	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	FLOW	10/01/2019	265.12
533	01/02/2019	262.02	04/01/2019	261.50	07/08/2019	260.51	10/01/2019	257.46
534	01/02/2019	263.34	04/01/2019	262.63	07/08/2019	261.31	10/01/2019	257.96
535	01/02/2019	FLOW	04/01/2019	FLOW	07/08/2019	265.64	10/01/2019	261.22

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IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
536	01/02/2019	261.40	04/02/2019	259.68	07/08/2019	258.74	10/01/2019	257.10
537	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	FLOW	10/01/2019	263.02
538	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	268.37	10/01/2019	261.87
539	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	FLOW	10/01/2019	268.74
541	01/02/2019	275.60	04/02/2019	272.29	07/08/2019	267.34	10/01/2019	257.32
542	01/02/2019	275.77	04/02/2019	272.50	07/08/2019	267.41	10/01/2019	257.27
543	01/02/2019	259.94	04/02/2019	258.20	07/08/2019	256.59	10/01/2019	255.22
544	01/02/2019	260.78	04/02/2019	258.57	07/08/2019	256.65	10/01/2019	255.22
545	01/02/2019	259.52	04/02/2019	258.06	07/08/2019	256.63	10/01/2019	255.36
546	01/02/2019	FLOW	04/02/2019	266.52	07/08/2019	262.42	10/01/2019	256.48
547	01/02/2019	FLOW	04/02/2019	263.93	07/08/2019	261.09	10/01/2019	257.10
548	01/02/2019	259.84	04/02/2019	258.43	07/08/2019	258.04	10/01/2019	256.64
549	01/02/2019	260.05	04/02/2019	258.53	07/08/2019	257.13	10/01/2019	255.71
550	01/02/2019	260.07	04/02/2019	258.75	07/08/2019	257.19	10/01/2019	255.76
551	01/02/2019	259.94	04/02/2019	258.89	07/08/2019	257.92	10/01/2019	256.60
553	01/02/2019	258.97	04/02/2019	258.69	07/08/2019	258.40	10/01/2019	257.65
554	01/02/2019	260.41	04/02/2019	259.45	07/08/2019	258.51	10/01/2019	257.44
556	01/02/2019	260.98	04/02/2019	259.51	07/08/2019	258.41	10/01/2019	257.24
557	01/02/2019	261.15	04/02/2019	259.62	07/08/2019	258.40	10/01/2019	257.13
558	01/02/2019	268.03	04/02/2019	264.11	07/08/2019	259.00	10/01/2019	252.17
559	01/02/2019	259.76	04/02/2019	257.47	07/08/2019	254.35	10/01/2019	248.95
560	01/02/2019	256.63	04/02/2019	255.10	07/08/2019	252.95	10/01/2019	248.18
561	01/02/2019	274.56	04/02/2019	270.58	07/08/2019	266.73	10/01/2019	262.03
562	01/02/2019	269.86	04/02/2019	265.78	07/08/2019	260.87	10/01/2019	253.93
563	01/02/2019	255.58	04/02/2019	253.28	07/08/2019	250.55	10/01/2019	246.05
564	01/02/2019	267.18	04/02/2019	265.81	07/08/2019	261.75	10/01/2019	255.07
565	01/02/2019	270.37	04/02/2019	265.92	07/08/2019	261.60	10/01/2019	255.59
566	01/02/2019	265.11	04/02/2019	261.16	07/08/2019	257.05	10/01/2019	250.84
567	01/02/2019	262.58	04/02/2019	260.55	07/08/2019	257.04	10/01/2019	250.46
568	01/02/2019	269.82	04/02/2019	262.68	07/08/2019	258.42	10/01/2019	253.39
569	01/02/2019	271.40	04/02/2019	267.69	07/08/2019	262.81	10/01/2019	254.58
570	01/02/2019	250.79	04/02/2019	248.31	07/08/2019	245.76	10/01/2019	240.16
571	01/02/2019	272.38	04/02/2019	DRY	07/08/2019	271.34	10/01/2019	DRY
572	01/07/2019	244.89	04/03/2019	245.67	07/09/2019	245.53	10/03/2019	245.35
574	01/04/2019	253.47	04/03/2019	252.09	07/09/2019	249.94	10/03/2019	245.13
576	01/04/2019	252.82	04/02/2019	251.85	07/10/2019	250.93	10/02/2019	249.85
577	01/03/2019	225.54	04/01/2019	220.45	07/09/2019	219.20	10/01/2019	213.63
578	01/02/2019	241.03	04/01/2019	238.09	07/10/2019	236.13	10/01/2019	231.16
579	01/03/2019	224.17	04/01/2019	220.95	07/10/2019	220.50	10/04/2019	216.18
580	01/03/2019	244.64	04/02/2019	244.30	07/09/2019	244.19	10/02/2019	243.08
581	01/02/2019	256.64	04/01/2019	254.29	07/10/2019	252.41	10/01/2019	247.29
600	01/04/2019	251.29	04/01/2019	250.03	07/10/2019	248.41	10/02/2019	246.96
601	01/04/2019	242.16	04/01/2019	249.99	07/10/2019	237.48	10/02/2019	231.94
602	01/04/2019	248.38	04/01/2019	247.51	07/10/2019	247.26	10/02/2019	245.76
603	01/04/2019	246.63	04/01/2019	245.22	07/10/2019	244.21	10/01/2019	241.55
604	01/04/2019	217.85	04/01/2019	218.00	07/10/2019	216.22	10/01/2019	209.29
605	01/04/2019	205.12	04/01/2019	205.60	07/10/2019	204.77	10/01/2019	196.59
606	01/04/2019	205.29	04/01/2019	202.14	07/10/2019	202.74	10/02/2019	196.07
607	01/04/2019	214.63	04/01/2019	215.41	07/10/2019	213.87	10/02/2019	206.93

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IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
608	01/04/2019	234.82	04/01/2019	232.20	07/10/2019	229.69	10/02/2019	222.39
609	01/04/2019	204.62	04/02/2019	201.08	07/10/2019	202.05	10/02/2019	195.43
610	01/07/2019	204.90	04/01/2019	204.14	07/10/2019	203.77	10/01/2019	195.77
611	01/03/2019	218.17	04/03/2019	216.37	07/09/2019	215.20	10/04/2019	207.83
612	01/03/2019	235.32	04/01/2019	235.28	07/09/2019	234.92	10/01/2019	234.17
613	01/03/2019	233.32	04/01/2019	233.28	07/09/2019	233.09	10/01/2019	232.53
614	01/02/2019	229.07	04/01/2019	228.69	07/09/2019	227.81	10/01/2019	226.27
615	01/02/2019	229.39	04/01/2019	229.02	07/09/2019	228.08	10/01/2019	226.61
616	01/02/2019	229.43	04/01/2019	229.09	07/09/2019	228.07	10/01/2019	226.61
617	01/03/2019	233.46	04/01/2019	233.38	07/09/2019	233.21	10/01/2019	232.63
618	01/03/2019	231.84	04/01/2019	230.96	07/09/2019	230.33	10/01/2019	229.79
619	01/02/2019	263.24	04/02/2019	260.65	07/08/2019	257.07	10/01/2019	250.68
620	01/02/2019	240.83	04/01/2019	239.29	07/10/2019	237.31	10/01/2019	234.16
621	01/03/2019	245.41	04/03/2019	245.33	07/09/2019	244.90	10/02/2019	243.47
622	01/04/2019	235.20	04/01/2019	232.65	07/10/2019	230.10	10/02/2019	224.23
623	01/07/2019	202.15	04/03/2019	200.79	07/10/2019	200.94	10/02/2019	192.26
624	01/03/2019	219.31	04/03/2019	216.53	07/09/2019	217.02	10/02/2019	210.30
626	01/04/2019	263.50	04/01/2019	262.15	07/12/2019	260.44	10/02/2019	258.20
627	01/03/2019	246.85	04/03/2019	246.67	07/09/2019	246.36	10/02/2019	245.42
640	01/04/2019	241.68	04/01/2019	240.62	07/10/2019	240.40	10/01/2019	239.17
700	01/04/2019	241.87	04/02/2019	241.32	07/09/2019	240.25	10/02/2019	239.09
701	01/04/2019	241.43	04/02/2019	240.85	07/09/2019	239.86	10/02/2019	238.71
702	01/04/2019	245.97	04/02/2019	245.75	07/08/2019	245.17	10/02/2019	244.29
703	01/04/2019	245.96	04/02/2019	245.87	07/08/2019	244.31	10/02/2019	241.07
704	01/04/2019	233.12	04/02/2019	230.70	07/10/2019	230.40	10/02/2019	227.12
705	01/02/2019	250.29	04/01/2019	250.06	07/10/2019	249.12	10/02/2019	248.70
706	01/02/2019	245.96	04/01/2019	243.97	07/10/2019	244.10	10/02/2019	241.16
707	01/02/2019	247.96	04/01/2019	245.43	07/10/2019	246.51	10/02/2019	244.40
708	01/02/2019	246.47	04/01/2019	246.86	07/10/2019	244.20	10/02/2019	241.12
709	01/02/2019	251.62	04/02/2019	249.49	07/10/2019	249.70	10/02/2019	244.80
710	01/02/2019	251.09	04/02/2019	249.25	07/10/2019	248.25	10/02/2019	244.34
711	01/02/2019	250.01	04/02/2019	247.78	07/10/2019	246.50	10/02/2019	242.21
712	01/02/2019	258.11	04/01/2019	257.74	07/10/2019	255.18	10/03/2019	250.37
714	01/02/2019	247.07	04/01/2019	244.65	07/10/2019	243.26	10/02/2019	237.47
716	01/02/2019	238.17	04/01/2019	236.63	07/10/2019	235.02	10/01/2019	230.26
717	01/02/2019	249.84	04/01/2019	249.06	07/10/2019	248.45	10/01/2019	246.37
718	01/02/2019	249.87	04/01/2019	249.01	07/10/2019	248.51	10/01/2019	246.40
719	01/02/2019	256.12	04/01/2019	249.32	07/10/2019	248.31	10/01/2019	246.61
720	01/02/2019	249.77	04/01/2019	248.90	07/10/2019	248.26	10/01/2019	246.37
721	01/02/2019	252.31	04/01/2019	251.16	07/10/2019	250.14	10/01/2019	246.90
722	01/02/2019	253.22	04/01/2019	251.31	07/10/2019	249.52	10/01/2019	245.09
723	01/02/2019	253.84	04/01/2019	252.63	07/10/2019	251.55	10/01/2019	247.33
724	01/02/2019	254.46	04/01/2019	253.05	07/10/2019	251.51	10/01/2019	247.46
725	01/02/2019	254.41	04/01/2019	252.62	07/10/2019	251.25	10/01/2019	247.93
726	01/02/2019	254.55	04/01/2019	252.69	07/10/2019	251.11	10/01/2019	247.97
727	01/02/2019	254.48	04/01/2019	252.61	07/10/2019	251.07	10/01/2019	247.89
728	01/03/2019	251.16	04/01/2019	250.28	07/10/2019	249.25	10/01/2019	247.16
729	01/02/2019	251.82	04/01/2019	250.76	07/10/2019	249.71	10/01/2019	247.52
730	01/02/2019	250.40	04/01/2019	245.72	07/10/2019	244.60	10/01/2019	241.85

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IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
732	01/07/2019	224.05	04/02/2019	219.64	07/09/2019	220.00	10/02/2019	214.77
734	01/07/2019	215.82	04/02/2019	211.39	07/10/2019	213.26	10/02/2019	207.79
735	01/03/2019	245.22	04/02/2019	244.87	07/10/2019	244.86	10/02/2019	243.50
737	01/03/2019	223.38	04/02/2019	219.52	07/09/2019	219.33	10/02/2019	214.95
739	01/03/2019	227.23	04/03/2019	221.14	07/10/2019	219.90	10/03/2019	214.75
740	01/03/2019	241.52	04/03/2019	241.34	07/10/2019	241.17	10/02/2019	240.04
742	01/03/2019	223.62	04/03/2019	219.06	07/09/2019	218.49	10/02/2019	214.20
743	01/03/2019	248.28	04/03/2019	247.68	07/10/2019	246.86	10/03/2019	244.86
744	01/02/2019	248.10	04/02/2019	247.41	07/10/2019	246.96	10/02/2019	245.54
745	01/02/2019	247.59	04/02/2019	247.16	07/10/2019	247.17	10/02/2019	246.19
746	01/02/2019	245.85	04/02/2019	245.17	07/10/2019	244.65	10/02/2019	243.63
747	01/02/2019	254.76	04/01/2019	253.21	07/10/2019	251.87	10/01/2019	247.12
748	01/02/2019	251.16	04/01/2019	248.83	07/10/2019	247.53	10/02/2019	242.87
749	01/03/2019	251.64	04/01/2019	251.19	07/10/2019	250.74	10/01/2019	249.94
750	01/03/2019	250.91	04/01/2019	250.05	07/10/2019	249.20	10/01/2019	247.10
751	01/03/2019	243.13	04/03/2019	241.38	07/09/2019	241.34	10/02/2019	241.03
752	01/03/2019	246.21	04/03/2019	244.91	07/09/2019	244.89	10/02/2019	244.57
753	01/02/2019	238.38	04/03/2019	237.62	07/09/2019	237.55	10/02/2019	236.58
754	01/03/2019	236.83	04/01/2019	236.63	07/09/2019	236.41	10/01/2019	236.16
755	01/03/2019	235.41	04/01/2019	232.12	07/09/2019	231.28	10/01/2019	230.64
756	01/04/2019	249.59	04/02/2019	248.95	07/10/2019	245.14	10/28/2019	238.70
757	01/02/2019	229.32	04/01/2019	228.91	07/09/2019	227.96	10/01/2019	226.50
758	01/02/2019	254.14	04/01/2019	253.94	07/10/2019	253.89	10/02/2019	253.61
759	01/02/2019	248.77	04/01/2019	247.17	07/10/2019	246.20	10/02/2019	242.98
760	01/02/2019	248.58	04/02/2019	246.19	07/10/2019	245.17	10/02/2019	241.64
761	01/02/2019	253.65	04/01/2019	252.36	07/10/2019	251.23	10/02/2019	246.91
763	01/02/2019	251.47	04/01/2019	249.14	07/10/2019	247.68	10/02/2019	243.57
766	01/03/2019	241.03	04/02/2019	241.33	07/09/2019	241.11	10/02/2019	240.00
767	01/03/2019	240.72	04/02/2019	240.63	07/09/2019	240.73	10/02/2019	239.70
768	01/03/2019	239.87	04/02/2019	239.96	07/10/2019	239.60	10/02/2019	238.54
769	01/03/2019	239.92	04/02/2019	239.90	07/10/2019	239.30	10/02/2019	238.01
770	01/03/2019	246.18	04/02/2019	239.66	07/10/2019	240.17	10/02/2019	238.10
771	01/03/2019	239.68	04/02/2019	239.68	07/10/2019	239.22	10/02/2019	238.01
772	01/03/2019	233.60	04/02/2019	233.55	07/10/2019	233.56	10/02/2019	233.22
773	01/03/2019	234.71	04/01/2019	234.65	07/09/2019	234.40	10/01/2019	233.65
774	01/03/2019	232.75	04/02/2019	232.31	07/10/2019	232.06	10/02/2019	231.08
775	01/03/2019	230.77	04/02/2019	230.59	07/10/2019	230.52	10/02/2019	229.69
776	01/02/2019	252.12	04/01/2019	250.60	07/10/2019	249.07	10/01/2019	245.60
777	01/02/2019	259.23	04/01/2019	256.67	07/10/2019	254.03	10/01/2019	247.47
779	01/03/2019	231.48	04/01/2019	224.80	07/10/2019	221.56	10/01/2019	215.09
782	01/03/2019	228.99	04/03/2019	228.56	07/09/2019	227.67	10/03/2019	226.37
783	01/03/2019	228.38	04/01/2019	227.74	07/08/2019	227.00	10/01/2019	223.73
789	01/03/2019	233.01	04/02/2019	232.60	07/10/2019	231.84	10/02/2019	230.71
791	01/03/2019	230.38	04/02/2019	230.18	07/10/2019	230.07	10/02/2019	229.39
792	01/03/2019	232.36	04/02/2019	232.17	07/10/2019	232.78	10/02/2019	231.15
793	01/03/2019	230.50	04/01/2019	230.35	07/10/2019	230.76	10/04/2019	229.88
799	01/03/2019	229.20	04/01/2019	228.73	07/08/2019	227.72	10/01/2019	224.28
816	01/02/2019	250.41	04/02/2019	247.27	07/10/2019	246.02	10/02/2019	243.86
818	01/02/2019	251.05	04/02/2019	247.12	07/10/2019	246.58	10/02/2019	245.90

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IBM East Fishkill

Quarterly Groundwater Elevation Data: January through December 2019

	First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
819	01/02/2019	252.38	04/02/2019	251.98	07/10/2019	251.61	10/02/2019	250.74
820	01/04/2019	251.32	04/03/2019	250.62	07/10/2019	250.15	10/04/2019	249.60
821	01/04/2019	251.60	04/03/2019	249.40	07/10/2019	249.00	10/04/2019	247.61
822	01/04/2019	250.73	04/03/2019	247.01	07/10/2019	245.89	10/04/2019	245.06
823	01/02/2019	250.54	04/01/2019	247.29	07/10/2019	246.70	10/02/2019	245.37
824	01/02/2019	250.35	04/01/2019	248.56	07/10/2019	247.54	10/02/2019	246.33
826	01/02/2019	260.61	04/02/2019	259.75	07/10/2019	259.93	10/02/2019	255.86
827	01/02/2019	255.00	04/02/2019	254.50	07/10/2019	254.48	10/02/2019	252.71
830	01/02/2019	263.92	04/02/2019	261.44	07/08/2019	257.53	10/01/2019	249.63
831	01/02/2019	259.02	04/02/2019	256.81	07/08/2019	253.33	10/01/2019	246.11
832	01/02/2019	264.21	04/02/2019	262.02	07/08/2019	257.62	10/01/2019	254.49
833	01/02/2019	272.48	04/02/2019	267.30	07/08/2019	260.72	10/01/2019	252.82
835	01/02/2019	278.28	04/02/2019	274.19	07/08/2019	270.46	10/01/2019	263.73
836	01/02/2019	273.34	04/02/2019	269.67	07/08/2019	265.45	10/01/2019	258.74
837	01/02/2019	278.28	04/02/2019	274.24	07/08/2019	270.39	10/01/2019	265.14
838	01/04/2019	259.95	04/02/2019	257.42	07/08/2019	254.75	10/03/2019	DRY
839	01/02/2019	229.60	04/01/2019	229.13	07/09/2019	228.29	10/01/2019	226.95
855	01/04/2019	262.84	04/01/2019	261.19	07/12/2019	259.51	10/02/2019	257.10
856	01/04/2019	264.21	04/01/2019	262.72	07/12/2019	260.91	10/02/2019	258.34
857	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	FLOW	10/01/2019	255.38
858	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	258.57	10/01/2019	254.31
859	01/02/2019	257.35	04/02/2019	256.79	07/08/2019	256.36	10/01/2019	255.28
860	01/02/2019	257.67	04/02/2019	256.73	07/08/2019	256.58	10/14/2019	254.72
861	01/02/2019	FLOW	04/02/2019	255.90	07/08/2019	254.59	10/01/2019	250.12
862	01/02/2019	257.44	04/02/2019	255.28	07/08/2019	253.69	10/01/2019	249.82
863	01/02/2019	263.12	04/02/2019	260.54	07/08/2019	256.97	10/01/2019	250.59
864	01/02/2019	250.84	04/02/2019	249.04	07/10/2019	248.74	10/02/2019	247.75
895	01/02/2019	260.25	04/01/2019	259.58	07/08/2019	258.79	10/01/2019	257.37
896	01/02/2019	260.52	04/01/2019	259.68	07/08/2019	258.99	10/01/2019	257.35
897	01/02/2019	268.31	04/02/2019	269.39	07/08/2019	268.51	10/01/2019	264.01
898	01/02/2019	259.85	04/02/2019	264.54	07/08/2019	267.20	10/01/2019	266.22
899	01/02/2019	275.39	04/02/2019	272.85	07/08/2019	269.38	10/01/2019	258.12
900	01/02/2019	268.79	04/02/2019	269.99	07/08/2019	270.78	10/01/2019	269.79
902	01/02/2019	258.24	04/02/2019	258.10	07/08/2019	257.57	10/01/2019	256.26
903	01/02/2019	258.49	04/02/2019	258.69	07/08/2019	258.32	10/01/2019	256.99
910	01/02/2019	253.87	04/01/2019	252.66	07/10/2019	251.08	10/01/2019	247.31
921	01/04/2019	252.67	04/02/2019	251.27	07/10/2019	249.41	10/02/2019	244.86
922	01/04/2019	251.78	04/02/2019	250.30	07/10/2019	241.43	10/02/2019	235.56
923	01/04/2019	243.95	04/03/2019	241.24	07/10/2019	238.39	10/02/2019	232.56
924	01/04/2019	253.30	04/02/2019	252.44	07/10/2019	251.67	10/02/2019	251.91
928	01/04/2019	212.18	04/01/2019	213.15	07/10/2019	211.58	10/02/2019	204.93
929	01/04/2019	212.17	04/01/2019	212.81	07/10/2019	211.21	10/02/2019	204.23
930	01/04/2019	219.23	04/01/2019	219.39	07/10/2019	217.27	10/02/2019	210.24
931	01/04/2019	218.20	04/01/2019	218.38	07/10/2019	216.35	10/02/2019	209.27
932	01/04/2019	255.02	04/01/2019	253.70	07/10/2019	251.34	10/02/2019	247.25
934	01/02/2019	239.81	04/03/2019	239.01	07/09/2019	239.35	10/02/2019	238.58
935	01/04/2019	247.40	04/01/2019	244.67	07/10/2019	238.91	10/02/2019	227.87
936	01/04/2019	245.49	04/01/2019	242.87	07/10/2019	237.36	10/02/2019	226.59
941	01/04/2019	210.28	04/01/2019	210.12	07/10/2019	208.89	10/01/2019	200.92

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Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
943	01/02/2019	251.21	04/01/2019	250.08	07/08/2019	247.68	10/01/2019	243.09
944	01/02/2019	252.68	04/05/2019	251.52	07/08/2019	249.56	10/01/2019	244.83
946	01/03/2019	226.52	04/01/2019	226.69	07/10/2019	226.92	10/04/2019	227.05
947	01/03/2019	230.14	04/01/2019	230.20	07/10/2019	230.36	10/04/2019	229.64
948	01/03/2019	228.88	04/01/2019	228.96	07/10/2019	229.13	10/04/2019	228.38
949	01/03/2019	233.56	04/01/2019	233.37	07/10/2019	233.33	10/04/2019	232.46
952	01/03/2019	224.62	04/02/2019	221.33	07/10/2019	221.04	10/02/2019	217.21
953	01/04/2019	206.11	04/01/2019	205.64	07/10/2019	204.86	10/01/2019	196.37
954	01/04/2019	244.78	04/01/2019	243.55	07/10/2019	241.00	10/02/2019	236.14
955	01/04/2019	251.98	04/01/2019	250.70	07/10/2019	249.00	10/02/2019	244.33
956	01/04/2019	250.94	04/01/2019	249.45	07/10/2019	247.28	10/02/2019	242.08
957	01/04/2019	252.22	04/01/2019	251.38	07/10/2019	250.16	10/02/2019	246.81
958	01/02/2019	FLOW	04/01/2019	265.10	07/08/2019	263.54	10/01/2019	260.06
959	01/03/2019	225.70	04/03/2019	222.70	07/09/2019	222.14	10/02/2019	215.92
960	01/03/2019	236.48	04/03/2019	233.87	07/09/2019	233.02	10/02/2019	228.28
962	01/02/2019	244.08	04/01/2019	242.19	07/10/2019	239.82	10/01/2019	235.28
963	01/02/2019	260.68	04/01/2019	259.71	07/08/2019	258.63	10/01/2019	257.23
964	01/02/2019	260.40	04/01/2019	259.58	07/08/2019	258.67	10/01/2019	257.28
965	01/04/2019	235.36	04/01/2019	232.85	07/10/2019	230.33	10/02/2019	224.56
966	01/04/2019	235.55	04/01/2019	232.97	07/10/2019	230.51	10/02/2019	224.73
968	01/02/2019	221.78	04/01/2019	221.19	07/08/2019	218.85	10/02/2019	211.04
976	01/02/2019	229.18	04/01/2019	228.48	07/09/2019	227.21	10/01/2019	225.26
980	01/04/2019	248.89	04/03/2019	248.02	07/10/2019	247.74	10/04/2019	247.21
983	01/02/2019	259.70	04/02/2019	256.99	07/08/2019	253.52	10/01/2019	247.89
984	01/02/2019	256.18	04/02/2019	254.38	07/08/2019	251.95	10/01/2019	247.17
985	01/02/2019	270.13	04/02/2019	268.13	07/08/2019	264.76	10/01/2019	255.46
986	01/02/2019	267.58	04/02/2019	263.73	07/08/2019	258.97	10/01/2019	251.83
987	01/02/2019	258.44	04/02/2019	257.22	07/08/2019	256.06	10/01/2019	254.80
988	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	258.95	10/01/2019	255.78
989	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	FLOW	10/01/2019	256.31
990	01/02/2019	257.50	04/02/2019	256.78	07/08/2019	255.91	10/01/2019	254.76
991	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	259.23	10/01/2019	255.45
992	01/02/2019	FLOW	04/02/2019	FLOW	07/08/2019	FLOW	10/01/2019	255.84
993	01/07/2019	235.86	04/02/2019	235.26	07/10/2019	234.78	10/03/2019	233.26
994	01/07/2019	250.31	04/02/2019	249.79	07/10/2019	249.58	10/03/2019	249.09
997	01/02/2019	251.43	04/01/2019	250.23	07/10/2019	248.69	10/02/2019	247.28
998	01/02/2019	249.76	04/01/2019	248.83	07/10/2019	248.12	10/02/2019	246.24
999	01/02/2019	247.87	04/01/2019	246.87	07/10/2019	246.45	10/02/2019	244.28

Key:
FLOW: Flowing Water
NA: Not Accessible
All Elevations are in feet above mean sea level

IBM East Fishkill

B/384 Area Supplemental Groundwater Elevation Data: January through December 2019

	Second Quarter									
Well	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**	**Date**	**Elev.**
008	NA	NA	02/14/2019	251.61	NA	NA	NA	NA	NA	NA
010	NA	NA	02/14/2019	247.20	NA	NA	NA	NA	NA	NA
011	02/06/2019	254.81	02/14/2019	254.89	02/25/2019	255.02	03/04/2019	254.87	03/15/2019	254.73
013	02/06/2019	241.99	02/14/2019	241.78	02/25/2019	241.77	03/04/2019	241.55	03/15/2019	240.96
015	02/06/2019	250.21	02/14/2019	250.26	02/25/2019	250.44	03/04/2019	247.21	03/15/2019	247.03
016	NA	NA	02/14/2019	237.67	NA	NA	NA	NA	NA	NA
017	NA	NA	02/14/2019	246.06	NA	NA	NA	NA	NA	NA
019	NA	NA	02/14/2019	247.11	NA	NA	NA	NA	NA	NA
096	NA	NA	02/14/2019	249.36	NA	NA	NA	NA	NA	NA
103	02/06/2019	249.17	02/14/2019	249.12	02/25/2019	249.42	03/04/2019	249.36	03/15/2019	249.37
104	02/06/2019	241.69	02/14/2019	241.62	02/25/2019	241.88	03/04/2019	241.64	03/15/2019	241.25
700	NA	NA	02/14/2019	241.92	NA	NA	NA	NA	NA	NA
701	NA	NA	02/14/2019	241.43	NA	NA	NA	NA	NA	NA
702	NA	NA	02/14/2019	246.00	NA	NA	NA	NA	NA	NA
703	NA	NA	02/14/2019	246.32	NA	NA	NA	NA	NA	NA
705	02/06/2019	250.37	02/14/2019	250.73	02/25/2019	250.94	03/04/2019	250.74	03/15/2019	250.41
706	02/06/2019	245.77	02/14/2019	245.64	02/25/2019	245.82	03/04/2019	245.58	03/15/2019	245.25
707	02/06/2019	247.76	02/14/2019	247.81	02/25/2019	248.05	03/04/2019	247.80	03/15/2019	247.60
708	02/06/2019	246.30	02/14/2019	246.17	02/25/2019	246.30	03/04/2019	246.08	03/15/2019	245.73
709	02/06/2019	251.45	02/14/2019	250.84	02/25/2019	251.01	03/04/2019	251.12	03/15/2019	250.48
710	02/06/2019	250.76	02/14/2019	250.63	02/25/2019	250.70	03/04/2019	250.50	03/15/2019	250.13
712	NA	NA	02/14/2019	257.87	NA	NA	NA	NA	NA	NA
714	NA	NA	02/14/2019	247.08	NA	NA	NA	NA	NA	NA
744	NA	NA	02/14/2019	247.68	NA	NA	NA	NA	NA	NA
745	NA	NA	02/14/2019	247.53	NA	NA	NA	NA	NA	NA
746	NA	NA	02/14/2019	245.33	NA	NA	NA	NA	NA	NA
748	NA	NA	02/14/2019	250.72	NA	NA	NA	NA	NA	NA
758	02/06/2019	254.03	02/14/2019	254.07	02/25/2019	254.18	03/04/2019	254.13	03/15/2019	254.09
759	02/06/2019	248.56	02/14/2019	248.44	02/25/2019	248.59	03/04/2019	248.37	03/15/2019	248.02
760	02/06/2019	248.47	02/14/2019	248.37	02/25/2019	248.35	03/04/2019	248.10	03/15/2019	247.49
761	NA	NA	02/14/2019	253.06	NA	NA	NA	NA	NA	NA
816	02/06/2019	250.12	02/14/2019	249.98	02/25/2019	250.16	03/04/2019	249.28	03/15/2019	248.63
818	02/06/2019	250.48	02/14/2019	250.55	02/25/2019	250.67	03/04/2019	248.16	03/15/2019	247.68
819	02/06/2019	252.24	02/14/2019	252.21	02/25/2019	252.26	03/04/2019	252.19	03/15/2019	252.08
820	02/06/2019	NM	02/14/2019	251.13	02/25/2019	251.22	03/04/2019	250.86	03/15/2019	250.70
821	02/06/2019	251.17	02/14/2019	251.14	02/25/2019	251.30	03/04/2019	250.25	03/15/2019	249.83
822	02/06/2019	250.12	02/14/2019	250.20	02/25/2019	259.29	03/04/2019	247.72	03/15/2019	247.47
823	02/06/2019	249.26	02/14/2019	249.23	02/25/2019	249.56	03/04/2019	248.45	03/15/2019	248.04
824	02/06/2019	249.99	02/14/2019	250.03	02/25/2019	250.18	03/04/2019	249.09	03/15/2019	248.72
826	02/06/2019	260.46	02/14/2019	260.28	02/25/2019	260.83	03/04/2019	261.31	03/15/2019	260.48
827	02/06/2019	254.63	02/14/2019	265.78	02/25/2019	254.76	03/04/2019	254.66	03/15/2019	254.51
864	02/06/2019	250.51	02/14/2019	250.48	02/25/2019	250.58	03/04/2019	249.88	03/15/2019	249.52
980	02/06/2019	248.63	02/14/2019	248.61	02/25/2019	248.74	03/04/2019	248.56	03/15/2019	248.31
997	NA	NA	02/14/2019	250.39	NA	NA	NA	NA	NA	NA
998	NA	NA	02/14/2019	249.24	NA	NA	NA	NA	NA	NA
999	NA	NA	02/14/2019	247.52	NA	NA	NA	NA	NA	NA

Key:
FLOW: Flowing Water
N/A: Not Applicable (no elevation measured)
All Elevations are in feet above mean sea level

4/13/2020

B/322 and B/323 Area Supplemental Groundwater Elevation Data: January through December 2019

	Second Quarter		Third Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**
027	06/03/2019	226.99	07/29/2019	223.81
028	06/03/2019	219.50	07/29/2019	216.69
060	06/03/2019	228.68	07/29/2019	227.68
122	06/03/2019	232.99	07/29/2019	227.10
150	06/03/2019	225.93	07/29/2019	221.79
156	06/03/2019	227.95	07/29/2019	227.18
157	06/03/2019	224.59	07/29/2019	224.49
204	06/03/2019	245.67	07/29/2019	244.97
224	06/03/2019	241.36	07/29/2019	240.96
227	06/03/2019	224.86	07/29/2019	224.22
577	06/03/2019	221.19	07/29/2019	218.12
579	06/03/2019	221.21	07/29/2019	220.18
580	06/03/2019	244.95	07/29/2019	244.47
611	06/03/2019	216.69	07/29/2019	217.48
612	06/03/2019	235.23	07/29/2019	234.81
613	06/03/2019	233.28	07/29/2019	233.02
617	06/03/2019	233.45	07/29/2019	233.16
618	06/03/2019	231.13	07/29/2019	230.44
621	06/03/2019	245.47	07/29/2019	244.68
624	06/03/2019	216.78	07/29/2019	217.18
627	06/03/2019	246.60	07/29/2019	246.24
735	06/03/2019	245.34	07/29/2019	244.68
737	06/03/2019	219.90	07/29/2019	219.50
739	06/03/2019	221.29	07/29/2019	219.60
740	06/03/2019	241.49	07/29/2019	241.04
742	06/03/2019	219.23	07/29/2019	218.48
743	06/03/2019	248.06	07/29/2019	247.59
751	06/03/2019	241.93	07/29/2019	241.81
752	06/03/2019	245.27	07/29/2019	245.17
754	06/03/2019	236.59	07/29/2019	236.36
755	06/03/2019	232.31	07/29/2019	231.34
766	06/03/2019	241.31	07/29/2019	241.03
767	NA	NA	07/29/2019	240.62
768	06/03/2019	240.06	07/29/2019	239.41
769	06/03/2019	239.93	07/29/2019	239.02
770	06/03/2019	244.25	07/29/2019	240.62
771	06/03/2019	239.73	07/29/2019	238.98
772	06/03/2019	233.60	07/29/2019	233.55
773	06/03/2019	234.66	07/29/2019	234.28
774	06/03/2019	232.61	07/29/2019	232.12
775	06/03/2019	230.70	07/29/2019	230.43
779	06/03/2019	225.04	07/29/2019	220.21
783	06/03/2019	227.73	07/29/2019	227.00
789	06/03/2019	232.54	07/29/2019	231.86
791	06/03/2019	230.25	07/29/2019	230.07
792	06/03/2019	232.71	07/29/2019	232.41
793	06/03/2019	230.95	07/29/2019	230.72
799	06/03/2019	228.63	07/29/2019	227.70
947	06/03/2019	230.50	07/29/2019	230.30

Key:
FLOW: Flowing Water
NA: Not Accessible
All Elevations are in feet above mean sea level

B/322 and B/323 Area Supplemental Groundwater Elevation Data: January through December 2019

	Second Quarter		Third Quarter	
Well	**Date**	**Elev.**	**Date**	**Elev.**
949	06/03/2019	233.61	07/29/2019	233.26
952	06/03/2019	221.96	07/29/2019	221.19
959	06/03/2019	223.67	07/29/2019	223.65
960	06/03/2019	235.03	07/29/2019	233.96

Key:
FLOW: Flowing Water
NA: Not Accessible
All Elevations are in feet above mean sea level

Appendix E

2019 Sampling Field Log Database (on CD): SAMP19a.xlsx
2019 Field Parameters Database (on CD): FIELD19a.xlsx
Table of Meteorological Data (January – December 2019)

Sampling Field Log Database

WELL	BOOK NO	PAGE NO	DATE	SAMPLE ID	QC_ORG	QC_373_KIT	EQUIP ID	DTW BP	DTW AP	START PURGE	END PURGE	RATE	VOL PURGE	SAMPLER ID	GW VOA	PW VOA	F METALS	U METALS	FLUORIDE	SPECIAL	PUMPED DRY	PID	COMMENTS
007	434	164021	4/8/2019	GW190408007			BP/LINE	8.78	@PUMF	0958	1020	1.8M/G	12.0	DFB	3	0	1	1	0	0	Y	NA	
010	434	164027	4/9/2019	GW190409010			B/B	26.74	28.89	0849	0911	NA	13.0	DFB	3	0	1	1	0	0	N	NA	
010	437	164328	10/14/2019	GW191014010			B/B	34.73	39.80	1303	1322	NA	9.2	DFB	3	0	0	0	0	0	N	NA	
012	437	164369	11/12/2019	GW191112012			NDSP/B	35.59	70.11	1214	1312	2GPM	116.0	DFB	3	0	0	0	0	1	N	NA	1,4-DIOXANE
015	434	164076	4/23/2019	GW190423015		NR190423310	BP/LINE	16.04	16.97	0948	0957	1.6M/G	5.9	DFB	6	0	2	2	2	0	N	NA	QC DUPLICATE 310
015	437	164339	10/17/2019	GW191017015	NR191017310		BP/LINE	17.13	20.27	1046	1056	1.9M/G	5.4	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 310
016	435	164150	4/25/2019	GW190425016			2"SP/LINE	19.12	29.75	0921	0932	6GPM	66.0	JAR	3	0	0	0	0	0	N	NA	
016	437	164371	11/13/2019	GW191113016			2"SP/LINE	21.97	27.09	0939	0958	3GPM	57.0	DFB	3	0	0	0	0	0	N	NA	
032B	433	163988	1/9/2019	GW190109032B	NR190109310		SP/LINE	3.56	9.81	1044	1100	7GPM	110.0	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 310
032B	434	164071	4/22/2019	GW190422032B			SP/LINE	3.97	9.87	0935	0945	10GPM	90.0	DFB	3	0	0	0	0	0	N	NA	
032B	435	164195	7/2/2019	GW190702032B			SP/LINE	4.60	10.16	0932	0943	9.5GPM	90.0	JAR	3	0	0	0	0	0	N	NA	
032B	437	164338	10/17/2019	GW191017032B			SP/TAP	4.47	9.91	0924	0937	7GPM	90.0	DFB	3	0	0	0	0	1	N	NA	1,4-DIOXANE
046	433	163985	1/9/2019	GW190109046			PP/B	3.86	4.06	0812	0832	1.5GPM	30.0	DFB	3	0	0	0	0	0	N	NA	
046	434	164069	4/22/2019	GW190422046			PP/B	5.69	5.88	0819	0832	2GPM	26.0	DFB	3	0	0	0	0	0	N	NA	
046	432	163898	7/2/2019	GW190702046			PP/B	9.62	9.89	0831	0841	2GPM	20.0	JAR	3	0	0	0	0	0	N	NA	
046	437	164324	10/14/2019	GW191014046			PP/B	17.32	17.36	0855	0901	1.5M/G	3.7	DFB	3	0	0	0	0	0	N	NA	
048	432	163885	1/9/2019	GW190109048			2"SP/LINE	5.06	5.59	1050	1111	1GPM	21.0	JAR	3	0	0	0	0	0	N	NA	
048	435	164143	4/24/2019	GW190424048			2"SP/LINE	5.42	13.15	0855	0915	1GPM	20.0	JAR	3	0	0	0	0	0	N	NA	
048	432	163894	7/1/2019	GW190701048			2"SP/LINE	5.92	7.93	1038	1058	1GPM	20.0	JAR	3	0	0	0	0	0	N	NA	
048	436	164282	10/14/2019	GW191014048			2"SP/LINE	6.30	9.30	0959	1018	1GPM	19.0	JAR	3	0	0	0	0	0	N	NA	
053	435	164158	5/1/2019	GW190501053			B/B	12.55	12.98	1043	1056	NA	13.0	JAR	3	0	0	0	0	0	N	NA	
053	436	164297	10/16/2019	GW191016053			B/B	19.54	19.66	1217	1227	NA	9.5	JAR	3	0	0	0	0	0	N	NA	
054	434	164086	4/25/2019	GW190425054			PP/B	11.59	13.72	1232	1249	2GPM	33.0	DFB	3	0	0	0	0	0	N	NA	
054	437	164326	10/14/2019	GW191014054			PP/B	16.94	18.95	1003	1026	1GPM	23.0	DFB	3	0	0	0	0	0	N	NA	
059	434	164090	4/29/2019	GW190429059			2"SP/LINE	4.64	5.39	0850	0903	2GPM	25.0	DFB	3	0	0	0	0	0	N	NA	
060	434	164091	4/29/2019	GW190429060			2"SP/LINE	6.94	13.63	0912	0938	3GPM	77.0	DFB	3	0	0	0	0	0	N	NA	
061	434	164078	4/23/2019	GW190423061			2"SP/LINE	8.34	8.74	1206	1214	5GPM	41.0	DFB	3	0	0	0	0	0	N	NA	
064	432	163879	1/8/2019	GW190108064			2"SP/LINE	3.43	5.09	0744	0750	5GPM	30.0	JAR	3	0	0	0	0	0	N	NA	
064	435	164101	4/4/2019	GW190404064			2"SP/LINE	3.84	5.60	0758	0804	5GPM	30.0	JAR	3	0	0	0	0	0	N	NA	
064	432	163890	7/1/2019	GW190701064			2"SP/LINE	4.23	6.20	0804	0809	6.20	30.0	JAR	3	0	0	0	0	0	N	NA	
064	437	164312	10/8/2019	GW191008064			2"SP/LINE	8.42	9.07	0833	0843	2GPM	19.0	DFB	3	0	0	0	0	0	N	NA	
065	432	163880	1/8/2019	GW190108065			2"SP/LINE	2.93	12.72	0758	0814	5GPM	80.0	JAR	3	0	0	0	0	0	N	NA	
065	435	164102	4/4/2019	GW190404065			2"SP/LINE	3.73	13.72	0808	0824	5GPM	80.0	JAR	3	0	0	0	0	0	N	NA	
065	432	163891	7/1/2019	GW190701065	NR190701310		2"SP/LINE	3.80	16.27	0814	0827	6GPM	78.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 310
065	437	164313	10/8/2019	GW191008065			2"SP/LINE	8.03	13.31	0849	0912	3GPM	69.0	DFB	3	0	0	0	0	0	N	NA	
066	432	163889	1/9/2019	GW190109066			2"SP/LINE	3.83	6.20	0933	0938	3GPM	15.0	JAR	3	0	0	0	0	0	N	NA	
066	435	164111	4/5/2019	GW190405066			2"SP/LINE	4.94	9.75	1003	1009	2GPM	12.0	JAR	3	0	0	0	0	0	N	NA	
066	432	163896	7/1/2019	GW190701066			2"SP/LINE	4.80	7.67	1154	1207	1GPM	13.0	JAR	3	0	0	0	0	0	N	NA	
066	437	164315	10/8/2019	GW191008066			2"SP/LINE	6.47	8.14	0958	1003	2GPM	9.0	DFB	3	0	0	0	0	0	N	NA	
067	433	163984	1/8/2019	GW190108067			B/B	6.61	6.98	1330	1336	NA	3.9	DFB	3	0	0	0	0	0	N	NA	
067	435	164112	4/5/2019	GW190405067			B/B	7.23	11.67	1020	1027	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
067	432	163900	7/2/2019	GW190702067			B/B	7.30	7.57	0856	0859	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
067	437	164316	10/8/2019	GW191008067			B/B	7.83	8.18	1016	1020	NA	3.3	DFB	3	0	0	0	0	0	N	NA	
068	432	163884	1/8/2019	GW190108068			2"SP/LINE	1.82	8.14	1214	1226	4GPM	48.0	JAR	3	0	0	0	0	0	N	NA	
068	435	164151	4/25/2019	GW190425068			2"SP/LINE	2.74	9.80	1015	1035	2GPM	40.0	JAR	3	0	1	1	0	0	N	NA	
068	432	163897	7/1/2019	GW190701068	NR190701311		2"SP/LINE	3.36	10.12	1247	1257	4GPM	40.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 311
068	436	164290	10/15/2019	GW191015068			2"SP/LINE	4.04	7.00	1250	1300	4GPM	40.0	JAR	3	0	0	0	0	0	N	NA	
069	434	164018	4/5/2019	GW190405069			BP/LINE	2.98	3.62	1127	1201	1.4M/G	24.0	DFB	3	0	0	0	0	0	N	NA	
085	434	164039	4/11/2019	GW190411085			2"SP/LINE	23.34	85.04	0836	0900	2GPM	48.0	DFB	3	0	0	0	0	0	N	NA	
085	438	164401	10/17/2019	GW191017085			2"SP/LINE	27.50	84.04	1212	1228	3GPM	48.0	JAR	3	0	0	0	0	1	N	NA	1,4-DIOXANE
087	434	164040	4/11/2019	GW190411087			2"SP/LINE	7.98	29.82	0929	0954	2GPM	49.0	DFB	3	0	0	0	0	0	N	NA	
087	437	164366	11/11/2019	GW191111087			MM/LINE	8.67	27.18	1218	1242	2GPM	48.0	DFB	3	0	0	0	0	0	N	NA	
103	434	164079	4/24/2019	GW190424103			B/B	8.73	14.28	0856	0900	NA	1.0	DFB	3	0	0	0	0	0	Y	NA	
103	437	164332	10/16/2019	GW191016103			B/B	9.32	14.21	1126	1130	NA	1.1	DFB	3	0	0	0	0	0	Y	NA	

Sampling Field Log Database

WELL	BOOK NO	PAGE NO	DATE	SAMPLE ID	QC_ORG	QC_373_KIT	EQUIP ID	DTW BP	DTW AP	START PURGE	END PURGE	RATE	VOL PURGE	SAMPLER ID	GW VOA	PW VOA	F METALS	U METALS	FLUORIDE	SPECIAL	PUMPED DRY	PID	COMMENTS
104	434	164080	4/24/2019	GW190424104			PP/B	17.22	DRY	0823	0849	7M/G	3.7	DFB	3	0	1	1	0	0	Y	NA	
104	437	164333	10/16/2019	GW191016104			PP/B	20.48	DRY	1034	1055	7.7M/G	2.7	DFB	3	0	0	0	0	0	Y	NA	
105	435	164152	4/25/2019	GW190425105			2"SP/LINE	20.00	DRY	1117	1132	1GPM	15.0	JAR	3	0	0	0	0	0	Y	NA	
105	437	164342	10/18/2019	GW191018105			2"SP/LINE	22.88	@PUMF	0949	0957	2GPM	16.0	DFB	3	0	0	0	0	0	Y	NA	
106	434	164050	4/16/2019	GW190416106			BP/LINE	2.39	@PUMF	0808	0859	2.1M/G	24.0	DFB	3	0	0	0	0	0	N	NA	
109	434	164041	4/11/2019	GW190411109			2"SP/LINE	20.11	152.95	1027	1101	2GPM	68.0	DFB	3	0	0	0	0	0	N	NA	
109	438	164404	10/17/2019	GW191017109			2"SP/LINE	22.42	106.81	1243	1312	2.4GPM	69.6	JAR	3	0	0	0	0	0	N	NA	
113	435	164144	4/24/2019	GW190424113			2"SP/LINE	-2.00	61.32	1010	1105	1GPM	55.0	JAR	3	0	0	0	0	0	N	NA	
113	438	164406	10/18/2019	GW191018113			2"SP/LINE	4.07	88.30	1132	1158	2GPM	52.0	JAR	3	0	0	0	0	0	N	NA	
118	434	164063	4/18/2019	GW190418118			BP/LINE	34.03	67.28	1117	1305	1.9M/G	57.0	DFB	3	0	0	0	0	0	N	NA	
143	434	164020	4/8/2019	GW190408143			BP/LINE	46.28	46.64	0827	0944	1.6M/G	48.0	DFB	3	0	0	0	0	0	N	NA	
143	434	164051	4/16/2019	GW190416143			BP/LINE	46.79	47.66	0915	1037	1.7M/G	48.0	DFB	3	0	0	0	0	0	N	NA	
146	435	164129	4/18/2019	GW190418146			2"SP/LINE	29.48	51.74	1143	1158	4GPM	60.0	JAR	3	0	0	0	0	0	N	NA	
151	435	164191	6/10/2019	GW190610151			PP/B	9.63	11.24	1217	1240	5M/G	4.5	JAR	3	0	0	0	0	0	N	NA	
151	437	164319	10/9/2019	GW191009151			PP/B	10.88	11.82	0830	0851	5.8M/G	3.6	DFB	3	0	0	0	0	0	N	NA	
156	435	164128	4/18/2019	GW190418156			2"SP/LINE	14.43	@PUMF	1114	1128	1GPM	14.0	JAR	3	0	0	0	0	0	Y	NA	
156	436	164294	10/16/2019	GW191016156			2"SP/LINE	19.67	DRY	1022	1035	1GPM	13.0	JAR	3	0	0	0	0	0	Y	NA	
167	434	164016	4/5/2019	GW190405167	NR190405311		BP/LINE	3.28	140.16	0836	0929	1.7M/G	31.0	DFB	6	0	0	0	0	0	Y	NA	QC DUPLICATE 311
167	437	164365	11/11/2019	GW191111167			BP/LINE	5.91	138.62	1026	1121	1.8M/G	30.0	DFB	3	0	0	0	0	0	Y	NA	
178	434	164046	4/15/2019	GW190415178			B/B	16.46	23.07	0940	0951	NA	4.7	DFB	3	0	0	0	0	0	N	NA	
181	435	164149	4/25/2019	GW190425181			2"SP/LINE	1.57	DRY	0850	0908	1GPM	18.0	JAR	3	0	0	0	0	0	Y	NA	
181	438	164403	10/18/2019	GW191018181			2"SP/LINE	2.79	@PUMF	0955	1012	1GPM	17.0	JAR	3	0	0	0	0	0	Y	NA	
204	434	164054	4/17/2019	GW190417204			B/B	7.34	10.59	0805	0809	NA	2.7	DFB	3	0	0	1	1	0	N	NA	
210	433	163981	1/8/2019	PW190108210			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
210	433	163990	2/4/2019	PW190204210			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
210	433	163993	3/1/2019	PW190301210			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
210	434	164010	4/4/2019	PW190404210			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
210	434	164088	4/26/2019	PW190426210			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
210	436	164211	7/5/2019	PW190705210			SP/TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210	436	164258	10/2/2019	PW191002210			SP/TAP	NA	NA	NA	NA	NA	0.3	CES	3	0	0	0	0	0	N	NA	
210A	435	164168	5/1/2019	PW190501210A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210A	435	164178	6/4/2019	PW190604210A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210A	436	164212	7/5/2019	PW190705210A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210A	436	164226	8/2/2019	PW190802210A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210A	436	164241	9/3/2019	PW190903210A			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
210A	436	164257	10/2/2019	PW191002210A			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
210A	437	164352	11/8/2019	PW191108210A			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
210A	437	164384	12/6/2019	PW191206210A			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
210E	437	164383	12/6/2019	PW191206210E			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
210F	434	164012	4/4/2019	PW190404210F			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
210F	435	164170	5/1/2019	PW190501210F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210F	435	164176	6/4/2019	PW190604210F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210F	436	164214	7/5/2019	PW190705210F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210F	436	164224	8/2/2019	PW190802210F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
210F	436	164239	9/3/2019	PW190903210F			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
210F	436	164255	10/2/2019	PW191002210F			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
210F	437	164350	11/8/2019	PW191108210F			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
210F	437	164382	12/6/2019	PW191206210F			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
220	433	163983	1/8/2019	PW190108220			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	ND/ND	
220	433	163991	2/4/2019	PW190204220			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	ND/ND	
220	433	163995	3/1/2019	PW190301220			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	ND/ND	
220	434	164001	4/4/2019	PW190404220			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
220	434	164089	4/26/2019	PW190426220			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
220	436	164206	7/5/2019	PW190705220			SP/TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	

Sampling Field Log Database

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220	436	164276	10/3/2019	PW191003220			SP/TAP	NA	NA	NA	NA	NA	0.3	CES	3	0	0	0	0	0	N	NA	
220A	434	164002	4/4/2019	PW190404220A			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220A	434	164096	5/1/2019	PW190501220A			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220A	435	164175	6/4/2019	PW190604220A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220A	436	164207	7/5/2019	PW190705220A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220A	436	164218	8/2/2019	PW190802220A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220A	436	164233	9/3/2019	PW190903220A			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
220A	436	164274	10/3/2019	PW191003220A			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
220A	437	164356	11/8/2019	PW191108220A			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220A	438	164419	12/3/2019	PW191203220A			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
220C	434	164097	5/1/2019	PW190501220C			TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
220C	435	164174	6/4/2019	PW190604220C			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220C	436	164208	7/5/2019	PW190705220C			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220C	436	164217	8/2/2019	PW190802220C	NR190802220C		TAP	NA	NA	NA	NA	NA	4.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 220C
220C	436	164232	9/3/2019	PW190903220C			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
220C	436	164271	10/3/2019	PW91003220CS			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	1	N	NA	
220C	437	164355	11/8/2019	PW191108220C			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
220C	438	164420	12/3/2019	PW191203220C			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
220E	436	164267	10/3/2019	PW91003220ES			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
220E	438	164421	12/3/2019	PW191203220E			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
220I	434	164003	4/4/2019	PW190404220I			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220I	434	164099	5/1/2019	PW190501220I			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220I	435	164173	6/4/2019	PW190604220I			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220I	436	164209	7/5/2019	PW190705220I			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220I	436	164216	8/2/2019	PW190802220I			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220I	436	164231	9/3/2019	PW190903220I			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
220I	436	164263	10/3/2019	PW91003220IS			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
220I	437	164354	11/8/2019	PW191108220I			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220I	438	164422	12/3/2019	PW191203220I			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
220J	434	164004	4/4/2019	PW190404220J			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220J	434	164098	5/1/2019	PW190501220J			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220J	435	164172	6/4/2019	PW190604220J			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220J	436	164210	7/5/2019	PW190705220J			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220J	436	164215	8/2/2019	PW190802220J			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
220J	436	164230	9/3/2019	PW190903220J			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
220J	436	164260	10/3/2019	PW91003220JS			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
220J	437	164353	11/8/2019	PW191108220J			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
220J	438	164423	12/3/2019	PW191203220J			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
299	434		4/4/2019	FB190404299										DFB	3	0	0	0	0	0	N	NA	FIELD BLANK
299	436		7/5/2019	FB190705299										JAR	3	0	0	0	0	0	N	NA	FIELD BLANK
299	436		10/2/2019	FB191002299										CES	3	0	0	0	0	0	N	NA	FIELD BLANK
299	436		10/3/2019	FB191003299										CES	3	0	0	0	0	0	N	NA	FIELD BLANK
300	433		1/8/2019	ETB901080109										DFB	3	0	0	0	0	0			TRIP BLANK
300	433		2/4/2019	ETB902040204										DFB	3	0	0	0	0	0			TRIP BLANK
300	433		3/1/2019	ETB903010301										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/4/2019	ETB904040404										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/5/2019	ETB904050405										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/8/2019	ETB904080409										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/10/2019	ETB904100411										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/15/2019	ETB904150416										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/17/2019	ETB904170418										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/19/2019	ETB904190419										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/22/2019	ETB904220423										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/24/2019	ETB904240425										DFB	3	0	0	0	0	0			TRIP BLANK

Sampling Field Log Database

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300	434		4/26/2019	ETB904260426										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		4/29/2019	ETB904290430										DFB	3	0	0	0	0	0			TRIP BLANK
300	434		5/1/2019	ETB905010502										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/4/2019	ETB910041004										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/7/2019	ETB910071008										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/9/2019	ETB910091009										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/14/2019	ETB910141015										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/16/2019	ETB910161017										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/18/2019	EBT910181018										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		10/21/2019	ETB910211022										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		11/8/2019	ETB911081108										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		11/11/2019	ETB911111112										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		11/13/2019	ETB911131114										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		11/15/2019	ETB911151115										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		11/18/2019	ETB911181119										DFB	3	0	0	0	0	0			TRIP BLANK
300	438		12/3/2019	ETB912031203										DFB	3	0	0	0	0	0			TRIP BLANK
300	437		12/6/2019	ETB912061206										DFB	3	0	0	0	0	0			TRIP BLANK
301	434		5/1/2019	TB190501301										CES	3	0	0	0	0	0			TRIP BLANK
301	435		6/4/2019	TB190604301										CES	3	0	0	0	0	0			TRIP BLANK
301	435		7/5/2019	TB190705301										JAR	3	0	0	0	0	0			TRIP BLANK
301	436		8/2/2019	TB190802301										JAR	3	0	0	0	0	0			TRIP BLANK
301	436		9/3/2019	TB190903301										JAR	3	0	0	0	0	0			TRIP BLANK
301	436		10/2/2019	ETE910021002										CES	3	0	0	0	0	0	N	NA	TRIP BLANK
301	436		10/3/2019	ETE910031003										CES	3	0	0	0	0	0	N	NA	TRIP BLANK
301	437		11/8/2019	TB191108301										CES	3	0	0	0	0	0			TRIP BLANK
301	438		12/3/2019	TB191203301										DFB	3	0	0	0	0	0			TRIP BLANK
302	432		1/8/2019	ETR901080109										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/4/2019	ETR904040405										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/15/2019	ETR904150416										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/17/2019	ETR904170418										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/19/2019	ETR904190419										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/22/2019	ETR904220423										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/24/2019	ETR904240425										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		4/29/2019	ETR904290430										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		5/1/2019	ETR905010502										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		6/4/2019	ETR906040605										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		6/10/2019	ETR906100611										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		6/20/2019	ETR906200620										JAR	3	0	0	0	0	0			TRIP BLANK
302	432		7/1/2019	ETR907010702										JAR	3	0	0	0	0	0			TRIP BLANK
302	435		7/5/2019	ETR907050705										JAR	3	0	0	0	0	0			TRIP BLANK
302	436		8/2/2019	ETR908020802										JAR	3	0	0	0	0	0			TRIP BLANK
302	436		9/3/2019	ETR909030903										JAR	3	0	0	0	0	0			TRIP BLANK
302	436		10/3/2019	ETC910031003										CES	3	0	0	0	0	0	N	NA	TRIP BLANK
302	436		10/4/2019	ETR910041004										JAR	3	0	0	0	0	0			TRIP BLANK
302	436		10/14/2019	ETR910141015										JAR	3	0	0	0	0	0			TRIP BLANK
302	436		10/16/2019	ETR910161017										JAR	3	0	0	0	0	0			TRIP BLANK
302	438		10/18/2019	ETR910181018										JAR	3	0	0	0	0	0			TRIP BLANK
302	438		10/21/2019	ETR910211022										JAR	3	0	0	0	0	0			TRIP BLANK
303	432		1/8/2019	EB190108303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	433		1/9/2019	EB190109303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/4/2019	EB190404303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/5/2019	EB190405303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/8/2019	EB190408303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/9/2019	EB190409303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID

Sampling Field Log Database

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303	434		4/10/2019	EB190410303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/11/2019	EB190411303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/15/2019	EB190415303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/16/2019	EB190416303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/17/2019	EB190417303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/18/2019	EB190418303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/19/2019	EB190419303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/22/2019	EB190422303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/23/2019	EB190423303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/24/2019	EB190424303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/25/2019	EB190425303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/26/2019	EB190426303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	434		4/29/2019	EB190429303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		4/30/2019	EB190430303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		5/1/2019	EB190501303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		5/2/2019	EB190502303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		6/5/2019	EB190605303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		6/10/2019	EB190610303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		6/11/2019	EB190611303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	435		6/20/2019	EB190620303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	432		7/1/2019	EB190701303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	432		7/2/2019	EB190702303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/4/2019	EB191004303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/7/2019	EB191007303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/8/2019	EB191008303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/9/2019	EB191009303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	436		10/14/2019	EB191014303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/15/2019	EB191015303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	436		10/16/2019	EB191016303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/17/2019	EB191017303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		10/21/2019	EB191021303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	438		10/22/2019	EB191022303										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		11/11/2019	EB191111303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		11/13/2019	EB191113303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
303	437		11/14/2019	EB191114303										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/WLID
305	438		10/18/2019	EB191018305										JAR	3	0	0	0	0	0			EQUIPMENT BLANK/PUMP
305	437		11/12/2019	EB191112305										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/HLMM
305	437		11/15/2019	EB191115305										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/LLMM
305	437		11/18/2019	EB191118305										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/SP#1
305	437		11/19/2019	EB191119305										DFB	3	0	0	0	0	0			EQUIPMENT BLANK/SP#1
323	432	163883	1/8/2019	PW190108323	NR190108311		2"SP/LINE	6.31	9.00	1023	1055	6GPM	192.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 311
323	434	164043	4/11/2019	PW190411323			2"SP/LINE	8.07	10.87	1236	1306	6GPM	180.0	DFB	3	0	0	0	0	0	N	NA	
323	432	163895	7/1/2019	PW190701323			2"SP/LINE	8.53	10.82	1104	1134	6GPM	180.0	JAR	3	0	0	0	0	0	N	NA	
323	437	164340	10/17/2019	PW191017323			2"SP/LINE	9.02	12.08	1158	1233	5GPM	176.0	DFB	3	0	0	0	0	0	N	NA	
325	433	163982	1/8/2019	PW190108325			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	ND/ND	
325	433	163992	2/4/2019	PW190204325			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	ND/ND	
325	433	163994	3/1/2019	PW190301325			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	ND/ND	
325	434	164013	4/4/2019	PW190404325			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
325	436	164202	7/5/2019	PW190705325			SP/TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325	436	164254	10/2/2019	PW191002325			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
325A	435	164165	5/1/2019	PW190501325A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325A	435	164181	6/4/2019	PW190604325A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325A	436	164203	7/5/2019	PW190705325A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325A	436	164229	8/2/2019	PW190802325A			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	

Sampling Field Log Database

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325A	436	164244	9/3/2019	PW190903325A			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
325A	436	164253	10/2/2019	PW191002325A			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
325A	437	164364	11/8/2019	PW191108325A			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
325A	437	164387	12/6/2019	PW191206325A			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
325E	437	164386	12/6/2019	PW191206325E			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
325F	434	164015	4/4/2019	PW190404325F			TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
325F	435	164167	5/1/2019	PW190501325F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325F	435	164179	6/4/2019	PW190604325F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325F	436	164205	7/5/2019	PW190705325F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325F	436	164227	8/2/2019	PW190802325F			TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	0	0	0	0	N	NA	
325F	436	164242	9/3/2019	PW190903325F			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
325F	436	164251	10/2/2019	PW191002325F			SP/TAP	NA	NA	NA	NA	NA	4.0	CES	3	0	0	0	0	0	N	NA	
325F	437	164362	11/8/2019	PW191108325F			SP/TAP	NA	NA	NA	NA	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
325F	437	164385	12/6/2019	PW191206325F			SP/TAP	NA	NA	NA	NA	NA	5.0	DFB	3	0	0	0	0	0	N	NA	
384A	433	163996	3/1/2019	SW190301384A			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	1	1	1	0	N	1.0/1.0	
384A	434	164005	4/4/2019	SW190404384A			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	1	1	1	0	N	NA	
384A	435	164160	5/1/2019	SW190501384A			SP/TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	1	1	1	0	N	NA	
384A	435	164186	6/4/2019	SW190604384A			SP/TAP	NA	NA	NA	NA	NA	4.0	JAR	3	0	1	1	1	0	N	NA	
384A	435	164197	7/5/2019	SW190705384A			SP/TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384A	436	164223	8/2/2019	SW190802384A			SP/TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	1	1	1	0	N	NA	
384A	436	164238	9/3/2019	SW190903384A			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	1	1	1	0	N	NA	
384A	436	164249	10/2/2019	SW191002384A			SP/TAP	NA	NA	NA	NA	NA	1.0	CES	3	0	1	1	1	0	N	NA	
384A	437	164361	11/8/2019	SW191108384A			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	1	1	1	0	N	NA	
384A	438	164424	12/3/2019	SW191203384A			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	1	1	1	0	N	NA	
384B	433	163997	3/1/2019	SW190301384B			TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	1.0/1.0	
384B	434	164005	4/4/2019	SW190404384B			TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384B	435	164161	5/1/2019	SW190501384B			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384B	435	164185	6/4/2019	SW190604384B			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384B	435	164198	7/5/2019	SW190705384B			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384B	436	164222	8/2/2019	SW190802384B			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384B	436	164237	9/3/2019	SW190903384B			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
384B	436	164248	10/2/2019	SW191002384B			SP/TAP	NA	NA	NA	NA	NA	1.0	CES	3	0	0	0	0	0	N	NA	
384B	437	164360	11/8/2019	SW191108384B			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384B	438	164425	12/3/2019	SW191203384B			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384C	433	163998	3/1/2019	SW190301384C			TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	1.0/1.0	
384C	434	164007	4/4/2019	SW190404384C			TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
384C	435	164162	5/1/2019	SW190501384C			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384C	435	164184	6/4/2019	SW190604384C			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384C	435	164199	7/5/2019	SW190705384C			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384C	436	164221	8/2/2019	SW190802384C			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384C	436	164236	9/3/2019	SW190903384C			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
384C	436	164247	10/2/2019	SW191002384C			SP/TAP	NA	NA	NA	NA	NA	1.0	CES	3	0	0	0	0	0	N	NA	
384C	437	164359	11/8/2019	SW191108384C			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384C	438	164426	12/3/2019	SW191203384C			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	
384J	433	163999	3/1/2019	SW190301384J			TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	1.0/1.0	
384J	434	164008	4/4/2019	SW190404384J			TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384J	435	164163	5/1/2019	SW190501384J			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384J	435	164183	6/4/2019	SW190604384J			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384J	435	164200	7/2/2019	SW190705384J			TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
384J	436	164220	8/2/2019	SW190802384J			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384J	436	164235	9/3/2019	SW190903384J			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
384J	436	164246	10/2/2019	SW191002384J			SP/TAP	NA	NA	NA	NA	NA	1.0	CES	3	0	0	0	0	0	N	NA	
384J	437	164358	11/8/2019	SW191108384J			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384J	438	164427	12/3/2019	SW191203384J			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	

Sampling Field Log Database

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384L	433	164000	3/1/2019	SW190301384L			TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	1.0/1.0	
384L	434	164009	4/4/2019	SW190404384L			TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	0	0	0	0	N	NA	
384L	435	164164	5/1/2019	SW190501384L			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384L	435	164182	6/4/2019	SW190604384L			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384L	436	164201	7/5/2019	SW190705384L			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384L	436	164219	8/2/2019	SW190802384L			TAP	NA	NA	NA	NA	NA	1.0	JAR	3	0	0	0	0	0	N	NA	
384L	436	164234	9/3/2019	SW190903384L			SP/TAP	NA	NA	NA	NA	NA	0.3	JAR	3	0	0	0	0	0	N	NA	
384L	436	164245	10/2/2019	SW191002384L			SP/TAP	NA	NA	NA	NA	NA	1.0	CES	3	0	0	1	0	1	N	NA	FE TOTAL, O&G
384L	437	164357	11/8/2019	SW191108384L			SP/TAP	NA	NA	NA	NA	NA	1.0	DFB	3	0	1	0	0	0	N	NA	FE TOTAL
384L	438	164428	12/3/2019	SW191203384L			SP/TAP	NA	NA	NA	NA	NA	0.3	DFB	3	0	0	0	0	0	N	NA	FE TOTAL
395	435	164196	7/5/2019	SW190705395			B/B	NA	NA	NA	NA	NA	1.5	JAR	3	0	0	0	0	0	N	NA	
395	436	164250	10/2/2019	SW191002395			B/B	NA	NA	NA	NA	NA	0.0	CES	3	0	0	0	0	0	N	NA	
502	434	164017	4/5/2019	GW190405502			BP/LINE	1.23	13.28	1006	1028	1.3M/G	17.0	DFB	3	0	0	0	0	0	N	NA	
520	435	164106	4/4/2019	GW190404520			B/B	5.66	18.37	1016	1032	NA	9.5	JAR	3	0	0	0	0	0	N	NA	
520	436	164284	10/14/2019	GW191014520			B/B	6.80	17.94	1042	1053	NA	9.0	JAR	3	0	0	0	0	0	N	NA	
521	435	164107	4/4/2019	GW190404521			B/B	4.30	7.88	1041	1102	NA	15.0	JAR	3	0	0	0	0	0	N	NA	
521	436	164286	10/14/2019	GW191014521			B/B	7.02	NR	1247	1307	NA	13.5	JAR	3	0	0	0	0	0	N	NA	
545	434	164019	4/5/2019	GW190405545			BP/LINE	7.09	7.23	1242	1255	1.2M/G	11.0	DFB	3	0	0	0	0	0	N	NA	
545	437	164331	10/15/2019	GW191015545			BP/LINE	9.38	9.55	1251	1303	1.2M/G	9.8	DFB	3	0	0	0	0	0	N	NA	
559	434	164100	5/2/2019	GW190502559			BP/LINE	23.74	@PUMF	0803	0822	1.5M/G	12.6	DFB	3	0	0	0	0	0	Y	NA	
559	437	164336	10/17/2019	GW191017559	NR191017311		BP/LINE	33.46	@PUMF	0804	0825	2.2M/G	9.0	DFB	6	0	0	0	0	2	Y	NA	1,4-DIOXANE, QC DUPLICA
561	434	164049	4/15/2019	GW190415561	NR190415312		B/B	25.93	33.18	1342	1357	NA	5.9	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 312
561	436	164291	10/15/2019	GW191015561			B/B	35.10	NR	1316	1326	NA	1.5	JAR	3	0	0	0	0	0	N	NA	
563	435	164141	4/24/2019	GW190424563			2"SP/LINE	31.37	@PUMF	0757	0814	1GPM	16.5	JAR	3	0	0	0	0	0	Y	NA	
563	438	164410	10/21/2019	GW191021563			2"SP/LINE	38.65	97.55	1337	1421	1GPM	44.0	JAR	3	0	0	0	0	0	N	NA	
564	435	164142	4/24/2019	GW190424564			2"SP/LINE	23.90	@PUMF	0827	0838	1GPM	11.0	JAR	3	0	0	0	0	0	Y	NA	
564	438	164402	10/18/2019	GW191018564			2"SP/LINE	35.53	@PUMF	1032	1042	1GPM	9.5	JAR	3	0	0	0	0	0	Y	NA	
571	433	163989	1/9/2019	GW190109571			B/B	13.13	14.38	1158	1204	NA	0.9	DFB	3	0	0	0	0	0	N	NA	
571	435	164145	4/24/2019	GW190424571			B/B	14.60	DRY	0950	0953	NA	0.2	JAR	3	0	0	0	0	0	Y	NA	
572	434	164095	4/30/2019	GW190430572			PP/B	5.57	5.66	1148	1222	6.5M/G	5.3	DFB	3	0	0	0	0	0	N	NA	
574	434	164094	4/30/2019	GW190430574			PP/B	16.28	16.72	0914	1010	7.2M/G	7.8	DFB	3	0	0	0	0	0	N	NA	
576	434	164083	4/24/2019	GW190424576			PP/B	13.98	14.11	1304	1324	7M/G	2.8	DFB	3	0	0	0	0	0	N	NA	
576	437	164320	10/9/2019	GW191009576			PP/B	15.43	18.73	0919	0933	6.6M/G	2.1	DFB	3	0	0	0	0	0	N	NA	
577	434	164084	4/25/2019	GW190425577			2"SP/LINE	10.14	203.81	0809	0900	2GPM	102.0	DFB	3	0	0	0	0	0	N	NA	
577	437	164345	10/21/2019	GW191021577			2"SP/LINE	17.27	206.79	0832	1006	1.1GPM	99.0	DFB	3	0	0	0	0	0	N	NA	
579	434	164092	4/29/2019	GW190429579			2"SP/LINE	26.96	29.96	1046	1122	3GPM	109.0	DFB	3	0	0	0	0	0	N	NA	
580	434	164035	4/10/2019	GW190410580		NR190410313	B/B	14.80	15.28	1001	1005	NA	2.1	DFB	6	0	2	2	2	0	N	NA	QC DUPLICATE 313
580	437	164306	10/7/2019	GW191007580			B/B	16.04	18.77	0857	0900	NA	1.0	DFB	3	0	0	0	0	0	Y	NA	
581	434	164038	4/10/2019	GW190410581			B/B	13.26	13.28	1340	1351	NA	7.5	DFB	3	0	1	1	0	0	N	NA	
600	435	164120	4/16/2019	GW190416600			PP/B	15.71	15.97	1304	1318	7M/G	2.0	JAR	3	0	0	0	0	0	N	NA	
601	435	164119	4/16/2019	GW190416601			2"SP/B	25.76	33.15	1301	1315	4GPM	56.0	JAR	3	0	0	0	0	0	N	NA	
601	437	164343	10/18/2019	GW191018601			2"SP/LINE	33.64	40.22	1009	1026	3GPM	50.0	DFB	3	0	0	0	0	0	N	NA	
602	434	164048	4/15/2019	GW190415602			B/B	4.34	21.2	1248	1304	NA	8.7	DFB	3	0	0	0	0	0	N	NA	
603	435	164131	4/18/2019	GW190418603			B/B	6.65	19.80	1300	1313	NA	9.5	JAR	3	0	0	0	0	0	N	NA	
604	435	164130	4/18/2019	GW190418604			2"SP/LINE	35.17	72.06	1237	1254	3GPM	51.0	JAR	3	0	0	0	0	0	N	NA	
607	434	164052	4/16/2019	GW190416607			BP/LINE	38.69	39.92	1108	1242	2.4M/G	39.0	DFB	3	0	0	0	0	0	N	NA	
607	437	164330	10/15/2019	GW191015607			BP/LINE	48.68	49.93	1059	1221	2.4M/G	34.0	DFB	3	0	0	0	0	0	N	NA	
609	435	164159	5/2/2019	GW190502609			2"SP/LINE	48.50	NR	0743	0818	2.6GPM	90.0	JAR	3	0	0	0	0	0	N	NA	
609	435	164192	6/11/2019	GW190611609			2"SP/LINE	47.77	124.65	1016	1053	2.7GPM	100.0	JAR	3	0	0	0	0	0	N	NA	
609	438	164411	10/22/2019	GW191022609			MM/LINE	54.94	106.11	0812	1009	1.3GPM	90.0	JAR	3	0	0	0	0	0	N	NA	
610	435	164190	6/10/2019	GW190610610			2"SP/LINE	47.60	NR	1038	1108	2.2GPM	65.0	JAR	3	0	0	0	0	0	N	NA	
610	437	164348	10/22/2019	GW191022610	NR191022312		MM/LINE	56.58	58.68	0841	0927	1.3GPM	60.0	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 312
611	435	164139	4/23/2019	GW190423611			2"SP/LINE	28.96	82.04	0955	1040	2.2GPM	100.0	JAR	3	0	0	0	0	0	N	NA	
612	433	163986	1/9/2019	GW190109612			PP/B	14.48	22.79	0929	0932	1.5GPM	37.0	DFB	3	0	0	0	0	0	N	NA	

Sampling Field Log Database

WELL	BOOK NO	PAGE NO	DATE	SAMPLE ID	QC_ORG	QC_373_KIT	EQUIP ID	DTW BP	DTW AP	START PURGE	END PURGE	RATE	VOL PURGE	SAMPLER ID	GW VOA	PW VOA	F METALS	U METALS	FLUORIDE	SPECIAL	PUMPED DRY	PID	COMMENTS
612	434	164073	4/22/2019	GW190422612			PP/B	14.66	21.31	1118	1155	1GPM	37.0	DFB	3	0	0	0	0	0	N	NA	
612	435	164194	7/2/2019	GW190702612			PP/B	14.80	19.72	0954	1014	2GPM	40.0	JAR	3	0	0	0	0	0	N	NA	
612	437	164310	10/7/2019	GW191007612			PP/B	15.82	22.64	1146	1220	1GPM	34.0	DFB	3	0	0	0	0	0	N	NA	
617	437	164309	10/7/2019	GW191007617			SP/TAP	16.34	17.91	1107	1132	5.4M/G	130.0	DFB	3	0	0	0	0	0	N	NA	
622	435	164135	4/22/2019	GW190422622	NR190422314		2"SP/LINE	34.97	113.78	0752	1005	0.7GPM	90.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 314
622	436	164287	10/15/2019	GW191015622			2"SP/LINE	44.70	176.26	0743	0943	0.8GPM	90.0	JAR	3	0	0	0	0	0	N	NA	
623	435	164138	4/23/2019	GW190423623			2"SP/LINE	46.76	51.55	0845	0933	3GPM	145.0	JAR	3	0	0	0	0	0	N	NA	
623	437	164380	11/19/2019	GW191119623			2"SP/LINE	54.32	60.22	0946	1032	3GPM	137.0	DFB	3	0	0	0	0	0	N	NA	
624	435	164123	4/17/2019	GW190417624			2"SP/B	30.25	NR	0945	1026	4GPM	164.0	JAR	3	0	0	0	0	0	N	NA	
624	437	164379	11/18/2019	GW191118624			2"SP/LINE	35.64	83.81	1218	1337	2GPM	158.0	DFB	3	0	0	0	0	0	N	NA	
627	432	163888	1/9/2019	GW190109627			PP/B	15.95	18.05	0833	0845	8M/G	1.5	JAR	3	0	1	1	1	0	N	NA	
627	434	164065	4/19/2019	GW190419627			PP/B	16.34	17.74	0855	0903	7.2M/G	1.1	DFB	3	0	1	1	1	0	N	NA	
627	437	164305	10/4/2019	GW191004627			PP/B	17.43	18.19	1118	1126	NA	0.6	DFB	3	0	0	0	0	0	N	NA	
628	433	163987	1/9/2019	GW190109628			2"SP/LINE	3.37	4.47	1004	1023	9.5GPM	190.0	DFB	3	0	0	0	0	0	N	NA	
628	434	164070	4/22/2019	GW190422628			2"SP/LINE	5.23	6.56	0858	0918	9.4GPM	188.0	DFB	3	0	0	0	0	0	N	NA	
628	432	163899	7/2/2019	GW190702628			2"SP/LINE	9.15	10.26	0810	0827	0.3GPM	200.0	JAR	3	0	0	0	0	0	N	NA	
628	437	164325	10/14/2019	GW191014628			SP/TAP	16.72	18.14	0926	0939	0.4GPM	140.0	DFB	3	0	0	0	0	0	N	NA	
640	434	164047	4/15/2019	GW190415640			B/B	12.41	19.97	1009	1013	NA	2.0	DFB	3	0	0	0	0	0	Y	NA	
640	437	164321	10/9/2019	GW191009640			B/B	14.18	20.11	1012	1016	NA	1.7	DFB	3	0	0	0	0	0	Y	NA	
701	434	164031	4/9/2019	GW190409701			B/B	8.02	8.14	1152	1159	NA	5.8	DFB	3	0	1	1	0	0	N	NA	
702	434	164030	4/9/2019	GW190409702			B/B	9.38	10.21	1125	1130	NA	4.0	DFB	3	0	0	0	0	0	N	NA	
702	437	164318	10/8/2019	GW191008702			B/B	10.24	12.38	1237	1244	NA	3.7	DFB	3	0	0	0	0	0	N	NA	
706	434	164053	4/16/2019	GW190416706			BP/LINE	15.57	21.41	1309	1326	1.2M/G	14.0	DFB	3	0	0	0	1	0	N	NA	
706	437	164335	10/16/2019	GW191016706			BP/LINE	19.08	22.86	1337	1359	1.7M/G	13.0	DFB	3	0	0	0	0	0	N	NA	
711	435	164188	6/5/2019	GW190605711			2"SP/LINE	15.62	49.86	0830	1331	5GPM	1505.0	JAR	3	0	0	0	0	0	N	NA	
714	434	164026	4/9/2019	GW190409714			B/B	22.08	25.39	0814	0830	NA	7.4	DFB	3	0	0	0	0	0	N	NA	
714	437	164323	10/9/2019	GW191009714			B/B	29.37	33.26	1112	1121	NA	3.9	DFB	3	0	0	0	0	0	N	NA	
716	435	164171	5/2/2019	GW190502716			2"SP/LINE	36.03	45.20	0853	1022	3GPM	267.0	JAR	3	0	0	0	0	0	N	NA	
716	437	164349	10/22/2019	GW191022716	NR191022313		MM/LINE	43.12	48.18	1036	1214	2GPM	250.0	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 313
720	435	164146	4/24/2019	GW190424720			2"SP/LINE	26.30	27.00	1132	1145	1GPM	13.0	JAR	3	0	0	0	0	0	N	NA	
720	437	164347	10/21/2019	GW191021720			2"SP/LINE	28.54	29.24	1352	1404	1GPM	12.0	DFB	3	0	0	0	0	0	N	NA	
722	435	164155	4/30/2019	GW190429722			2"SP/LINE	8.62	NR	0836	1254	6GPM	1548.0	JAR	3	0	0	0	0	0	N	NA	
732	435	164124	4/17/2019	GW190417732	NR190417315		2"SP/B	46.32	53.94	1100	1231	4.4GPM	400.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 315
732	438	164405	10/18/2019	GW191018732			2"SP/LINE	51.33	53.58	0800	0917	5GPM	385.0	JAR	3	0	0	0	0	1	N	NA	1,4-DIOXANE
734	435	164134	4/22/2019	GW190422734			2"SP/LINE	51.22	60.18	1057	1127	3GPM	90.0	JAR	3	0	0	0	0	0	N	NA	
734	437	164381	11/19/2019	GW191119734			2"SP/LINE	54.24	63.84	1137	1203	3GPM	79.0	DFB	3	0	0	0	0	0	N	NA	
735	434	164034	4/10/2019	GW190410735			B/B	16.25	24.89	0942	0946	NA	1.8	DFB	3	0	1	1	1	0	Y	NA	
735	437	164301	10/4/2019	GW191004735			B/B	17.63	24.83	0905	0909	NA	1.9	DFB	3	0	0	0	0	0	Y	NA	
737	434	164033	4/10/2019	GW190410737	NR190410316		2"SP/LINE	41.24	48.02	0838	0914	2GPM	72.0	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 316
737	437	164372	11/13/2019	GW191113737	NR191113314		MM/LINE	46.41	52.31	1057	1132	2GPM	70.0	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 314
739	435	164132	4/19/2019	GW190419739			2"SP/B	46.46	52.13	0740	1010	3GPM	450.0	JAR	3	0	0	0	0	0	N	NA	
740	432	163886	1/9/2019	GW190109740			B/B	19.00	19.20	0758	0816	NA	3.0	JAR	3	0	1	1	1	0	N	NA	
740	434	164068	4/19/2019	GW190419740			PP/B	19.42	19.80	1124	1144	7.1M/G	2.8	DFB	3	0	1	1	1	0	N	NA	
740	437	164307	10/7/2019	GW191007740			PP/B	20.63	20.86	0911	0929	8M/G	2.2	DFB	3	0	0	0	0	0	N	NA	
742	435	164187	6/5/2019	GW190605742			2"SP/LINE	41.35	48.83	0730	1018	2.1GPM	352.8	JAR	3	0	0	0	0	0	N	NA	
742	438	164412	10/22/2019	GW191022742	NR191022315		2"SP/LINE	47.12	54.15	1103	1320	2.5GPM	342.5	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 315
743	434	164067	4/19/2019	GW190419743			PP/B	13.26	15.98	1033	1056	7.5M/G	3.0	DFB	3	0	0	0	0	0	N	NA	
744	434	164045	4/15/2019	GW190415744			B/B	6.72	6.97	0858	0908	NA	10.6	DFB	3	0	0	0	0	0	N	NA	
744	437	164317	10/8/2019	GW191008744			B/B	8.78	8.92	1203	1214	NA	9.6	DFB	3	0	0	0	0	0	N	NA	
745	434	164044	4/15/2019	GW190415745			B/B	6.69	13.96	0849	0854	NA	3.2	DFB	3	0	0	0	0	0	Y	NA	
751	434	164082	4/24/2019	GW190424751			PP/B	11.98	12.73	0951	1010	6.9M/G	2.8	DFB	3	0	0	0	0	0	N	NA	
753	434	164081	4/24/2019	GW190424753			PP/B	10.55	DRY	0921	0933	4.6M/G	2.5	DFB	3	0	0	0	0	0	Y	NA	
754	434	164074	4/22/2019	GW190422754			PP/B	12.57	16.43	1307	1327	1GPM	20.0	DFB	3	0	1	1	0	0	N	NA	
755	434	164072	4/22/2019	GW190422755			PP/B	5.37	21.28	1024	1059	1GPM	35.0	DFB	3	0	0	0	0	0	N	NA	

Sampling Field Log Database

WELL	BOOK NO	PAGE NO	DATE	SAMPLE ID	QC_ORG	QC_373_KIT	EQUIP ID	DTW BP	DTW AP	START PURGE	END PURGE	RATE	VOL PURGE	SAMPLER ID	GW VOA	PW VOA	F METALS	U METALS	FLUORIDE	SPECIAL	PUMPED DRY	PID	COMMENTS
755	437	164327	10/14/2019	GW191014755	NR191014316		PP/B	8.27	20.81	1052	1121	1GPM	29.0	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 316
756	432	163887	1/9/2019	GW190109756			PP/B	1.82	19.45	1005	1023	2GPM	36.0	JAR	3	0	0	0	0	0	N	NA	
756	434	164077	4/23/2019	GW190423756			PP/B	3.52	DRY	1034	1050	1.5GPM	24.0	DFB	3	0	0	0	0	0	Y	NA	
757	434	164025	4/8/2019	GW190408757			B/B	5.32	5.48	1345	1356	NA	7.2	DFB	3	0	0	0	0	0	NN	NA	
757	437	164322	10/9/2019	GW191009757			B/B	7.58	8.44	1031	1039	NA	6.1	DFB	3	0	0	0	0	0	N	NA	
761	434	164029	4/9/2019	GW190409761			B/B	11.84	23.85	1016	1030	NA	10.0	DFB	3	0	1	1	0	0	N	NA	
763	434	164028	4/9/2019	GW190409763			B/B	19.82	48.84	0952	1002	NA	6.2	DFB	3	0	1	1	0	0	Y	NA	
766	434	164036	4/10/2019	GW190410766		NR190410317	B/B	18.01	18.16	1050	1057	NA	3.6	DFB	6	0	2	2	2	0	N	NA	QC DUPLICATE 317
766	437	164302	10/4/2019	GW191004766			B/B	18.97	19.86	0917	0924	NA	3.2	DFB	3	0	0	0	0	0	N	NA	
767	434	164037	4/10/2019	GW190410767			B/B	11.62	11.71	1124	1129	NA	3.3	DFB	3	0	1	1	1	0	N	NA	
767	437	164303	10/4/2019	GW191004767			B/B	12.59	12.65	0946	0951	NA	2.8	DFB	3	0	0	0	0	0	N	NA	
768	434	164059	4/17/2019	GW190417768			B/B	13.49	14.05	1131	1142	NA	7.3	DFB	3	0	1	1	1	0	N	NA	
768	437	164304	10/4/2019	GW191004768	NR191004317		B/B	14.76	14.82	1012	1020	NA	3.9	DFB	6	0	0	0	0	0	N	NA	QC DUPLICATE 317
769	434	164066	4/19/2019	GW190419769			PP/B	17.08	17.56	0941	1015	7.2M/G	4.7	DFB	3	0	1	1	1	0	N	NA	
769	437	164308	10/7/2019	GW191007769			B/B	18.86	19.54	0945	1014	7.4M/G	3.9	DFB	3	0	0	0	0	0	N	NA	
771	434	164061	4/17/2019	GW190417771			B/B	12.76	17.04	1343	1350	NA	2.9	DFB	3	0	1	1	0	0	N	NA	
771	436	164280	10/4/2019	GW191004771			B/B	14.35	17.85	1124	1131	NA	2.5	JAR	3	0	0	0	0	0	N	NA	
772	434	164057	4/17/2019	GW190417772			B/B	8.33	9.04	1026	1033	NA	5.0	DFB	3	0	1	1	0	0	N	NA	
772	436	164278	10/4/2019	GW191004772			B/B	8.60	9.88	1037	1043	NA	5.0	JAR	3	0	0	0	0	0	N	NA	
773	434	164056	4/17/2019	GW190417773			B/B	13.61	15.32	0907	0919	NA	7.3	DFB	3	0	1	1	0	0	N	NA	
773	436	164279	10/4/2019	GW191004773			B/B	14.62	17.70	1055	1106	NA	7.0	JAR	3	0	0	0	0	0	N	NA	
774	434	164022	4/8/2019	GW190408774			BP/LINE	12.46	20.78	1049	1103	1.7M/G	8.5	DFB	3	0	1	1	0	0	N	NA	
774	437	164311	10/7/2019	GW191007774			BP/LINE	13.92	21.28	1326	1342	2.1M/G	7.8	DFB	3	0	0	0	0	0	N	NA	
775	434	164023	4/8/2019	GW190408775			BP/LINE	13.81	14.74	1117	1131	1.7M/G	8.0	DFB	3	0	1	1	0	0	N	NA	
777	434	164042	4/11/2019	GW190411777			2"SP/LINE	19.98	24.41	1118	1136	3GPM	53.0	DFB	3	0	0	0	0	0	N	NA	
777	437	164344	10/18/2019	GW191018777			2"SP/LINE	27.86	32.58	1218	1234	3GPM	49.0	DFB	3	0	0	0	0	0	N	NA	
779	434	164062	4/18/2019	GW190418779			BP/LINE	39.49	40.62	0812	1022	1.4M/G	93.0	DFB	3	0	0	0	0	0	N	NA	
779	437	164329	10/15/2019	GW191015779			BP/LINE	49.23	50.64	0752	1013	1.6M/G	88.0	DFB	3	0	0	0	0	0	N	NA	
789	434	164055	4/17/2019	GW190417789			B/B	9.84	13.51	0832	0840	NA	5.5	DFB	3	0	1	1	0	0	N	NA	
791	434	164024	4/8/2019	GW190408791			B/B	12.96	13.82	1257	1308	NA	4.6	DFB	3	0	1	1	0	0	N	NA	
792	434	164058	4/17/2019	GW190417792			B/B	10.84	11.62	1053	1102	NA	4.8	DFB	3	0	1	1	0	0	N	NA	
793	434	164060	4/17/2019	GW190417793			B/B	18.28	23.73	1247	1302	NA	5.4	DFB	3	0	1	1	1	0	N	NA	
793	436	164277	10/4/2019	GW191004793			B/B	19.01	25.51	1012	1020	NA	5.0	JAR	3	0	0	0	0	0	N	NA	
832	434	164075	4/23/2019	GW190423832			PP/B	18.38	18.92	0833	0917	7.6M/G	5.8	DFB	3	0	0	0	0	0	N	NA	
857	435	164108	4/4/2019	GW190404857			2"SP/LINE	-2.00	@PUMF	1117	1140	5GPM	115.0	JAR	3	0	0	0	0	0	Y	NA	
857	436	164283	10/14/2019	GW191014857			2"SP/LINE	6.18	96.20	1036	1125	4GPM	204.0	JAR	3	0	0	0	0	0	N	NA	
858	435	164105	4/4/2019	GW190404858			2"SP/LINE	-2.00	137.70	1007	1110	5GPM	315.0	JAR	3	0	0	0	0	0	N	NA	
858	436	164285	10/14/2019	GW191014858			2"SP/LINE	6.52	@PUMF	1132	1152	5GPM	100.0	JAR	3	0	0	0	0	0	Y	NA	
921	435	164125	4/18/2019	GW190418921			2"SP/B	10.70	@PUMF	0747	0807	3GPM	60.0	JAR	3	0	0	0	0	0	Y	NA	
921	437	164377	11/15/2019	GW191115921			MM/LINE	16.42	82.42	1054	1146	1.7GPM	90.0	DFB	3	0	0	0	0	0	Y	NA	
922	435	164121	4/17/2019	GW190417922			2"SP/B	12.00	DRY	0727	0747	4GPM	80.0	JAR	3	0	0	0	0	0	Y	NA	
922	437	164375	11/15/2019	GW191115922			MM/LINE	20.34	113.27	0842	0947	1GPM	65.0	DFB	3	0	0	0	0	0	Y	NA	
923	435	164127	4/18/2019	GW190418923	NR190418318		2"SP/LINE	21.50	130.60	0947	1030	1.6GPM	70.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 318
923	437	164373	11/13/2019	GW191113923			2"SP/LINE	29.63	140.78	1257	1339	1.5GPM	63.0	DFB	3	0	0	0	0	0	N	NA	
929	435	164118	4/16/2019	GW190416929	NR190416319		2"SP/B	39.83	NR	1127	1145	3.3GPM	60.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 319
929	437	164367	11/12/2019	GW191112929			MM/LINE	49.48	51.46	0909	0934	2GPM	50.0	DFB	3	0	0	0	0	0	N	NA	
931	435	164116	4/16/2019	GW190416931			2"SP/B	34.11	39.79	0759	0857	4GPM	230.0	JAR	3	0	0	0	0	0	N	NA	
931	436	164300	10/17/2019	GW191017931			MM/LINE	43.64	49.30	1037	1122	4.9GPM	220.0	JAR	3	0	0	0	0	1	N	NA	1,4-DIOXANE
932	435	164113	4/15/2019	GW190415932			2"SP/B	13.16	103.78	0913	1308	1.3GPM	315.0	JAR	3	0	0	0	0	0	N	NA	
932	436	164299	10/17/2019	GW191017932			MM/LINE	17.94	167.88	0734	0946	2.3GPM	310.0	JAR	3	0	0	0	0	0	N	NA	
941	435	164148	4/25/2019	GW190425941			2"SP/LINE	44.82	49.30	0731	0821	3.6GPM	180.0	JAR	3	0	0	0	0	0	N	NA	
941	436	164292	10/16/2019	GW191016941			2"SP/LINE	55.12	67.17	0727	0807	4GPM	160.0	JAR	3	0	0	0	0	0	N	NA	
943	435	164153	4/29/2019	GW190429943			2"SP/LINE	3.46	22.93	0807	0950	6GPM	618.0	JAR	3	0	0	0	0	0	N	NA	
943	436	164289	10/15/2019	GW191015943			2"SP/LINE	11.34	27.95	1020	1057	7GPM	259.0	JAR	3	0	0	0	0	0	N	NA	

Sampling Field Log Database

WELL	BOOK NO	PAGE NO	DATE	SAMPLE ID	QC_ORG	QC_373_KIT	EQUIP ID	DTW BP	DTW AP	START PURGE	END PURGE	RATE	VOL PURGE	SAMPLER ID	GW VOA	PW VOA	F METALS	U METALS	FLUORIDE	SPECIAL	PUMPED DRY	PID	COMMENTS
944	435	164154	4/29/2019	GW190429944			2"SP/LINE	1.72	41.72	1123	1233	2GPM	140.0	JAR	3	0	0	0	0	0	N	NA	
944	436	164288	10/15/2019	GW191015944			2"SP/LINE	9.38	43.24	1142	1233	2.4GPM	122.4	JAR	3	0	0	0	0	0	N	NA	
952	435	164157	5/1/2019	GW190501952			2"SP/LINE	24.00	42.15	0832	0957	4GPM	340.0	JAR	0	0	1	1	0	0	N	NA	
952	437	164346	10/21/2019	GW191021952			2"SP/LINE	28.87	50.21	1058	1221	4GPM	330.0	DFB	3	0	0	0	0	0	N	NA	
953	435	164117	4/16/2019	GW190416953			2"SP/B	46.58	67.45	0945	1037	4GPM	208.0	JAR	3	0	0	0	0	0	N	NA	
953	437	164378	11/18/2019	GW191118953			MM/LINE	55.47	62.19	0918	1053	2GPM	190.0	DFB	3	0	0	0	0	0	N	NA	
954	435	164126	4/18/2019	GW190418954			2"SP/LINE	23.93	@PUMF	0818	0925	1.8GPM	120.0	JAR	3	0	0	0	0	0	Y	NA	
954	437	164374	11/14/2019	GW191114954			2"SP/LINE	30.77	146.58	1057	1154	2GPM	114.0	DFB	3	0	0	0	0	0	Y	NA	
956	435	164115	4/16/2019	GW190416956			2"SP/B	18.92	@PUMF	0723	0743	3GPM	60.0	JAR	3	0	0	0	0	0	Y	NA	
956	437	164368	11/12/2019	GW191112956			MM/LINE	25.21	104.21	1035	1116	2GPM	82.0	DFB	3	0	0	0	0	0	Y	NA	
958	434	164093	4/29/2019	GW190429958			2"SP/LINE	0.82	96.78	1217	1249	3GPM	96.0	DFB	3	0	0	0	0	0	Y	NA	
958	437	164370	11/13/2019	GW191113958			2"SP/LINE	4.50	97.86	0839	0906	3GPM	81.0	DFB	3	0	0	0	0	0	N	NA	
959	434	164085	4/25/2019	GW190425959			2"SP/LINE	28.22	152.57	0944	1045	2GPM	122.0	DFB	3	0	1	1	0	0	Y	NA	
959	437	164376	11/14/2019	GW191114959			2"SP/LINE	34.31	149.25	0850	1008	2GPM	156.0	DFB	3	0	0	0	0	0	Y	NA	
960	435	164156	5/1/2019	GW190501960			2"SP/LINE	16.26	DRY	0727	0747	3GPM	60.0	JAR	0	0	1	1	0	0	Y	NA	VOCS REJECTED, HEADSF
960	435	164193	6/20/2019	GW190620960			2"SP/LINE	16.80	DRY	1151	1206	4GPM	60.0	JAR	3	0	0	0	0	0	Y	NA	
960	437	164341	10/18/2019	GW191018960	NR191018318		MM/LINE	20.64	88.73	0811	0907	1.6GPM	90.0	DFB	6	0	0	0	0	2	Y	NA	1,4-DIOXANE, QC DUPLCIA
963	435	164109	4/5/2019	GW190405963			2"SP/LINE	4.93	84.10	0848	0908	4GPM	80.0	JAR	3	0	0	0	0	0	N	NA	
963	436	164295	10/16/2019	GW191016963			2"SP/LINE	7.32	83.58	1052	1112	4GPM	80.0	JAR	3	0	0	0	0	0	N	NA	
964	435	164110	4/5/2019	GW190405964			2"SP/LINE	5.08	31.38	0916	0931	3GPM	45.0	JAR	3	0	0	0	0	0	N	NA	
964	436	164296	10/16/2019	GW191016964			2"SP/LINE	7.75	34.87	1118	1129	4GPM	44.0	JAR	3	0	0	0	0	0	N	NA	
965	435	164136	4/22/2019	GW190422965			2"SP/LINE	22.13	22.52	1202	1250	5GPM	240.0	JAR	3	0	0	0	0	0	N	NA	
966	435	164140	4/23/2019	GW190423966			2"SP/LINE	21.82	35.68	1105	1147	5.2GPM	220.0	JAR	3	0	0	0	0	0	N	NA	
966	436	164293	10/16/2019	GW191016966			2"SP/LINE	31.27	43.63	0857	0929	6GPM	192.0	JAR	3	0	0	0	0	0	N	NA	
987	432	163881	1/8/2019	GW190108987			2"SP/LINE	1.27	1.73	0823	0929	3GPM	198.0	JAR	3	0	0	0	0	0	N	NA	
987	435	164103	4/4/2019	GW190404987			2"SP/LINE	3.04	3.24	0828	0931	3GPM	189.0	JAR	3	0	0	0	0	0	N	NA	
987	432	163892	7/1/2019	GW190701987			2"SP/LINE	3.89	4.11	0836	0938	3GPM	186.0	JAR	3	0	0	0	0	0	N	NA	
987	436	164281	10/14/2019	GW191014987			2"SP/LINE	5.10	5.23	0852	0952	3GPM	180.0	JAR	3	0	0	0	0	0	N	NA	
990	432	163882	1/8/2019	GW190108990			2"SP/LINE	2.50	5.77	0934	0955	4GPM	84.0	JAR	3	0	0	0	0	0	N	NA	
990	435	164104	4/4/2019	GW190404990	NR190404320		2"SP/LINE	3.44	7.34	0940	0956	5GPM	80.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLICATE 320
990	432	163893	7/1/2019	GW190701990			2"SP/LINE	4.06	8.42	1005	1018	6GPM	78.0	JAR	3	0	0	0	0	0	N	NA	
990	437	164314	10/8/2019	GW191008990			2"SP/LINE	5.06	6.78	0923	0933	3GPM	31.0	DFB	3	0	0	0	0	0	N	NA	
998	434	164032	4/9/2019	GW190409998			B/B	9.21	18.46	1251	1304	NA	6.0	DFB	3	0	0	0	0	0	N	NA	
998	437	164334	10/16/2019	GW191016998			B/B	11.87	20.32	1152	1204	NA	4.8	DFB	3	0	0	0	0	0	N	NA	
999	435	164147	4/24/2019	GW190424999	NR190424321		2"SP/LINE	10.21	14.71	1246	1257	2GPM	22.0	JAR	6	0	0	0	0	0	N	NA	QC DUPLCATE 321
999	436	164298	10/16/2019	GW191016999			2"SP/LINE	13.06	19.00	1258	1305	3GPM	21.0	JAR	3	0	0	0	0	0	N	NA	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
007		4/8/2019	1148	1151	13.30	7.36	1863	7.51	
010		4/9/2019	0915	0919	14.60	7.05	1661	1000	
010		10/14/2019	1327	1330	16.10	7.92	1418	>1000	
012		11/12/2019	1319	1322	14.90	6.89	1865	>1000	
015	310	4/23/2019	0959	1002	12.50	7.35	1570	42.7	QC DUPLICATE 310
015	310	10/17/2019	1058	1101	17.90	7.30	1874	19.4	QC DUPLICATE 310
016		4/25/2019	0932	0933	15.80	8.73	2532	4.67	
016		11/13/2019	1000	1001	14.70	6.96	2364	8.33	
032B	310	1/9/2019	1054	1056	12.10	6.89	1374	5.08	QC DUPLICATE 310
032B		4/22/2019	0945	0946	10.90	6.99	1562	3.29	
032B		7/2/2019	0943	0944	16.90	7.56	1513	12.4	
032B		10/17/2019	0932	0934	17.90	7.31	1432	7.93	
046		1/9/2019	0835	0838	10.40	6.91	996	11.5	
046		4/22/2019	0835	0838	9.70	6.53	865	17.6	
046		7/2/2019	0846	0847	12.50	6.90	842	13.2	
046		10/14/2019	0905	0908	13.50	6.95	788	40.9	
048		1/9/2019	1111	1112	10.30	6.96	874	11.5	
048		4/24/2019	0915	0916	10.40	6.87	857	3.01	
048		7/1/2019	1058	1059	15.70	6.78	1080	8.59	
048		10/14/2019	1018	1019	14.50	6.87	1232	54.3	
053		5/1/2019	1100	1101	11.10	6.89	1587	236.0	
053		10/16/2019	1229	1230	15.50	7.25	1362	87.3	
054		4/25/2019	1251	1254	13.10	7.60	1583	16.9	
054		10/14/2019	1029	1032	14.00	7.11	1263	3.49	
059		4/29/2019	0904	0905	8.60	6.65	981	5.74	
060		4/29/2019	0939	0940	10.10	6.86	1173	40.2	
061		4/23/2019	1215	1216	9.30	7.55	974	2.65	
064		1/8/2019	0750	0757	12.50	6.89	1169	3.60	
064		4/4/2019	0804	0805	10.40	6.90	1134	14.8	
064		7/1/2019	0809	0810	12.10	6.75	1279	12.8	
064		10/8/2019	0844	0845	15.00	6.89	2409	3.77	
065		1/8/2019	0814	0815	12.40	7.09	1103	11.0	
065		4/4/2019	0824	0825	12.30	7.11	977	11.9	
065	310	7/1/2019	0827	0829	12.10	7.08	1067	43.9	QC DUPLICATE 310
065		10/8/2019	0913	0914	12.80	7.03	1362	2.26	
066		1/9/2019	0938	0939	7.50	6.32	1851	10.7	
066		4/5/2019	1009	1010	6.50	7.05	1940	28.1	
066		7/1/2019	1207	1208	18.40	6.74	2113	4.48	
066		10/8/2019	1004	1005	18.20	6.91	1521	10.4	
067		1/8/2019	1341	1344	7.90	7.46	542	107	
067		4/5/2019	1030	1031	6.70	7.40	967	128.0	
067		7/2/2019	0903	0904	14.70	7.28	1060	89.6	
067		10/8/2019	1024	1027	17.30	7.26	871	33.2	
068		1/8/2019	1226	1227	12.90	6.69	1551	21.5	
068		4/25/2019	1035	1038	13.60	6.95	1726	13.2	
068	311	7/1/2019	1257	1258	14.00	6.96	1629	50.0	QC DUPLICATE 311
068		10/15/2019	1300	1301	13.40	7.11	1444	7.28	
069		4/5/2019	1202	1204	6.50	7.06	1632	2.09	
085		4/11/2019	0901	0902	11.60	6.73	2210	12.5	
085		10/17/2019	1228	1229	12.30	7.31	2086	102	
087		4/11/2019	0955	0956	11.60	7.01	987	5.98	
087		11/11/2019	1243	1244	12.40	7.01	1132	3.18	
103		4/24/2019	1051	1054	10.80	6.64	1170	8.75	
103		10/16/2019	1303	1306	17.60	7.25	438	13.3	
104		4/24/2019	1038	1042	14.40	6.94	1303	5.27	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
104		10/16/2019	1248	1252	14.10	7.34	1090	21.7	
105		4/25/2019	1317	1318	14.20	7.48	1509	12.9	
105		10/18/2019	1136	1137	14.00	7.20	1330	74.4	
106		4/16/2019	1052	1054	13.20	6.64	1232	30.2	
109		4/11/2019	1102	1103	13.60	7.11	1207	3.99	
109		10/17/2019	1312	1313	13.10	7.64	1201	2.67	
113		4/24/2019	1105	1106	12.70	7.37	1080	5.57	
113		10/18/2019	1158	1159	11.50	7.62	882	2.97	
118		4/18/2019	1307	1310	15.20	6.39	1978	13.1	
143		4/8/2019	0945	0947	13.20	6.84	3056	2.44	
143		4/16/2019	1038	1040	13.20	6.39	3407	3.69	
146		4/18/2019	1158	1159	11.20	7.46	697	821.0	
151		6/10/2019	1243	1244	13.78	6.84	1328	13.1	
151		10/9/2019	0854	0857	16.50	6.69	1108	8.59	
156		4/18/2019	1214	1215	10.30	7.32	1296	13.2	
156		10/16/2019	1200	1201	11.70	7.56	1206	8.31	
167	311	4/5/2019	1046	1048	10.40	6.91	503	5.77	QC DUPLICATE 311
167		11/11/2019	1315	1316	13.40	6.98	503	25.0	
178		4/15/2019	0955	0958	14.80	6.71	5247	120	
181		4/25/2019	0956	0957	12.90	11.55	9028	184.0	
181		10/18/2019	1101	1102	19.40	11.53	2949	844	
204		4/17/2019	0814	0818	11.40	6.30	2175	545	
210		1/8/2019	0846	0848	11.70	6.14	1084	2.35	
210		2/4/2019	0847	0849	11.60	6.92	1092	4.12	
210		3/1/2019	0933	0935	10.90	7.08	1039	3.11	
210		4/4/2019	1334	1335	12.10	7.47		1.01	
210		4/26/2019	1037	1039	12.00	6.63	1187	5.91	
210		7/5/2019	1310	1311	15.70	7.49	1136	4.69	
210		10/2/2019	1545	1550	14.20	7.05	1003	7.65	
210A		5/1/2019	1243	1244	12.30	7.66	1209	1.84	
210A		6/4/2019	1240	1241	12.80	7.10	1128	0.30	
210A		7/5/2019	1257	1258	12.00	7.28	1118	4.30	
210A		8/2/2019	1110	1111	12.00	7.16	1014	2.24	
210A		9/3/2019	1146	1147	13.50	7.78	995	1.34	
210A		10/2/2019	1526	1530	14.50	7.00	1000	4.45	
210A		11/8/2019	1058	1059	13.00	6.95	1175	1.85	
210A		12/6/2019	0841	0842	13.60	6.87	1217	3.97	
210E		12/6/2019	0832	0833	13.30	6.78	1217	3.17	
210F		4/4/2019	1405	1406	12.70	7.38	1011	1.00	
210F		5/1/2019	1254	1255	14.20	7.57	1193	1.80	
210F		6/4/2019	1232	1233	13.40	7.11	1189	3.12	
210F		7/5/2019	1245	1246	13.30	7.24	1156	0.77	
210F		8/2/2019	1052	1053	13.00	7.15	1034	30.2	
210F		9/3/2019	1131	1132	14.60	7.79	1011	20.1	
210F		10/2/2019	1453	1459	15.30	7.08	1013	7.45	
210F		11/8/2019	1041	1042	12.40	6.88	1202	2.47	
210F		12/6/2019	0821	0822	14.60	6.72	1220	5.81	
220		1/8/2019	0949	0951	13.70	6.73	1578	3.21	
220		2/4/2019	0909	0911	13.80	6.96	1581	2.83	
220		3/1/2019	1003	1005	13.40	7.04	1520	2.67	
220		4/4/2019	1059	1101	14.30	6.81	1475	2.34	
220		4/26/2019	1118	1120	14.20	6.69	1740	3.01	
220		7/5/2019	1055	1056	15.60	7.10	1668	5.36	
220		10/3/2019	1543	1547	14.30	7.16	1417	1.71	
220A		4/4/2019	1125	1126	14.50	6.94	1442	1.04	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
220A		5/1/2019	1036	1037	14.40	6.57	1762	3.59	
220A		6/4/2019	1145	1146	16.90	7.10	1664	0.51	
220A		7/5/2019	1048	1049	16.70	7.11	1670	1.38	
220A		8/2/2019	0938	0939	15.00	7.06	1490	1.31	
220A		9/3/2019	0923	0924	14.70	7.24	1451	1.11	
220A		10/3/2019	1510	1515	14.50	7.26	1428	0.48	
220A		11/8/2019	1141	1142	14.40	7.04	1737	1.65	
220A		12/3/2019	1057	1058	14.50	7.05	1776	4.53	
220C		5/1/2019	1042	1043	14.90	6.67	1745	2.21	
220C		6/4/2019	1143	1144	18.40	6.88	1663	1.83	
220C		7/5/2019	1044	1045	18.30	6.96	1676	3.93	
220C	220C	8/2/2019	0928	0931	17.90	6.87	1491	1.39	QC DUPLICATE 220C
220C		9/3/2019	0918	0920	17.60	7.31	1453	1.07	
220C		10/3/2019	1428	1436	17.20	7.02	1439	0.75	
220C		11/8/2019	1135	1136	17.30	6.90	1722	2.09	
220C		12/3/2019	1103	1104	17.40	7.03	1794	3.67	
220E		10/3/2019	1324	1331	17.10	7.07	1442	1.05	
220E		12/3/2019	1111	1112	18.00	7.02	1792	4.20	
220I		4/4/2019	1139	1140	15.10	6.99	1484	0.85	
220I		5/1/2019	1056	1057	17.60	6.70	1769	2.37	
220I		6/4/2019	1138	1139	18.40	6.72	1663	2.98	
220I		7/5/2019	1038	1039	19.80	7.17	1699	0.46	
220I		8/2/2019	0923	0924	17.90	6.91	1487	0.33	
220I		9/3/2019	0913	0914	17.80	7.33	1454	1.18	
220I		10/3/2019	1302	1305	17.00	7.01	1440	0.27	
220I		11/8/2019	1125	1126	17.40	6.88	1740	1.59	
220I		12/3/2019	1118	1119					
220J		4/4/2019	1151	1152	15.80	7.02	1469	0.68	
220J		5/1/2019	1047	1048	18.90	6.67	1766	2.77	
220J		6/4/2019	1133	1134	18.80	6.65	1626	4.94	
220J		7/5/2019	1029	1030	19.90	6.86	1635	0.31	
220J		8/2/2019	0916	0917	18.40	6.79	1482	0.42	
220J		9/3/2019	0908	0909	18.20	7.23	1432	1.26	
220J		10/3/2019	1155	1200	17.40	6.95	1436	0.21	
220J		11/8/2019	1117	1118	17.30	6.88	1736	1.78	
220J		12/3/2019	1124	1125	17.90	7.12	1795	4.01	
299		4/4/2019							FIELD BLANK
299		7/5/2019							FIELD BLANK
299		10/2/2019							FIELD BLANK
299		10/3/2019							FIELD BLANK
300		1/8/2019							TRIP BLANK
300		2/4/2019							TRIP BLANK
300		3/1/2019							TRIP BLANK
300		4/4/2019							TRIP BLANK
300		4/5/2019							TRIP BLANK
300		4/8/2019							TRIP BLANK
300		4/10/2019							TRIP BLANK
300		4/15/2019							TRIP BLANK
300		4/17/2019							TRIP BLANK
300		4/19/2019							TRIP BLANK
300		4/22/2019							TRIP BLANK
300		4/24/2019							TRIP BLANK
300		4/26/2019							TRIP BLANK
300		4/29/2019							TRIP BLANK
300		5/1/2019							TRIP BLANK

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
300		10/4/2019							TRIP BLANK
300		10/7/2019							TRIP BLANK
300		10/9/2019							TRIP BLANK
300		10/14/2019							TRIP BLANK
300		10/16/2019							TRIP BLANK
300		10/18/2019							TRIP BLANK
300		10/21/2019							TRIP BLANK
300		11/8/2019							TRIP BLANK
300		11/11/2019							TRIP BLANK
300		11/13/2019							TRIP BLANK
300		11/15/2019							TRIP BLANK
300		11/18/2019							TRIP BLANK
300		12/3/2019							TRIP BLANK
300		12/6/2019							TRIP BLANK
301		5/1/2019							TRIP BLANK
301		6/4/2019							TRIP BLANK
301		7/5/2019							TRIP BLANK
301		8/2/2019							TRIP BLANK
301		9/3/2019							TRIP BLANK
301		10/2/2019							TRIP BLANK
301		10/3/2019							TRIP BLANK
301		11/8/2019							TRIP BLANK
301		12/3/2019							TRIP BLANK
302		1/8/2019							TRIP BLANK
302		4/4/2019							TRIP BLANK
302		4/15/2019							TRIP BLANK
302		4/17/2019							TRIP BLANK
302		4/19/2019							TRIP BLANK
302		4/22/2019							TRIP BLANK
302		4/24/2019							TRIP BLANK
302		4/29/2019							TRIP BLANK
302		5/1/2019							TRIP BLANK
302		6/4/2019							TRIP BLANK
302		6/10/2019							TRIP BLANK
302		6/20/2019							TRIP BLANK
302		7/1/2019							TRIP BLANK
302		7/5/2019							TRIP BLANK
302		8/2/2019							TRIP BLANK
302		9/3/2019							TRIP BLANK
302		10/3/2019							TRIP BLANK
302		10/4/2019							TRIP BLANK
302		10/14/2019							TRIP BLANK
302		10/16/2019							TRIP BLANK
302		10/18/2019							TRIP BLANK
302		10/21/2019							TRIP BLANK
303		1/8/2019							EQUIPMENT BLANK/WLID
303		1/9/2019							EQUIPMENT BLANK/WLID
303		4/4/2019							EQUIPMENT BLANK/WLID
303		4/5/2019							EQUIPMENT BLANK/WLID
303		4/8/2019							EQUIPMENT BLANK/WLID
303		4/9/2019							EQUIPMENT BLANK/WLID
303		4/10/2019							EQUIPMENT BLANK/WLID
303		4/11/2019							EQUIPMENT BLANK/WLID
303		4/15/2019							EQUIPMENT BLANK/WLID
303		4/16/2019							EQUIPMENT BLANK/WLID

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
303		4/17/2019							EQUIPMENT BLANK/WLID
303		4/18/2019							EQUIPMENT BLANK/WLID
303		4/19/2019							EQUIPMENT BLANK/WLID
303		4/22/2019							EQUIPMENT BLANK/WLID
303		4/23/2019							EQUIPMENT BLANK/WLID
303		4/24/2019							EQUIPMENT BLANK/WLID
303		4/25/2019							EQUIPMENT BLANK/WLID
303		4/26/2019							EQUIPMENT BLANK/WLID
303		4/29/2019							EQUIPMENT BLANK/WLID
303		4/30/2019							EQUIPMENT BLANK/WLID
303		5/1/2019							EQUIPMENT BLANK/WLID
303		5/2/2019							EQUIPMENT BLANK/WLID
303		6/5/2019							EQUIPMENT BLANK/WLID
303		6/10/2019							EQUIPMENT BLANK/WLID
303		6/11/2019							EQUIPMENT BLANK/WLID
303		6/20/2019							EQUIPMENT BLANK/WLID
303		7/1/2019							EQUIPMENT BLANK/WLID
303		7/2/2019							EQUIPMENT BLANK/WLID
303		10/4/2019							EQUIPMENT BLANK/WLID
303		10/7/2019							EQUIPMENT BLANK/WLID
303		10/8/2019							EQUIPMENT BLANK/WLID
303		10/9/2019							EQUIPMENT BLANK/WLID
303		10/14/2019							EQUIPMENT BLANK/WLID
303		10/15/2019							EQUIPMENT BLANK/WLID
303		10/16/2019							EQUIPMENT BLANK/WLID
303		10/17/2019							EQUIPMENT BLANK/WLID
303		10/21/2019							EQUIPMENT BLANK/WLID
303		10/22/2019							EQUIPMENT BLANK/WLID
303		11/11/2019							EQUIPMENT BLANK/WLID
303		11/13/2019							EQUIPMENT BLANK/WLID
303		11/14/2019							EQUIPMENT BLANK/WLID
305		10/18/2019							EQUIPMENT BLANK/PUMP
305		11/12/2019							EQUIPMENT BLANK/HLMM
305		11/15/2019							EQUIPMENT BLANK/LLMM
305		11/18/2019							EQUIPMENT BLANK/SP#1
305		11/19/2019							EQUIPMENT BLANK/SP#1
323	311	1/8/2019	1055	1056	12.40	6.88	744	40.6	QC DUPLICATE 311
323		4/11/2019	1307	1308	11.20	7.27	697	24.2	
323		7/1/2019	1134	1135	12.70	7.04	741	35.2	
323		10/17/2019	1234	1235	12.30	7.19	722	16.8	
325		1/8/2019	0915	0917	11.80	6.35	1323	5.47	
325		2/4/2019	0928	0930	11.90	7.12	1353	18.7	
325		3/1/2019	0949	0951	11.80	7.06	1301	12.8	
325		4/4/2019	1422	1423	12.80	7.40	1281	4.02	
325		7/5/2019	1232	1233	13.40	7.38	1449	2.55	
325		10/2/2019	1424	1430	14.10	7.10	1306	2.50	
325A		5/1/2019	1210	1211	12.30	7.62	1528	2.20	
325A		6/4/2019	1305	1306	13.10	7.34	1450	6.01	
325A		7/5/2019	1222	1223	12.70	7.32	1439	9.83	
325A		8/2/2019	1149	1150	12.50	7.18	1294	80.6	
325A		9/3/2019	1214	1215	12.90	7.82	1275	2.13	
325A		10/2/2019	1348	1355	13.60	7.08	1289	2.42	
325A		11/8/2019	1318	1319	13.20	7.44	1547	3.54	
325A		12/6/2019	0919	0920	12.70	6.95	1573	4.77	
325E		12/6/2019	0913	0914	12.60	6.96	1569	3.20	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
325F		4/4/2019	1448	1450	12.30	7.44	1277	3.51	
325F		5/1/2019	1225	1226	12.70	7.54	1529	2.02	
325F		6/4/2019	1258	1259	13.00	7.20	1447	5.82	
325F		7/5/2019	1212	1213	13.60	7.21	1456	6.24	
325F		8/2/2019	1132	1133	13.10	7.22	1310	20.5	
325F		9/3/2019	1201	1202	13.00	7.59	1274	2.98	
325F		10/2/2019	1328	1332	14.20	7.13	1314	2.55	
325F		11/8/2019	1302	1303	13.80	7.47	1543	184	
325F		12/6/2019	0904	0905	13.20	6.93	1576	4.97	
384A		3/1/2019	1058	1104	14.80	7.49	967	2.40	
384A		4/4/2019	1214	1218	16.30	7.38	1280	0.78	
384A		5/1/2019	1114	1115	15.80	7.01	1312	1.68	
384A		6/4/2019	1350	1355	17.00	7.76	1095	0.20	
384A		7/5/2019	1134	1139	19.70	7.77	1185	1.51	
384A		8/2/2019	1031	1036	21.60	7.65	1030	1.42	
384A		9/3/2019	1116	1119	23.40	7.56	1029	0.42	
384A		10/2/2019	1230	1237	28.10	7.75	1114	0.29	
384A		11/8/2019	1242	1243	20.60	7.78	1094	1.73	
384A		12/3/2019	1141	1444	21.40	7.35	1045	3.83	
384B		3/1/2019	1113	1116	15.90	7.58	959	2.92	
384B		4/4/2019	1229	1231	17.60	7.44	1274	1.15	
384B		5/1/2019	1126	1127	17.90	6.99	1300	2.21	
384B		6/4/2019	1343	1344	19.60	7.89	1082	0.20	
384B		7/5/2019	1127	1128	22.50	7.92	1173	3.69	
384B		8/2/2019	1022	1023	24.10	8.06	1023	9.38	
384B		9/3/2019	1105	1106	26.10	7.61	1018	0.40	
384B		10/2/2019	1217	1222	28.30	7.65	1112	0.80	
384B		11/8/2019	1234	1235	17.40	7.79	1064	6.49	
384B		12/3/2019	1152	1153	22.40	7.53	1044	4.88	
384C		3/1/2019	1118	1121	14.40	7.78	946	1.78	
384C		4/4/2019	1239	1241	15.10	7.66	1292	0.71	
384C		5/1/2019	1133	1134	15.90	7.22	1303	2.15	
384C		6/4/2019	1338	1339	17.80	8.35	1087	0.22	
384C		7/5/2019	1123	1124	22.80	8.34	1162	3.02	
384C		8/2/2019	1015	1016	23.40	8.38	1019	0.35	
384C		9/3/2019	1056	1057	23.60	7.79	1015	0.31	
384C		10/2/2019	1207	1212	26.70	7.62	1108	0.40	
384C		11/8/2019	1226	1227	12.20	7.72	1088	1.71	
384C		12/3/2019	1159	1200	17.30	7.85	1048	4.00	
384J		3/1/2019	1133	1136	13.80	8.05	960	1.29	
384J		4/4/2019	1248	1250	15.70	7.74	1291	0.73	
384J		5/1/2019	1139	1140	18.00	7.49	1301	1.59	
384J		6/4/2019	1332	1333	18.40	7.82	1085	0.19	
384J		7/2/2019	1118	1119	23.10	7.61	1183	0.19	
384J		8/2/2019	1010	1011	24.20	7.59	1013	0.19	
384J		9/3/2019	1047	1048	24.90	7.07	1001	0.29	
384J		10/2/2019	1158	1202	26.70	7.11	1126	0.27	
384J		11/8/2019	1217	1218	14.90	7.42	1072	1.55	
384J		12/3/2019	1208	1209	17.60	7.78	1032	3.23	
384L		3/1/2019	1141	1144	13.50	8.36	908	1.30	
384L		4/4/2019	1259	1301	15.20	7.67	1285	0.83	
384L		5/1/2019	1149	1150	17.10	7.62	1321	1.57	
384L		6/4/2019	1324	1325	18.90	7.76	1101	0.24	
384L		7/5/2019	1112	1113	24.00	7.73	1202	0.21	
384L		8/2/2019	1003	1004	25.10	7.71	1032	0.22	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
384L		9/3/2019	1040	1041	25.50	7.13	1017	0.45	
384L		10/2/2019	1139	1145	26.60	7.01	1120	0.23	
384L		11/8/2019	1208	1209	16.30	7.42	1034	1.52	
384L		12/3/2019	1214	1215	17.90	7.88	1035	3.32	
395		7/5/2019	1148	1149	17.40	7.60	1561	321.0	
395		10/2/2019	1253	1259	20.00	7.51	858	157	
502		4/5/2019	1029	1031	10.90	6.83	1396	6.17	
520		4/4/2019	1035	1036	9.30	7.34	937	182.0	
520		10/14/2019	1056	1057	13.10	7.44	1208	515	
521		4/4/2019	1105	1106	8.50	7.87	3167	>1000	
521		10/14/2019	1310	1311	12.50	7.32	999	>1000	
545		4/5/2019	1257	1259	9.50	7.05	622	3.31	
545		10/15/2019	1304	1306	11.60	7.16	1162	3.70	
559		5/2/2019	1011	1014	11.70	6.75	1562	4.25	
559		10/17/2019	1006	1009	11.40	6.92	1369	4.90	
561	312	4/15/2019	1406	1410	11.60	7.00	1007	34.8	QC DUPLICATE 312
561		10/15/2019	1330	1331	11.60	7.05	1322	124	
563		4/24/2019	0927	0928	11.10	6.71	1192	6.12	
563		10/21/2019	1421	1422	12.60	7.59	1054	0.50	
564		4/24/2019	0939	0940	10.90	7.41	681	2.10	
564		10/18/2019	1119	1120	11.30	8.52	660	4.84	
571		1/9/2019	1209	1212	8.40	6.82	748	593	
571		4/24/2019	1117	1118	8.80	7.34	881	352.0	
572		4/30/2019	1225	1229	17.20	6.44	2558	4.68	
574		4/30/2019	1014	1018	19.90	7.03	1706	3.07	
576		4/24/2019	1329	1332	12.20	7.16	2122	5.97	
576		10/9/2019	0936	0940	17.00	6.76	5516	8.82	
577		4/25/2019	0903	0905	14.20	6.60	3739	>1000	
577		10/21/2019	1008	1009	14.30	6.79	2949	32.7	
579		4/29/2019	1123	1124	13.40	6.96	1881	60.6	
580	313	4/10/2019	1015	1019	9.20	7.09	1734	776	QC DUPLICATE 313
580		10/7/2019	1043	1046	18.10	6.97	1677	44.4	
581		4/10/2019	1359	1403	11.60	7.28	1028	453	
600		4/16/2019	1321	1322	11.10	6.95	14895	38.5	
601		4/16/2019	1315	1316	12.90	7.23	2752	21.5	
601		10/18/2019	1027	1028	12.40	6.96	2077	3.26	
602		4/15/2019	1316	1319	11.30	7.35	243	>1000	
603		4/18/2019	1320	1321	12.20	7.80	978	>1000	
604		4/18/2019	1254	1255	13.20	7.64	652	117.0	
607		4/16/2019	1244	1247	15.10	6.81	1099	122	
607		10/15/2019	1223	1226	15.10	7.21	1006	13.7	
609		5/2/2019	0828	0829	13.50	6.71	2937	265.0	
609		6/11/2019	1104	1105	16.10	7.04	2933	217.0	
609		10/22/2019	1018	1019	14.10	6.94	2662	78.9	
610		6/10/2019	1119	1120	14.50	7.23	2291	1850	
610	312	10/22/2019	0929	0931	13.80	6.56	2089	22.8	QC DUPLICATE 312
611		4/23/2019	1040	1041	14.80	7.27	1876	3.11	
612		1/9/2019	0929	0932	14.80	6.22	3376	5.49	
612		4/22/2019	1158	1202	13.30	6.76	4479	9.96	
612		7/2/2019	1014	1015	14.00	6.79	3877	6.29	
612		10/7/2019	1224	1227	16.90	7.02	3336	4.51	
617		10/7/2019	1127	1129	16.40	7.11	3403	2.67	
622	314	4/22/2019	1005	1007	16.30	6.98	1069	0.80	QC DUPLICATE 314
622		10/15/2019	0943	0944	15.30	6.96	1014	2.12	
623		4/23/2019	0933	0934	13.30	7.27	1934	11.9	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
623		11/19/2019	1044	1048	12.10	6.98	2152	8.18	
624		4/17/2019	1035	1036	12.90	7.50	972	3.04	
624		11/18/2019	1349	1353	12.30	6.97	1019	9.30	
627		1/9/2019	0850	0853	14.40	5.01	2070	6.06	
627		4/19/2019	0906	0910	13.60	5.05	1331	10.1	
627		10/4/2019	1239	1243	17.10	5.96	2317	24.0	
628		1/9/2019	1018	1019	11.30	6.86	996	2.49	
628		4/22/2019	0915	0916	10.40	6.85	861	1.91	
628		7/2/2019	0827	0828	12.80	6.80	818	1.16	
628		10/14/2019	0937	0938	13.60	7.04	788	4.59	
640		4/15/2019	1141	1144	12.20	7.11	686	857	
640		10/9/2019	1208	1211	17.40	7.28	607	235	
701		4/9/2019	1204	1208	9.00	7.47	895	843	
702		4/9/2019	1135	1137	7.40	7.29	1463	1000	
702		10/8/2019	1248	1251	18.50	7.29	1465	>1000	
706		4/16/2019	1328	1331	16.20	6.69	3854	24.9	
706		10/16/2019	1401	1403	15.40	6.78	2480	15.5	
711		6/5/2019	1332	1333	16.30	7.00	1647	22.5	
714		4/9/2019	0834	0837	14.90	6.61	1841	282	
714		10/9/2019	1125	1128	13.60	7.09	1838	104	
716		5/2/2019	1022	1023	15.30	7.29	4790	557.0	
716	313	10/22/2019	1243	1245	14.80	6.72	4021	20.8	QC DUPLICATE 313
720		4/24/2019	1145	1146	12.90	7.06	2192	10.3	
720		10/21/2019	1406	1407	13.50	7.26	1852	64.3	
722		4/30/2019	1254	1255					
732	315	4/17/2019	1302	1304	15.90	7.47	1075	11.9	QC DUPLICATE 315
732		10/18/2019	0923	0924	15.00	7.06	990	12.8	
734		4/22/2019	1127	1128	15.40	7.13	2028	10.7	
734		11/19/2019	1216	1220	14.00	7.01	2079	113	
735		4/10/2019	1037	1041	12.50	6.95	2210	23.2	
735		10/4/2019	1043	1046	14.70	7.00	1621	14.7	
737	316	4/10/2019	0916	0918	13.70	6.92	1104	1000	QC DUPLICATE 316
737	314	11/13/2019	1133	1134	13.60	7.10	1240	>1000	QC DUPLICATE 314
739		4/19/2019	1016	1017	15.20	6.42	1050	6.70	
740		1/9/2019	0821	0824	13.80	6.56	3559	484.0	
740		4/19/2019	1147	1151	15.70	6.70	4434	3.51	
740		10/7/2019	0932	0935	17.10	7.19	3674	2.13	
742		6/5/2019	1018	1019	14.40	7.10	1732	18.0	
742	315	10/22/2019	1320	1322	14.10	7.49	1697	20.7	QC DUPLICATE 315
743		4/19/2019	1058	1101	14.10	6.39	4547	23.5	
744		4/15/2019	0913	0916	12.00	6.74	1608	15.0	
744		10/8/2019	1218	1221	13.20	7.16	1582	19.0	
745		4/15/2019	1029	1032	11.30	6.86	2302	86.5	
751		4/24/2019	1014	1017	11.40	6.69	652	67.3	
753		4/24/2019	1121	1124	11.10	6.83	744	136	
754		4/22/2019	1330	1335	12.30	7.18	1839	26.0	
755		4/22/2019	1108	1111	10.80	7.14	726	260	
755		10/14/2019	1125	1129	17.40	7.29	747	49.8	
756		1/9/2019	1031	1032	11.40	6.99	1990	17.6	
756		4/23/2019	1238	1242	14.40	7.42	2832	113	
757		4/8/2019	1401	1404	10.90	7.69	1391	>1000	
757		10/9/2019	1043	1046	18.00	7.31	1598	>1000	
761		4/9/2019	1035	1039	13.50	7.12	1418	61.3	
763		4/9/2019	1106	1110	14.30	7.35	1130	502	
766	317	4/10/2019	1102	1107	10.50	7.13	1307	222	QC DUPLICATE 317

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
766		10/4/2019	0929	0932	17.40	6.80	1950	253	
767		4/10/2019	1134	1138	12.60	7.13	3009	1000	
767		10/4/2019	0956	0959	17.90	6.85	2411	682	
768		4/17/2019	1146	1150	14.20	6.84	5336	>1000	
768	317	10/4/2019	1024	1027	17.00	7.03	4525	>1000	QC DUPLICATE 317
769		4/19/2019	1017	1021	15.40	5.90	4164	14.6	
769		10/7/2019	1018	1021	16.60	6.99	3541	27.9	
771		4/17/2019	1412	1416	13.90	7.02	5404	>1000	
771		10/4/2019	1136	1137	18.50	7.24	4344	>1000	
772		4/17/2019	1037	1040	12.90	6.29	4586	>1000	
772		10/4/2019	1045	1046	19.70	7.06	3463	>1000	
773		4/17/2019	0924	0928	13.70	6.05	3277	457	
773		10/4/2019	1117	1118	14.90	7.01	3199	802	
774		4/8/2019	1105	1108	12.70	6.76	4713	5.19	
774		10/7/2019	1343	1345	16.90	6.88	4590	20.2	
775		4/8/2019	1133	1136	13.00	6.57	7920	133	
777		4/11/2019	1137	1138	11.70	7.18	892	1.29	
777		10/18/2019	1235	1236	12.20	7.26	1705	6.65	
779		4/18/2019	1023	1025	11.40	6.57	1812	23.2	
779		10/15/2019	1015	1017	11.80	6.85	1651	12.6	
789		4/17/2019	0844	0848	9.90	5.86	2781	>1000	
791		4/8/2019	1314	1318	11.70	6.91	4717	1000	
792		4/17/2019	1106	1110	10.90	6.58	4602	233	
793		4/17/2019	1307	1311	13.20	6.91	4877	106	
793		10/4/2019	1023	1024	18.70	7.25	3043	176	
832		4/23/2019	0919	0922	9.90	7.14	741	2.54	
857		4/4/2019	1330	1331	11.90	7.03	828	6.77	
857		10/14/2019	1125	1126	12.00	7.41	747	3.70	
858		4/4/2019	1110	1111	11.30	7.39	853	1.66	
858		10/14/2019	1330	1331	12.30	7.50	254	23.2	
921		4/18/2019	0934	0935	10.70	8.94	2847	76.8	
921		11/15/2019	1224	1225	13.40	6.95	1881	611	
922		4/17/2019	0903	0904	13.90	6.71	2141	677.0	
922		11/15/2019	1011	1012	12.70	6.88	2287	70.6	
923	318	4/18/2019	1030	1032	13.50	7.31	2236	3.39	QC DUPLICATE 318
923		11/13/2019	1341	1342	13.10	7.01	2260	23.8	
929	319	4/16/2019	1155	1156	13.80	7.22	2340	2.50	QC DUPLCAITE 319
929		11/12/2019	0935	0936	12.80	6.75	2407	14.7	
931		4/16/2019	0907	0908	12.60	7.17	3249	9.01	
931		10/17/2019	1131	1132	12.90	7.19	2964	13.1	
932		4/15/2019	1317	1318	14.30	6.96	1234	4.98	
932		10/17/2019	0954	0955	13.60	6.37	343	49.9	
941		4/25/2019	0821	0822	14.30	6.86	1011	6.76	
941		10/16/2019	0807	0808	14.30	6.97	792	23.5	
943		4/29/2019	0950	0951	12.50	6.74	1279	15.2	
943		10/15/2019	1057	1058	11.80	7.50	1205	15.3	
944		4/29/2019	1233	1234	11.60	7.15	1504	>1000	
944		10/15/2019	1233	1234	11.60	7.46	1376	536	
952		5/1/2019	0957	1001	11.60	7.20	1203	>1000	
952		10/21/2019	1222	1223	11.80	7.29	996	>1000	
953		4/16/2019	1044	1045	12.70	7.23	2736	171.0	
953		11/18/2019	1054	1055	12.90	6.67	3011	29.0	
954		4/18/2019	1047	1048	14.80	10.53	1976	56.1	
954		11/14/2019	1304	1305	13.20	6.77	2440	178	
956		4/16/2019	0921	0922	15.30	6.31	2580	>1000	

Field Parameters Database

WELL	QC_ID	DATE	START SAMPLE	END SAMPLE	TEMP (Deg. C)	PH	SPEC_COND (umhos/cm)	TURBIDITY (NTU)	COMMENTS
956		11/12/2019	1141	1142	13.50	6.94	2556	382	
958		4/29/2019	1402	1404	13.00	7.53	875	13.5	
958		11/13/2019	1023	1024	11.10	6.85	874	42.1	
959		4/25/2019	1123	1127	13.90	7.03	2521	431	
959		11/14/2019	1036	1037	14.10	6.69	2659	702	
960		5/1/2019	0934	0938	14.40	6.89	2240	401.0	REJECTED, HEADSPACE
960		6/20/2019	1310	1312	15.90	7.03	2022	83.6	
960	318	10/18/2019	1046	1050	13.70	7.12	2079	>1000	QC DUPLICATE 318
963		4/5/2019	0908	0909	11.70	7.15	547	1.33	
963		10/16/2019	1112	1113	12.30	7.46	845	1.22	
964		4/5/2019	0931	0932	11.70	7.33	1445	1.22	
964		10/16/2019	1129	1130	11.90	7.52	1655	1.44	
965		4/22/2019	1250	1251	14.00	7.22	2032	2.27	
966		4/23/2019	1147	1148	15.00	7.02	1929	0.77	
966		10/16/2019	0929	0930	13.70	7.03	1779	0.70	
987		1/8/2019	0929	0930	11.90	6.99	768	13.5	
987		4/4/2019	0931	0932	11.70	7.17	917	42.3	
987		7/1/2019	0938	0939	12.00	7.13	1547	3.24	
987		10/14/2019	0952	0953	11.90	7.37	1797	4.74	
990		1/8/2019	0955	0956	12.20	7.06	818	3.03	
990	320	4/4/2019	0956	0958	10.40	7.14	647	6.13	QC DUPLICATE 320
990		7/1/2019	1018	1019	10.50	7.01	685	3.26	
990		10/8/2019	0934	0935	12.40	7.06	690	1.41	
998		4/9/2019	1309	1312	10.60	7.11	1372	182	
998		10/16/2019	1227	1230	14.70	6.68	1960	83.9	
999	321	4/24/2019	1257	1259	14.70	7.22	2111	47.1	QC DUPLICATE 321
999		10/16/2019	1305	1306	13.50	7.26	1686	96.5	

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
January 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	55	34	45	18.5				20	0	0723	1636	RA BR	0.09			29.59		7.8	40	280	29	280
02	35	26	31	4.7				34	0	0723	1637		0.00			30.07		2.6	14	120	10	150
03	42	32	37	10.9				28	0	0723	1638	SN BR	T			29.76		4.8	25	310	17	290
04	45	26	36	10.0				29	0	0723	1639		0.00			29.72		4.4	15	210	12	220
05	40	28	34	8.2				31	0	0723	1640	RA FG FZFG BR	0.95			29.45		3.4	20	020	13	010
06	45	26	36	10.3				29	0	0723	1641	FZFG BR FG	0.01			29.71		8.0	36	340	24	310
07	28	18	23	-2.6				42	0	0723	1642		0.00			30.22		6.4	21	020	15	010
08	36	28	32	6.5				33	0	0722	1643	RA SN FG BR UP	0.17			29.82		2.0	17	130	12	300
09	44	32	38	12.6				27	0	0722	1644	RA BR UP	0.06			29.35		13.1	36	320	25	300
10	32	25	29	3.7				36	0	0722	1645		T			29.50		13.7	36	320	25	330
11	30	14	22	-3.3				43	0	0722	1646		0.00			29.98		9.7	29	320	18	310
12	28	12	20	-5.2				45	0	0721	1647		0.00			30.29		1.9	13	030	8	020
13	27	14	21	-4.2				44	0	0721	1648		0.00			30.25		7.8	17	020	13	010
14	29	8	19	-6.2				46	0	0721	1649		0.00			30.09		3.3	13	010	9	030
15	33	11	22	-3.1				43	0	0720	1650		0.00			29.95		1.3	11	010	9	350
16	43	31s	37s	11.9s				28s	0s	0720	1651		0.00			29.85		7.0	23	280	16	280
17	31	18	25	-0.1				40	0	0719	1653		0.00			30.15		2.7	13	020	10	020
18	38	25	32	6.8				33	0	0719	1654	SN	0.01			29.93		2.2	16	250	12	250
19	36	19	28	2.8				37	0	0718	1655	SN	0.14			29.99		3.5	15	340	12	340
20	32	9	21	-4.2				44	0	0718	1656	FZRA SN BR UP HZ	0.57			29.39		10.4	29s	360s	22	360
21	15	3	9	-16.3				56	0	0717	1657	HZ	0.00			29.80		11.1	31	280	24	280
22	28	-4*	12	-13.3				53	0	0716	1659		0.00			30.37		0.8	16	310	12	300
23	39	13	26	0.6				39	0	0716	1700	SN BR	0.01			30.08		0.5	10	200	7	230
24	59*	35	47	21.6				18	0	0715	1701	RA SN FG BR	1.22			29.38		6.8	26	300	18	280
25	40	27	34	8.5				31	0	0714	1702	SN	T			29.72		10.4	30	280	22	240
26	35	20	28	2.4				37	0	0713	1704	SN	T			30.03		5.0	23	250	16	270
27	48	19	34	8.3				31	0	0712	1705	SN	T			29.85		5.6	27	180	18	190
28	36	18	27	1.2				38	0	0712	1706	SN	T			29.89		6.4	21	030	15	030
29	33	16	25	-0.9				40	0	0711	1707	SN HZ	0.35			29.76		1.6	9	340	7	360
30	33	6	20	-6.0				45	0	0710	1709	SN HZ	T			29.70		11.5	44	250	33	270
31	18	1	10	-16.1				55	0	0709	1710		0.00			30.11		10.7	24	270	17	250
	35.7	18.6	27.2							Monthly Averages | Totals			3.58s			29.86	30.04	6.0				
	0.3	2.9	1.6	Departure from Normal (1981-2010)									0.50s									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	1160	-63	3423	
Cooling	0	0	0	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling					11	6			

Date of 5-sec to 3-sec wind equipment change	Sea Level Pressure			Greatest...		
			Date	Time	24-Hr...		Snow Depth
N/A	Maximum	30.66	22	1058	Precip	Snowfall	
	Minimum	29.23	24	1503	1.23		
					Date		
					23-24		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
February 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	26	-3*	12	-14.3				53	0	0708	1711		0.00			30.21		1.6	14	240	10	230
02	31s	-2	15s	-11.4s				50s	0s	0707	1712		0.00			30.04		5.9	21	240	15	240
03	45s	28	37s	10.5s				28s	0s	0706	1714	SN HZ	T			29.92		1.7	15	230	10	220
04	59	32s	46s	19.3s				19s	0s	0705	1715	SN MIFG FG	0.00s			29.85		2.4	13	190	7	250
05	61*	38s	50s	23.2s				15s	0s	0704	1716	RA SN	T			29.78		5.8	23	020	13	020
06	44	27	36	9.0				29	0	0703	1717	RA BR UP	0.44			29.98		2.2	12	030	9	020
07	45	36	41	13.9				24	0	0701	1719	RA BR UP	0.05			29.90		2.6	11	140	8	130
08	55	28	42	14.7				23	0	0700	1720	RA BR	0.29			29.77		10.6	39	280	28	270
09	33	21	27	-0.4				38	0	0659	1721		0.00			30.31		13.3	34	260	24	270
10	35	14	25	-2.6				40	0	0658	1723		0.00			30.39		1.4	12	250	9	230
11	34	26	30	2.2				35	0	0657	1724	SN	0.00s			30.14		6.0	16	010	13	340
12	26s	19	23s	-5.0s				42s	0s	0655	1725	SN FZFG BR HZ FG	0.56			30.10		6.4	17	350	15	340
13	40	26	33	4.8				32	0	0654	1726	SN BR UP	0.05			29.47		10.0	36	250	26	250
14	43	27	35	6.7				30	0	0653	1728	SN	T			29.80		8.2	26	250	22	250
15	54	27	41	12.5				24	0	0651	1729	RA SN	0.01			29.59		5.1	30	340	21	340
16	42	25	34	5.3				31	0	0650	1730		T			29.65		6.3	21	330	15	320
17	38	16	27	-1.9				38	0	0649	1731	SN BR	0.15			29.91		2.2	19	360	14	010
18	33	20	27	-2.2				38	0	0647	1733	SN FZFG BR FG	0.13			29.75		4.6	28	330	18	330
19	33	9	21	-8.4				44	0	0646	1734		0.00			30.31		1.9	16	350	12	320
20	29	17	23	-6.6				42	0	0644	1735	FZRA SN FZFG BR UP FG	0.37			30.32		0.8	12	180	9	180
21	49	30s	40s	10.2s				25s	0s	0643	1736	FZRA SN BR	0.08			29.78		5.3	25	270	20	270
22	42	28	35	5.0				30	0	0641	1737		0.00			30.11		3.8	15	360	12	010
23	40	22	31	0.7				34	0	0640	1739	SN BR	0.01			30.24		0.4	9	150	7	150
24	44	33	39	8.5				26	0	0639	1740	RA SN BR	0.23			29.52		6.3	39	240	26	260
25	40	25	33	2.2				32	0	0637	1741	SN	T			29.53		18.4	49s	270s	36	280
26	33	20	27	-4.0				38	0	0635	1742		0.00			30.11		10.6	30	260	23	270
27	22	16	19	-12.3				46	0	0634	1743	SN HZ	T			30.17		4.7	17	040	14	030
28	32	17	25	-6.5				40	0	0632	1745	SN UP HZ	0.02		0	29.97		6.3	20	020	15	020
	39.3	21.4	30.4							Monthly Averages | Totals			2.39			29.95	30.13	5.6				
	-0.1	3.6	1.8	Departure from Normal (1981-2010)									-0.27									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	952	-67	4376	
Cooling	0	0	0	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling					13	7			

Date of 5-sec to 3-sec wind equipment change	Sea Level Pressure			Greatest...		
		Date	Time	24-Hr...		Snow Depth
				Precip	Snowfall	
N/A	Maximum 30.72	10	0004	0.61s		
	Minimum 29.30	24	1725			
				Date		
				12-13		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
March 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	37	20	29	-2.7				36	0	0631	1746	SN BR	0.04			30.12		2.0	10	160	8	160
02	40	30	35	3.2				30	0	0629	1747	SN BR	0.13			29.88		3.5	11	010	8	230
03	42	25	34	1.9				31	0	0628	1748	SN FG BR	0.29			29.88		2.4	15	170	10	170
04	39	20	30	-2.4				35	0	0626	1749	SN BR	0.10			29.62		9.2	24	280	18	280
05	30	16	23	-9.6				42	0	0624	1750	SN BR	T			29.82		8.2	25	290	20	290
06	25	14	20	-12.9				45	0	0623	1752	SN	T			29.90		10.5	29	270	21	270
07	30	10	20	-13.2				45	0	0621	1753		0.00			30.08		8.5	28	250	21	250
08	37	8*	23	-10.5				42	0	0620	1754		0.00			30.15		2.7	21	240	13	250
09	47	18	33	-0.9				32	0	0618	1755	SN BR	0.00s			30.09		2.2	12	020	9	360
10	38	30	34	-0.2				31	0	0616	1756	SN FG BR	0.14			29.93		4.9	23	130	16	120
11	52	35	44	9.5				21	0	0615	1757	BR	0.00			29.79		9.5	28	280	22	240
12	44	26	35	0.2				30	0	0613	1759		0.00			29.98		8.8	32	340	22	320
13	47	19	33	-2.2				32	0	0611	1800		0.00			30.13		2.8	13	250	10	250
14	60	38	49	13.5				16	0	0610	1801		T			29.98		6.3	21	130	15	130
15	72*	44	58	22.1				7	0	0608	1802	TS RA FG BR	0.01			29.58		5.0	22	350	17	360
16	50	32	41	4.8				24	0	0606	1803		0.00			29.74		13.5	33	270	26	300
17	42	26	34	-2.6				31	0	0604	1804		0.00			29.97		8.9	25	250	18	250
18	45	19	32	-5.0				33	0	0603	1805		0.00			30.07		3.4	25	260	20	250
19	49	19	34	-3.3				31	0	0601	1806		0.00			30.19		2.7	28	290	21	330
20	54	21	38	0.3				27	0	0559	1807		0.00			30.16		4.6	20	240	13	240
21	46	37	42	3.9				23	0	0558	1809	RA BR HZ	0.15			29.88		4.5	18	100	12	110
22	45	37	41	2.5				24	0	0556	1810	RA BR	0.52			29.23		12.6	34	280	25	270
23	47	29	38	-0.9				27	0	0554	1811	SN	T			29.67		13.4	36	250	22	290
24	60	22	41	1.7				24	0	0553	1812		0.00			29.91		5.7	26	270	20	260
25	51	25	38	-1.7				27	0	0551	1813		0.00			29.87		6.4	22	010	17	010
26	48	24	36	-4.1				29	0	0549	1814		0.00			30.08		7.4	24	010	18	010
27	49	19	34	-6.5				31	0	0548	1815		0.00			30.29		3.3	16	160	12	250
28	54	24	39	-1.9				26	0	0546	1816		0.00			30.16		6.5	23	140	16	150
29	55	45	50	8.7				15	0	0544	1817	RA BR	0.07			29.91		2.3	12	230	8	210
30	71	47	59	17.3				6	0	0542	1818	FG BR HZ	0.00			29.81		7.1	31	150	21	160
31	60	36	48	5.9				17	0	0541	1820	RA BR HZ	0.13			29.55		9.5	28	290	20	300
	47.3	26.3	36.8							Monthly Averages | Totals			1.58			29.91	30.09	6.5				
	-0.8	0.8	0.0	Departure from Normal (1981-2010)									-1.99									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	872	-2	5248	
Cooling	0	0	0	

Number of days with...

Temperature				Precipitation		Snow	Weather	
Max		Min						
>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
0	3	23	0	10	7			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.55	27	0843
Minimum	29.29	22	1359

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.60s		
Date		
21-22		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Local Climatological Data
Daily Summary
April 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	45	26	36	-6.5				29	0	0539	1821		0.00			29.96		8.6	28	270	21	280
02	52	20*	36	-6.9				29	0	0537	1822		0.00			30.14		5.0	27	130	18	140
03	65	34	50	6.6				15	0	0536	1823		0.00			29.80		11.9	41	260	32	250
04	55	33	44	0.2				21	0	0534	1824		0.00			30.16		10.0	33	260	24	280
05	42	29	36	-8.2				29	0	0532	1825	RA SN BR HZ	0.31			30.26		1.7	15	190	10	200
06	65	35	50	5.4				15	0	0531	1826	RA BR	0.01			30.01		2.8	15	010	12	010
07	69	34	52	7.0				13	0	0529	1827		0.00			30.01		4.4	19	160	13	170
08	74	49	62	16.6				3	0	0527	1828	RA BR	0.42			29.65		3.7	16	010	13	350
09	58	39	49	3.2				16	0	0526	1829	RA FG BR	0.03			29.49		4.7	27	160	18	150
10	56	36	46	-0.3				19	0	0524	1830	FG BR	0.00			29.64		8.2	25	310	21	280
11	50	33	42	-4.7				23	0	0522	1832		0.00			30.03		1.7	13	020	10	030
12	63	39	51	3.9				14	0	0521	1833	RA BR HZ	0.27			30.03		3.9	18	130	14	130
13	77	50	64	16.5				1	0	0519	1834	RA BR	0.47			29.83		4.3	23	230	17	230
14	72	50	61	13.1				4	0	0518	1835	RA	0.04			29.67		5.3	21	170	14	180
15	68	43	56	7.7				9	0	0516	1836	TS RA BR	0.54			29.23		13.0	47	240	31	230
16	64	39	52	3.4				13	0	0514	1837		0.00			29.75		10.4	32	300	24	310
17	64	42	53	4.0				12	0	0513	1838		0.00			29.94		3.8	18	160	13	170
18	56	46	51	1.6				14	0	0511	1839	BR	T			29.88		3.9	24	130	17	130
19	78*	44	61	11.2				4	0	0510	1840	RA BR	0.12			29.57		8.7	31	180	20	210
20	69	57	63	12.8				2	0	0508	1841	RA BR HZ	0.37			29.55		9.2	30	130	21	130
21	66	49	58	7.5				7	0	0507	1842		T			29.78		4.1	19	110	14	130
22	68	49	59	8.1				6	0	0505	1844	RA BR	0.05			29.86		6.2	24	030	18	330
23	76	46	61	9.7				4	0	0504	1845	RA FG BR	0.05			29.72		2.5	19	200	15	260
24	63	44	54	2.4				11	0	0502	1846	FG BR	0.00			29.58		9.7	27	290	22	280
25	68	38	53	1.0				12	0	0501	1847		0.00			29.75		3.6	17	220	13	260
26	59	52	56	3.7				9	0	0459	1848	RA BR	0.63			29.46		5.6	29s	320s	21	330
27	52	43	48	-4.7				17	0	0458	1849	RA BR	0.26			29.36		13.3	45	270	29	270
28	47	32	40	-13.0				25	0	0457	1850	RA FG BR	0.10			29.82		2.4	15	020	12	010
29	60	29	45	-8.3				20	0	0455	1851	RA BR	0.06			30.14		3.2	15	260	12	240
30	60	44	52	-1.7				13	0	0454	1852	RA BR HZ	0.12			30.05		3.4	19	020	14	030
	62.0	40.1	51.1							Monthly Averages | Totals			3.85s			29.80	29.98	6.0				
	1.2	3.5	2.4	Departure from Normal (1981-2010)									0.07s									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	417	-77	5665	
Cooling	0	-5	0	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling	0	0	5	0	17	11			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.51	05	0722
Minimum	29.24	15	0312

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.85s		

Date		
26-27		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
May 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	56	48	52	-2.0				13	0	0453	1853	BR	T			30.19		4.4	16	130	12	130
02	73	48	61	6.7				4	0	0451	1854	BR	0.00			29.93		3.9	17	130	14	150
03	56	49	53	-1.6				12	0	0450	1855	RA BR	0.13			29.91		3.2	16	150	12	140
04	70	53	62	7.1				3	0	0449	1857	RA BR	0.17			29.70		2.5	12	340	9	340
05	60	53	57	1.8				8	0	0448	1858	RA BR	0.53			29.65		4.7	15	090	12	090
06	73	46	60	4.4				5	0	0446	1859	FG BR	0.00			29.78		3.5	18	010	12	140
07	76	50	63	7.1				2	0	0445	1900	RA BR	0.20			29.94		5.2	40	340	28	330
08	70	49	60	3.8				5	0	0444	1901		0.00			30.03		5.8	20	040	14	030
09	61	48	55	-1.5				10	0	0443	1902		0.00			30.11		6.2	19	120	14	120
10	75	53	64	7.2				1	0	0442	1903	TS RA BR	0.14			29.84		7.4	22	010	17	010
11	67	51	59	1.9				6	0	0440	1904	RA BR	0.02			29.83		6.8	21	020	16	020
12	56	41	49	-8.4				16	0	0439	1905	RA BR	1.07			29.80		6.3	18	040	14	040
13	49	42	46	-11.6				19	0	0438	1906	RA BR HZ	0.53			29.71		3.9	12	060	9	320
14	50	43	47	-10.9				18	0	0437	1907	RA BR	0.12			29.64		2.1	16	010	12	360
15	69	40*	55	-3.2				10	0	0436	1908	RA FG BR	0.04			29.64		3.9	25	290	17	300
16	72	46	59	0.5				6	0	0435	1909	BR	0.00			29.65		1.8	16	320	12	300
17	73	51	62	3.2				3	0	0434	1910		0.02			29.59		3.9	19	320	14	340
18	76	44	60	0.9				5	0	0433	1911		0.00			29.77		2.6	17	010	13	010
19	82	54	68	8.6				0	3	0433	1912	RA BR	0.07			29.80		5.5	23	210	15	150
20	82	62	72	12.3				0	7	0432	1913	RA BR	0.15			29.59		6.4	24	030	16	020
21	71	46	59	-1.0				6	0	0431	1914		0.00			29.72		11.3	31	320	23	310
22	73	41	57	-3.3				8	0	0430	1915		0.00			30.00		4.4	22	300	17	020
23	72	55	64	3.4				1	0	0429	1916	RA BR	0.16			29.86		5.6	20s	230s	14	240
24	73	60	67	6.1				0	2	0429	1917	FG BR	0.00			29.72		10.0	34	320	23	310
25	72	49	61	-0.1				4	0	0428	1917	RA	T			29.96		5.7	21	170	14	160
26	88*	57	73	11.6				0	8	0427	1918	RA	0.02			29.72		7.0	34	240	28	250
27	80	53	67	5.3				0	2	0427	1919		0.00			29.74		3.7	22	340	17	360
28	64	57	61	-1.0				4	0	0426	1920	TS RA BR	0.55			29.64		2.5	18	140	13	140
29	69	54	62	-0.3				3	0	0425	1921	RA FG BR	0.76			29.54		4.3	16	100	12	350
30	70	56	63	0.4				2	0	0425	1922	RA BR HZ	0.09			29.56		3.9	16	170	12	170
31	81	57	69	6.1				0	4	0424	1922	FG BR	0.00			29.54		3.5	22	250	17	240
	69.6	50.2	59.9							Monthly Averages | Totals			4.31s			29.78	29.94	4.9				
	-1.7	3.9	1.1	Departure from Normal (1981-2010)									-0.10s									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	182	-41	5847	
Cooling	25	-6	25	

Number of days with...

Temperature				Precipitation		Snow	Weather	
Max		Min						
>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
0	0	0	0	16s	10s			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.44	01	0757
Minimum	29.60	31	0018

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.07		
Date		
12-12		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
June 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	81	53s	67s	3.8s				0s	2s	0424	1923	TS	0.00			29.62		3.6	16	180	12	250
02	78s	59s	69s	5.5s				0s	4s	0423	1924	BR	0.01			29.51		5.6	25	290	20	290
03	68s	45s	57s	-6.8s				8s	0s	0423	1925		0.00			29.69		7.5	28s	230s	21	280
04	70s	41s	56s	-8.1s				9s	0s	0423	1925		0.00			29.86		2.9	23s	230s	16s	250s
05	81	53s	67s	2.6s				0s	2s	0422	1926		0.00			29.65		5.2	18s	190s	13s	170s
06	80	62s	71s	6.3s				0s	6s	0422	1927	RA BR	0.02			29.54		5.2	22s	050s	17s	020s
07	80	57s	69s	4.0s				0s	4s	0422	1927	BR	0.00			29.73		1.7	14s	020s	9s	360s
08	83	54s	69s	3.7s				0s	4s	0421	1928		0.00			29.93		3.4	16s	020s	12s	350s
09	80s	50s	65s	-0.6s				0s	0s	0421	1929		0.00			30.09		3.4	17s	190s	13s	150s
10	75s	47s	61s	-4.9s				4s	0s	0421	1929	RA BR	0.25			29.91		4.1	21s	120s	15s	130s
11	76s	51s	64s	-2.2s				1s	0s	0421	1930	RA BR	0.11			29.72		7.7	29	320	22	330
12	77s	47s	62s	-4.5s				3s	0s	0421	1930		0.00			29.96		4.3	21s	170s	14s	240s
13	68s	56s	62s	-4.8s				3s	0s	0421	1931	RA BR	0.46			29.70		5.3	21s	060s	15s	110s
14	74s	52s	63s	-4.1s				2s	0s	0421	1931		0.00			29.65		8.5	35	300	29	280
15	83	50s	67s	-0.3s				0s	2s	0421	1931		T			29.84		7.1	28s	220s	21	240
16	72s	63s	68s	0.4s				0s	3s	0421	1932	RA FG BR	0.07			29.68		1.7	11s	230s	8s	140s
17	76s	63s	70s	2.1s				0s	5s	0421	1932	FG BR	0.01s			29.76		2.9	18s	010s	13s	360s
18	71s	63s	67s	-1.2s				0s	2s	0421	1932	RA BR	0.64			29.74		1.4	11s	150s	8s	120s
19	75s	61s	68s	-0.4s				0s	3s	0421	1933	BR	T			29.66		3.4	13s	170s	9s	130s
20	79s	66s	73s	4.3s				0s	8s	0421	1933	RA BR	0.01			29.41		3.3	15s	200s	10s	170s
21	78s	55s	67s	-1.9s				0s	2s	0421	1933	RA BR	0.12			29.41		8.2	31	010	21	360
22	80s	52s	66s	-3.2s				0s	1s	0422	1933		0.00			29.70		6.6	28s	320s	20	320
23	86	51s	69s	-0.4s				0s	4s	0422	1934		0.00			29.75		4.3	21s	330s	16s	330s
24	84s	54s	69s	-0.7s				0s	4s	0422	1934		0.00			29.68		1.3	14s	230s	12s	220s
25	86	67s	77s	7.1s				0s	12s	0422	1934	TS RA BR	0.99			29.64		3.3	11s	100s	9s	120s
26	88	64s	76s	5.9s				0s	11s	0423	1934	TS RA FG BR	0.39			29.82		2.7	36	320	28	330
27	89	61s	75s	4.7s				0s	10s	0423	1934	FG BR	0.00			29.94		1.8	16s	290s	13s	340s
28	90*	59s	75s	4.5s				0s	10s	0423	1934		0.00			29.96		1.8	11s	230s	8s	220s
29	88s	68s	78s	7.3s				0s	13s	0424	1934		0.00			29.75		4.8	15s	220s	12s	230s
30	79s	61s	70s	-0.9s				0s	5s	0424	1934	TS RA	0.51			29.62		3.8	33s	290s	25	290
										Monthly Averages | Totals												
				Departure from Normal (1981-2010)																		

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating				
Cooling				

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling									

Date of 5-sec to 3-sec wind equipment change	Sea Level Pressure			Greatest...		
		Date	Time	24-Hr...		Snow Depth
N/A	Maximum			Precip	Snowfall	
	Minimum					
				Date		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
July 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	86	56*	71	-0.1				0	6	0425	1934		0.00			29.72		2.8	16	320	13	360
02	85	60	73	1.7				0	8	0425	1933		0.00			29.63		2.4	17	230	14	230
03	90	65	78	6.5				0	13	0426	1933		0.00			29.69		1.4	10	320	7	310
04	91	65	78	6.4				0	13	0426	1933	HZ	0.00			29.88		2.0	15	170	10	150
05	87	63	75	3.2				0	10	0427	1933	BR HZ	0.00			29.92		3.4	17	190	12	170
06	89	73	81	9.1				0	16	0428	1933	TS RA BR	0.21			29.71		4.3	28	360	20	010
07	85	67	76	4.0				0	11	0428	1932		0.00			29.74		4.8	17	020	14	010
08	82	63	73	0.8				0	8	0429	1932		0.00			29.80		3.0	11	250	9	240
09	87	62	75	2.7				0	10	0430	1931	FG BR	0.00			29.85		1.5	14	010	12	020
10	89	59	74	1.6				0	9	0430	1931		0.00			29.83		1.7	14	240	12	240
11	88	71	80	7.5				0	15	0431	1931		0.02			29.69		4.3	22	150	14	150
12	87	65	76	3.4				0	11	0432	1930		0.00			29.56		4.8	25	350	18	310
13	87	60	74	1.3				0	9	0433	1930		0.00			29.72		2.8	16	240	12	230
14	90	65	78	5.3				0	13	0433	1929		0.00			29.75		4.7	22	320	17	330
15	90	58	74	1.2				0	9	0434	1928		0.00			29.86		2.5	15	230	12	030
16	93	59	76	3.1				0	11	0435	1928	RA	0.03			29.85		4.1	24	250	20	270
17	94	71	83	10.1				0	18	0436	1927	RA BR	0.38			29.74		3.9	26	240	21	250
18	77	71	74	1.1				0	9	0437	1926	RA BR	0.23			29.73		3.0	12	070	9	040
19	93	69	81	8.0				0	16	0437	1926		0.00			29.67		4.3	21	230	15	240
20	96	76	86	13.0				0	21	0438	1925		0.00s			29.63		4.6	25	240	21	250
21	97*	73	85	12.0				0	20	0439	1924		0.00			29.61		6.8	26	220	18	230
22	85	66	76	3.0				0	11	0440	1923	TS RA BR	1.32			29.62		4.8	23	350	18	350
23	78	65	72	-1.0				0	7	0441	1922	RA BR	0.33			29.65		5.3	18	010	15	360
24	83	61	72	-1.0				0	7	0442	1922	FG BR	0.00			29.77		4.4	19	030	15	030
25	85	57	71	-2.0				0	6	0443	1921		0.00			29.91		1.8	15	290	10	280
26	88	59	74	1.0				0	9	0444	1920		0.00			30.05		1.2	11	030	9	030
27	88	63	76	3.0				0	11	0445	1919		0.00			30.03		3.4	16	270	10	240
28	90	65	78	5.0				0	13	0446	1918		0.00			29.88		4.7	17	230	14	230
29	92	67	80	7.0				0	15	0447	1917	TS RA	T			29.80		4.3	24	030	20	030
30	94	68	81	8.1				0	16	0448	1916		0.00			29.78		3.8	19	180	15	180
31	84	65	75	2.1				0	10	0449	1915	TS RA	0.04			29.84		2.5	17	300	14	310
										Monthly Averages | Totals												
				Departure from Normal (1981-2010)																		

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating				
Cooling				

Number of days with...

Temperature				Precipitation		Snow	Weather	
Max		Min						
>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog

Date of 5-sec to 3-sec wind equipment change	Sea Level Pressure			Greatest...		
		Date	Time	24-Hr...		Snow Depth
N/A	Maximum			Precip	Snowfall	
	Minimum					
				Date		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
August 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	88	65	77	4.2				0	12	0450	1913	FG BR	0.00			29.89		2.6	16	280	10	330
02	88	61	75	2.2				0	10	0451	1912		0.00			29.93		2.8	15	180	10	160
03	88	65	77	4.3				0	12	0452	1911	TS BR	0.05			29.83		3.8	32	360	21	360
04	85	64	75	2.3				0	10	0453	1910	TS FG BR HZ	T			29.73		2.0	13	290	10	300
05	84	59	72	-0.6				0	7	0454	1909		0.00			29.80		2.7	14	250	10	230
06	83	61	72	-0.5				0	7	0455	1908	TS RA BR	0.11			29.70		3.1	17	150	13	130
07	85	68	77	4.6				0	12	0456	1906	TS RA FG BR	0.11			29.61		3.4	20	200	14	210
08	87	63	75	2.6				0	10	0457	1905	TS RA	0.07			29.53		6.0	34	320	25	310
09	85	60	73	0.7				0	8	0458	1904		0.00			29.55		5.7	33	320	23	330
10	81	56	69	-3.2				0	4	0459	1902		0.00			29.65		7.4	28	270	22	270
11	82	51	67	-5.1				0	2	0500	1901		0.00			29.80		2.5	16	280	12	250
12	87	54	71	-1.0				0	6	0501	1900		0.00			29.75		3.9	22	210	16	270
13	80	68	74	2.1				0	9	0502	1858	RA	0.08			29.62		3.4	14	210	10	250
14	82	66	74	2.2				0	9	0503	1857	RA BR	0.24			29.65		2.2	18	350	14	340
15	85	62	74	2.4				0	9	0504	1856		0.05			29.80		3.5	16	130	12	140
16	85	62	74	2.5				0	9	0505	1854	BR	0.02			29.84		3.5	14	220	10	240
17	88	69	79	7.6				0	14	0506	1853	TS RA FG BR	1.37			29.83		5.5	28	350	21	350
18	91	67	79	7.8				0	14	0507	1851	TS RA BR	0.69			29.82		3.4	34s	310s	25	300
19	91*	66	79	7.9				0	14	0508	1850		T			29.79		4.2	16	280	13	290
20	88	65	77	6.1				0	12	0509	1848		0.00			29.87		2.6	17	250	12	250
21	86	68	77	6.2				0	12	0510	1847	TS RA FG BR	0.95			29.75		3.5	24	010	17	010
22	88	67	78	7.4				0	13	0511	1845	RA BR	0.15			29.67		3.0	29	300	21	320
23	75	59	67	-3.4				0	2	0512	1844		0.00			29.80		2.3	16	320	10	330
24	75	52	64	-6.2				1	0	0513	1842		0.00			29.98		4.9	25	020	17	010
25	76	55	66	-4.0				0	1	0514	1841		0.00			30.09		5.2	19	030	14	050
26	77	48*	63	-6.8				2	0	0515	1839		0.00			30.03		3.2	15	100	12	100
27	75	52	64	-5.6				1	0	0516	1837		0.00			29.89		2.1	11	240	9	230
28	80	60	70	0.6				0	5	0517	1836	RA BR	0.44			29.72		3.0	17	110	13	010
29	83	57	70	0.8				0	5	0518	1834	FG BR	0.00			29.70		2.9	21	270	17	260
30	83	54	69	0.1				0	4	0519	1832		0.00			29.80		3.5	22	240	17	240
31	77	55	66	-2.7				0	1	0520	1831		0.00			30.03		2.2	17	330	14	340
	83.5	60.6	72.1							Monthly Averages | Totals			4.33s			29.78	29.95	4.3				
	4.0	4.9	4.5	Departure from Normal (1981-2010)									-0.10s									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	32	-17	5879	
Cooling	112	-15	136	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling	2	0	0	0	13	8			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.30	31	2359
Minimum	29.63	08	1553

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.51s		
Date		
17-18		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
September 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	78	53	66	-2.4				0	1	0521	1829		0.00			30.12		3.5	17	120	13	130
02	79	62	71	2.8				0	6	0522	1828	TS RA BR HZ	0.37			29.87		3.8	21	180	14	180
03	82	57	70	2.1				0	5	0523	1826	BR	0.00			29.84		2.1	12	160	8	130
04	86	59	73	5.4				0	8	0524	1824	TS RA	T			29.74		5.9	25	230	18	300
05	73	53	63	-4.3				2	0	0525	1822		0.00			29.89		2.8	17	010	14	350
06	68	52	60	-7.0				5	0	0526	1821	RA BR	0.23			29.72		5.3	20	010	14	050
07	74	51	63	-3.7				2	0	0527	1819	RA BR	0.06			29.64		4.1	19	280	14	290
08	77	52	65	-1.4				0	0	0528	1817		0.00			29.86		3.3	17	270	13	290
09	76	53	65	-1.0				0	0	0529	1816		0.00			30.07		1.6	13	020	9	030
10	76	60	68	2.3				0	3	0530	1814		T			30.12		3.6	19	160	13	150
11	88	66	77	11.7				0	12	0531	1812	BR	0.00			29.92		4.6	19	240	14	230
12	70	56	63	-2.0				2	0	0532	1811	RA BR	0.05			29.96		5.6	22	010	17	020
13	72	48	60	-4.6				5	0	0533	1809		0.00			30.24		4.0	22	090	15	090
14	71	59	65	0.8				0	0	0534	1807	RA BR	0.07			30.06		1.7	15	190	10	180
15	80	60	70	6.1				0	5	0536	1805	FG BR	0.00			29.95		2.6	16	270	12	250
16	76	52	64	0.5				1	0	0536	1804		T			29.88		2.3	15	020	13	020
17	76	46	61	-2.1				4	0	0538	1802		0.00			29.96		3.3	22	350	16	050
18	71	44	58	-4.7				7	0	0539	1800		0.00			30.08		3.7	19	050	15	010
19	72	38*	55	-7.3				10	0	0540	1758		0.00			30.14		0.1	9	020	7	050
20	80	39	60	-1.9				5	0	0541	1757		0.00			30.03		0.8	13	280	7	340
21	84	46	65	3.6				0	0	0542	1755		0.00			30.01		0.5	9	010	6	270
22	89	48	69	8.0				0	4	0543	1753		0.00			29.88		3.0	16	230	12	230
23	92*	62	77	16.4				0	12	0544	1751	RA BR	T			29.63		6.4	26	240	20	230
24	76	50	63	2.8				2	0	0545	1750		0.00			29.62		6.4	29	270	22	290
25	78	44	61	1.3				4	0	0546	1748		0.00			29.68		1.4	12	300	8	240
26	78	50	64	4.7				1	0	0547	1746	RA FG BR	0.26			29.68		2.2	23	290	17	290
27	74	46	60	1.1				5	0	0548	1745	FG BR	0.00			29.88		1.5	12	260	10	240
28	84	50	67	8.5				0	2	0549	1743	FG BR	0.02			29.88		4.0	20	240	15	250
29	73	54	64	6.0				1	0	0550	1741	FG BR	0.00			30.04		6.6	25	020	20	010
30	69	47	58	0.4				7	0	0551	1739	RA BR	0.02			30.12		2.7	15	170	10	190
	77.4	51.9	64.7							Monthly Averages | Totals			1.08			29.91	30.08	3.6				
	-7.0	-8.9	-7.9	Departure from Normal (1981-2010)									-3.57									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	0	-5	0	
Cooling	353	113	490	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling	1	0	0	0	8	3			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.47	13	0957
Minimum	29.68	23	1734

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.37		

Date		
02-02		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
October 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	82	59	71	13.8				0	6	0552	1738		0.00			29.85		5.4	23	240	17	240
02	88*	54	71	14.3				0	6	0553	1736		T			29.65		8.0	27	010	22	020
03	54	47	51	-5.3				14	0	0554	1734	RA BR HZ	0.33			29.92		4.7	22	040	16	030
04	60	40	50	-5.9				15	0	0555	1733	FG BR	0.00			29.90		6.9	29	040	22	030
05	61	32	47	-8.5				18	0	0556	1731		0.00			30.23		2.2	13	010	12	360
06	69	41	55	0.0				10	0	0557	1729		0.00			30.09		4.0	18	170	12	210
07	72	58	65	10.4				0	0	0559	1728	RA BR	0.45			29.93		5.8	21	240	17	010
08	65	48	57	2.8				8	0	0600	1726	RA BR	0.06			30.06		4.3	17	010	13	010
09	61	48	55	1.2				10	0	0601	1724	RA	0.14			30.11		7.7	31	020	22	020
10	69	50	60	6.6				5	0	0602	1723		0.00			30.06		6.3	22	040	17	010
11	65	43	54	1.0				11	0	0603	1721		0.00			29.97		8.2	27	360	20	040
12	68	49	59	6.4				6	0	0604	1719		0.00			29.78		1.6	13	020	10	030
13	65	44	55	2.7				10	0	0605	1718		0.00			29.87		2.8	15	050	12	350
14	72	42	57	5.1				8	0	0606	1716		0.00			29.78		5.3	21	360	15	020
15	63	36	50	-1.5				15	0	0607	1715		0.00			29.93		0.5	11	230	7	210
16	63	36	50	-1.2				15	0	0608	1713	RA BR	2.15			29.60		6.8	35s	310s	23	300
17	57	49	53	2.2				12	0	0610	1712		0.04			29.10		13.7	39	260	30	260
18	59	38s	49s	-1.5s				16s	0s	0611	1710		0.00			29.61		8.3	24	280	17	310
19	61	30*	46	-4.1				19	0	0612	1709		0.00			29.85		0.3	9	190	7	230
20	55	33	44	-5.8				21	0	0613	1707	RA BR	0.21			29.85		0.6	6	030	5	320
21	63	45	54	4.5				11	0	0614	1706	BR HZ	0.00			29.89		3.8	15	010	12	010
22	58	43	51	1.9				14	0	0615	1704	RA BR	0.23			29.83		4.2	19s	100s	14	120
23	66	39	53	4.2				12	0	0617	1703	RA FG BR	0.11			29.72		5.4	27	280	21	260
24	70	34	52	3.5				13	0	0618	1701		0.00			30.05		3.0	20	230	14	170
25	61	37	49	0.8				16	0	0619	1700		0.00			30.06		1.2	12	330	9	330
26	63	40	52	4.1				13	0	0620	1658	BR RA	Ts			30.03		1.8	15	020	13	020
27	59	50	55	7.4				10	0	0621	1657	RA BR	0.85			29.78		4.7	22	130	15	120
28	61	48	55	7.7				10	0	0622	1656	FG BR	0.00			29.95		1.1	14	030	10	030
29	61	51	56	9.0				9	0	0624	1654	BR	0.00			30.10		3.7	13	130	9	130
30	64	52	58	11.3				7	0	0625	1653	RA FG BR	0.06			30.05		0.3	9	100	7	100
31	73	59	66	19.6				0	1	0626	1652	RA BR	0.70			29.65		9.4	38	170	21	160
	64.8	44.3	54.6							Monthly Averages | Totals			1.95s			29.88	30.05	3.6				
	-17.8	-15.3	-16.5	Departure from Normal (1981-2010)									-2.25s									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	5	-7	5	
Cooling	224	23	713	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling	0	0	2	0	5s	4s			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.48	05	0834
Minimum	29.16	17	0516

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.85s		
Date		
27-27		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
November 2019

Generated on 04/13/2020

National Centers for Environmental Information
151 Patton Avenue
Asheville, North Carolina 28801

Current Location: Elev: 166 ft. Lat: 41.6257° N Lon: -73.8816° W
Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	70s	33	52s	5.8s				13s	0s	0627	1650	RA BR	0.31			29.74		12.1	53	270	40	260
02	51	28	40	-5.9				25	0	0628	1649		0.00			29.96		0.8	15	210	10	200
03	54	30	42	-3.6				23	0	0630	1648		0.00			29.93		4.7	23	270	17	270
04	54	28	41	-4.3				24	0	0631	1647		0.00			30.12		3.9	22	140	15	160
05	58*	38	48	2.9				17	0	0632	1646		0.00			29.98		2.3	18	020	15	020
06	54	31	43	-1.8				22	0	0633	1645		0.00			30.14		4.2	18	260	15	260
07	50	30	40	-4.5				25	0	0635	1643	RA BR UP	0.41			29.91		2.5	26	360	21	010
08	38	21	30	-14.2				35	0	0636	1642		0.00			29.98		7.6	32	330	21	310
09	40	17	29	-14.9				36	0	0637	1641		0.00	0.0	0	30.08		3.1	16	240	13	240
10	50	27	39	-4.7				26	0	0638	1640		0.00			29.87		1.0	14	230	10	220
11	56	34	45	1.6				20	0	0639	1639		0.00			29.82		4.0	14	310	12	330
12	36	22	29	-14.1				36	0	0641	1638	SN BR UP	0.07			29.69		6.9	27	330	20	320
13	32	15*	24	-18.8				41	0	0642	1637		0.00			30.14		4.5	26	340	20	330
14	40	17	29	-13.5				36	0	0643	1636		0.00			30.19		2.1	19	210	12	200
15	50	20	35	-7.2				30	0	0644	1636		0.00			30.01		4.8	20	330	14	320
16	39	22	31	-10.9				34	0	0645	1635		0.00			30.27		9.5	34	020	22	010
17	39	18	29	-12.6				36	0	0647	1634		0.00			30.14		6.4	16	020	12	010
18	40	34	37	-4.3				28	0	0648	1633	RA BR UP HZ	0.49			29.62		6.9	18	020	15	010
19	42	33	38	-3.0				27	0	0649	1632	RA SN BR UP	0.69			29.59		1.0	8	260	7	260
20	44	34	39	-1.7				26	0	0650	1632	BR	0.00			29.77		3.4	18	350	13	360
21	51	25	38	-2.3				27	0	0651	1631		0.01			29.94		1.5	14	330	10	330
22	50	29	40	0.0				25	0	0653	1630	RA	0.06			29.63		7.1	39	280	23	300
23	46	23	35	-4.7				30	0	0654	1630	RA BR	0.08			29.76		2.2	13	250	10	220
24	41	29	35	-4.3				30	0	0655	1629	RA SN BR UP	1.20			29.29		6.3	25	360	18	010
25	53	28	41	2.0				24	0	0656	1629	BR	0.00			29.57		3.2	13	210	10	230
26	62s	29	46s	7.4s				19s	0s	0657	1628	BR	0.00	0.0	0	29.78		1.8	18	240	13	230
27	56	31	44	5.7				21	0	0658	1628	RA FG BR	0.05			29.65		2.7	21	320	16	320
28	52	34	43	5.1				22	0	0659	1627		0.00			29.65		13.6	37	330	29	320
29	40	29	35	-2.5				30	0	0700	1627		0.00			30.03		9.9	27	020	22	020
30	39	21	30	-7.2				35	0	0702	1627		0.00			29.89		3.1	13	030	12	030
	47.6	27.0	37.3							Monthly Averages | Totals			3.37			29.88	30.04	3.4				
	-27.4	-24.1	-25.8	Departure from Normal (1981-2010)									-0.91									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	66	-57	71	
Cooling	56	-8	769	

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling	0	1	23	0	10	5			

Date of 5-sec to 3-sec wind equipment change

N/A

Sea Level Pressure

		Date	Time
Maximum	30.51	16	2031
Minimum	29.27	24	1241

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.28s		
Date		
23-24		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

U.S. Department of Commerce
National Oceanic & Atmospheric Administration
National Environmental Satellite, Data, and Information Service

Local Climatological Data
Daily Summary
December 2019

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National Centers for Environmental Information
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Station: **POUGHKEEPSIE AIRPORT, NY US WBAN: 72503614757 (Unknown)**

Date	Temperature (F)							Degree Days (base 65F)		Sun (LST)		Weather	Precipitation (in)			Pressure (inHg)		Wind	Maximum Wind Speed = MPH / Direction = Degrees			
	Max	Min	Avg	Dep	ARH	ADP	AWB	Heat	Cool	Rise	Set	Weather Type	TLC	Snow Fall	Snow Depth	Avg Stn	Avg SL	Avg Speed	Peak Speed	Peak Dir	Sust. Speed	Sust. Dir
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
01	29	19	24	-12.8				41	0	0703	1626	FZRA SN BR UP	0.73			29.62		7.1	19	350	14	360
02	33	28	31	-5.4				34	0	0704	1626	FZRA SN FZFG BR UP HZ FG	0.16			29.41		11.1	31	010	20	360
03	38	19	29	-7.1				36	0	0705	1626	SN BR HZ	T			29.37		6.8	28	360	18	360
04	37	23	30	-5.7				35	0	0706	1626	HZ	0.00					3.9	15	230	10	220
05	40	29	35	-0.3				30	0	0707	1625	BR	0.00			29.59		8.2	26	260	22	260
06	43	30	37	2.1				28	0	0708	1625		0.00			29.86		5.8	20	280	15	270
07	37	15	26	-8.5				39	0	0709	1625		0.00			30.17		2.9	15	320	12	310
08	37	8*	23	-11.2				42	0	0709	1625		0.00			30.27		2.0	17	160	12	180
09	51	24	38	4.2				27	0	0710	1625	RA FG BR UP	0.54			29.78		1.0	12	210	9	180
10	52	34	43	9.6				22	0	0711	1625	RA SN FG BR	0.23			29.66		2.8	17	280	13	330
11	35	28	32	-1.0				33	0	0712	1625	SN FG FZFG BR	0.19			30.04		4.9	21	260	15	270
12	33	12	23	-9.7				42	0	0713	1625		0.00			30.48		2.0	23	310	17	300
13	37	19	28	-4.3				37	0	0714	1626	RA BR UP	0.41			30.19		1.2	10	020	8	360
14	49	37	43	11.1				22	0	0714	1626	RA FG BR	0.61			29.29		4.8	29	260	22	240
15	44	32	38	6.4				27	0	0715	1626	RA	T					11.6	34	290	26	270
16	33	25	29	-2.2				36	0	0716	1626		0.00			30.03		1.5	15	270	13	270
17	32	28	30	-0.8				35	0	0717	1627	FZRA SN BR UP	0.39			29.71		5.2	17	340	12	340
18	34	18	26	-4.5				39	0	0717	1627	SN BR	T			29.63		6.9	32	290	22	280
19	25	14	20	-10.2				45	0	0718	1627		0.00			30.06		8.7	30	300	21	270
20	29	10	20	-9.8				45	0	0718	1628		0.00			30.34		3.5	17	360	13	010
21	27	13	20	-9.5				45	0	0719	1628		0.00			30.40		1.0	10	110	6	230
22	45	15	30	0.8				35	0	0719	1629	BR HZ	0.00			30.11		3.7	16	230	13	230
23	54*	25	40	11.1				25	0	0720	1629		0.00			29.87		5.0	17	260	13	250
24	43	23	33	4.4				32	0	0720	1630		0.00			29.91		5.6	25	010	20	360
25	42	19	31	2.7				34	0	0721	1631		0.00			30.01		0.3	4s	030s	5	040
26	41	23	32	3.9				33	0	0721	1631		0.00			30.11		0.7	10	170	8	100
27	48	37	43	15.2				22	0	0721	1632		T			30.03		3.9	17	240	15	250
28	49	27	38	10.5				27	0	0722	1633	FG FZFG BR	0.00			29.99		1.6	18	220	13	230
29	40	23	32	4.7				33	0	0722	1633	RA BR UP	0.34			30.01		0.5	6	250	6	340
30	39	34	37	9.9				28	0	0722	1634	TS RA BR UP HZ	0.78			29.70		6.1	17	060	12	010
										Monthly Averages | Totals												
				Departure from Normal (1981-2010)																		

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating				
Cooling				

Number of days with...

	Temperature				Precipitation		Snow	Weather	
	Max		Min						
	>=90°	<=32°	<=32°	<=0°	>=0.01"	>=0.1"	>=1"	T-Storms	Heavy Fog
Heating									
Cooling									

Date of 5-sec to 3-sec wind equipment change	Sea Level Pressure			Greatest...		
		Date	Time	24-Hr...		Snow Depth
N/A	Maximum			Precip	Snowfall	
	Minimum					
				Date		

Station Augmentation

Name:N/A Lat: N/A Lon: N/A Elevation: N/A Distance: N/A Elements: N/A Equipment: N/A

Local Climatological Data (LCD) Dataset Documentation

The Local Climatological Data (LCD) summaries provide a synopsis of climatic values for a single weather station over a specific month. The summaries are a product of surface observations from both manual and automated (AWOS, ASOS) stations with source data taken from the National Centers for Environmental Information's Integrated Surface Data (ISD) dataset. Geographic availability includes thousands of locations worldwide. Climatic values given include hourly, daily, and monthly measurements of temperature, dew point, humidity, winds, sky condition, weather type, atmospheric pressure and more.

General conventions: Times are in Local Standard Time (LST) unless otherwise noted. Temperatures are given in whole degrees F and tenths of degrees C (as noted below). Wind speeds are in miles per hour, with wind direction given using a 360 degree compass indicating the direction from which the wind was blowing with respect to true north (e.g. 360 = winds blowing from true north, 180 = south, etc.). Precipitation amounts are given in inches, usually to the nearest hundredth, unless otherwise noted. Trace amounts of precipitation are indicated with a "T." Departures from normal are given for some elements using 1981-2010 as the standard for normal. Further information concerning these generalities and units of measure are given where needed for each section below.

Table of Contents:

Daily Summary/Monthly Summary
Hourly Observations
Hourly Remarks
Hourly Precipitation Table
CSV and ASCII Data Files
Present Weather Appendix

Daily Summary/Monthly Summary:

Daily Summary:

The month and year as well as the station information (location, latitude, longitude, elevation) are included in the heading at the top of the table. A description of the daily data values follows:

Date: Date (day of month given in two digits) Note: Month and year are given in the heading.

Temperature - Max: Maximum temperature for the day (in whole degrees Fahrenheit). An asterisk (*) is used to designate when a daily maximum temperature is also the extreme maximum for the month.

Temperature - Min: Minimum temperature for the day (in whole degrees Fahrenheit). An asterisk (*) is used to designate when a daily minimum temperature is also the extreme minimum for the month.

Temperature - Avg: Average temperature for the day (in whole degrees Fahrenheit). This is based on the arithmetic average of the maximum and minimum temperature for the day.

Temperature - Dep: Average temperature's departure from (1981-2010) normal temperature (in whole Fahrenheit degrees using "-" to indicate below normal)

Temperature - ARH: Average daily relative humidity (in whole percent)

Temperature - ADP: Average daily dew point temperature (in whole degrees Fahrenheit)

Temperature - AWB: Average daily wet-bulb temperature (in whole degrees Fahrenheit)

Degree Days - Heat: Heating degree days (in whole degrees using a 65 degree F base)

Degree Days - Cool: Cooling degree days (in whole degrees using a 65 degree F base)

Sun - Rise: Time of sunrise using a 24-hour clock (Local Standard Time – Daylight Savings Time is not used)

Sun - Set: Time of sunset using a 24-hour clock (Local Standard Time – Daylight Savings Time is not used)

Weather (WT):** Daily occurrences of weather types. The 2-digit number in each designation corresponds to the WT (weather type code) used in GHCN-Daily dataset. For example WT01 in GHCN-Daily is represented as FG:01 (fog) in the LCD. Contractions used are given below.

FG:01 (WT01) - Fog, ice fog, or freezing fog (may include heavy fog)
FG+:02 (WT02) - Heavy fog or heavy freezing fog (not always distinguished from fog)
TS:03 (WT03) - Thunder
PL:04 (WT04) - Ice pellets, sleet, snow pellets or small hail
GR:05 (WT05) - Hail (may include small hail)
GL:06 (WT06) - Glaze or rime
DU:07 (WT07) - Dust, volcanic ash, blowing dust, blowing sand or blowing obstruction
HZ:08 (WT08) - Smoke or haze
BLSN:09 (WT09) - Blowing or drifting snow
FC:10 (WT10) - Tornado, water spout or funnel cloud
WIND:11 (WT11) - High or damaging winds
BLPY:12 (WT12) - Blowing spray
BR:13 (WT13) - Mist
DZ:14 (WT14) - Drizzle
FZDZ:15 (WT15) - Freezing drizzle
RA:16 (WT16) - Rain
FZRA:17 (WT17) - Freezing rain
SN:18 (WT18) - Snow, snow pellets, snow grains or ice crystals
UP:19 (WT19) - Unknown precipitation
MIFG:21 (WT21) - Ground fog
FZFG:22 (WT22) - Ice fog or freezing fog

Precipitation - Total Liquid Content (TLC): Water equivalent amount of precipitation for the day (in inches to hundredths). This is all types of precipitation (melted and frozen). T indicates trace amount of precipitation. If left blank, precipitation amount is unreported.

Precipitation - Snowfall: Daily amount of snowfall (in inches to the tenths). T indicates trace amount.

Precipitation - Snow Depth: Daily reading of snow on ground (in whole inches). T indicates trace amount.

Pressure - Avg Stn: Daily average station pressure (in inches of mercury, to hundredths)

Pressure - Avg SL: Daily average sea level pressure (in inches of mercury, to hundredths)

Wind - Avg Spd: Daily average wind speed in miles per hour miles per hour, to tenths)

Maximum Wind Speed - Peak Speed: peak wind speed for the day (in whole miles per hour)

Maximum Wind Speed - Peak Dir: direction of wind during peak wind speed for the day given as direction from which wind was blowing using a 360 degree compass with respect to true north (e.g north = 360, south = 180, etc.)

Maximum Wind Speed - Sust. Speed: maximum sustained wind speed for the day (in whole miles per hour). Note: For U.S. locations this is the fastest reported speed for the day that is sustained for at least 2 minutes for years 1994 and later. For earlier years it is the fastest reported speed sustained for at least 1 minute.

Maximum Wind Speed - Sust. Dir): direction of wind during maximum sustained wind speed for the day given as direction from which wind was blowing using a 360 degree compass with respect to true north

Monthly Summary:

The bottom section of the Daily Summary form includes information such as monthly maximum, minimum and mean temperatures, average dew point, wet-bulb and relative humidity, monthly total heating and cooling degree days, precipitation and snowfall totals, etc. Departures from normal (using 1981-2010 normals) are also included for both temperature, precipitation as well as a tally of the number of days selected temperature thresholds (max temperature >=90/<=32, min <=32/<=0) and precipitation thresholds (>=0.01 and >=0.10) were reached, number of snowfall days > = 1 inch, number of days thunderstorms or heavy fog are reported, etc. The month's greatest amount of precipitation to fall in 24 hours is also given (amount and date) as well as the 24 hour greatest snowfall (amount and date) and highest snow depth (height and date). Monthly and season-to-date totals are computed for heating and cooling degree day data and departures from 1981-2010 normal are also given with these. The extreme highest and lowest sea -level pressures recorded and the dates they occurred are also given. Units used are consistent with what appears in the upper part of the table (described above). These data originate from the Integrated Surface Data (ISD). More very technical details regarding these observations can be found in the ISD documentation located at www1.ncdc.noaa.gov/pub/data/ish/ish-format-document.pdf .

Hourly Observations:

The month and year as well as the station information (location, latitude, longitude, elevation) are included in the heading at the top of the table. A description of the data values follows:

Date: Date (day of month given in two digits) Note: Month and year are given in the heading.

Time: Time of observation given as a 4-digit number using a 24-hour clock in local standard time (e.g. 1751 = 5:51 pm LST). No adjustments are made to account for Daylight Savings Time (DST).

Station Type: Code showing source or combination of sources used in creating the observation. Decoding information for this is found in Integrated Surface Data documentation (www1.ncdc.noaa.gov/pub/data/ish/ish-format-document.pdf) in Control Data Section position 28.

Sky Conditions: A report of each cloud layer (up to 3) giving the following information.
Each layer given in the following format: ccc:ll-xxx where:
1) ccc is Coverage: CLR (clear sky), FEW (few clouds), SCT (scattered clouds), BKN (broken clouds), OVC (overcast), VV (obscured sky), 10 (partially obscured sky).
2) ll is Layer amount used in conjunction with coverage code above. Given in eighths (aka "oktas") of sky covered by cloud. Specifically 00-08 indicates the number of oktas that cloud layer takes up in the total sky. 00 corresponds to CLR, 01-02 corresponds to FEW, 03-04 corresponds to SCT, 05-07 corresponds to BKN and 08 corresponds to OVC. 09 indicates an obscuration (i.e. the sky cannot be seen due to obscuring phenomena - e.g. due to smoke, fog, etc.). 10 indicates a portion of the sky is obscured (i.e. partial obscuration). For additional information see Integrated Surface Data documentation. (http://www1.ncdc.noaa.gov/pub/data/ish/ish-format-document.pdf) in Cloud and Solar Data portion of Additional Data Section.

3) xxx is the Cloud base height at lowest point of layer. In the case of an obscuration this value represents the vertical visibility from the point of observation. Given in hundreds of feet (e.g. 50 = 5000 ft, 120 = 12000 feet). In some cases a cloud base height will be given without the corresponding cloud amount. In these case the cloud amount is missing or not reported.

Up to 3 layers can be reported however by definition when clear skies are reported it will be reported as only one layer as CLR-00. Obscurations will be reported as VV-xx where xx is the vertical visibility into the obscuring phenomena.

Additional information about cloud cover data: The Integrated Surface Data documentation further defines the coverage of a layer in oktas (i.e. eighths) or tenths of sky covered by cloud as per the following table:

0 oktas/0 tenths is defined as CLR (clear sky)
1-2 oktas/1-3 tenths is defined as FEW (few clouds)
3-4 oktas/4-5 tenths is defined as SCT (scattered clouds)
5 to less than 8/6 to less than 10 is defined as BKN (broken clouds)
8 oktas/10 tenths is defined as OVC (overcast)
Partial obscuration - sky is partially obscured and therefore cloud coverage cannot be fully determined
Total obscuration - sky is completely obscured and therefore cloud coverage is not available

Note: Since up to 3 cloud layers can be reported, the full state of the sky can best be determined by the contraction given for the last layer. In other words if three layers are reported and the third layer uses BKN then the total state of sky is BKN which is similar in definition to "mostly cloudy." OVC is similar to "cloudy" or overcast and FEW or SCT is similar to "partly cloudy." It should also be noted that in cases where there are more than 3 cloud layers, the highest layers will not be reported.

For additional information see Integrated Surface Data documentation (http://www1.ncdc.noaa.gov: pub: data: ish: ish-format-document.pdf) in Cloud and Solar Data portion of Additional Data Section.

Visibility: The horizontal distance an object can be seen and identified given in whole miles. Note visibilities less than 3 miles are usually given in smaller increments (e.g. 2.5).

Weather Type (AU|AW|MW): Weather types describe precipitation or obstructions to vision occurring at the time of observation. These are reported by automated sensors (AU or AW) and manually (MW) by human observation. AU elements are listed first and followed by "|" and followed by AW elements. After the AW elements there will be another "|" followed by the MW elements (e.g. "-RA:02|RA:61|RA:61"). In the preceding example -RA:02 is an AU element, RA:61 is an AW element and RA:61 is an MW element. Note that precipitation types often use "-" for light intensity or "+" for heavy intensity. If a precipitation type has no "-" or "+" it is considered to be moderate intensity. It is not uncommon for one type of element to be reported without another. In other words, it is possible to have an AU element without an AW element or MW element. Definitions of contractions used are listed in the Present Weather Appendix at the end of this document.

Dry Bulb Temp (F): This is the dry-bulb temperature and is commonly used as the standard air temperature reported. It is given here in whole degrees Fahrenheit.

Dry Bulb Temp (C): This is the dry-bulb temperature and is commonly used as the standard air temperature reported. It is given here in tenths of a degree Celsius.

Wet Bulb Temp (F): This is the wet-bulb temperature. It is given here in whole degrees Fahrenheit.

Wet Bulb Temp (C): This is the wet-bulb temperature. It is given here in tenths of a degree Celsius.

Dew Point Temp (F): This is the dew point temperature. It is given here in whole degrees Fahrenheit.

Dew Point Temp (C): This is the dew point temperature. It is given here in tenths of a degree Celsius.

Rel Hum: This is the relative humidity given to the nearest whole percentage.

Wind Speed: Speed of the wind at the time of observation given in miles per hour (mph).

Wind Dir: Wind direction from true north using compass directions (e.g. 360 = true north, 180 = south, 270 = east, etc.). Note: A direction of "000" is given for calm winds.

Wind Gusts: Wind gusts occurring during time of observation. Given in miles per hour (mph).

Station Press.: Atmospheric pressure observed at the station during the time of observation. Given in inches of Mercury (in Hg).

Press. Tend: Pressure tendency (In general a 0 through 3 here indicates an increase in pressure over previous 3 hours and a 5 through 8 indicates a decrease over the previous 3 hours and 4 indicates no change during the previous 3 hours). See ISD Documentation (under Atmospheric-Pressure-Change) for further details.

Net 3-Hr Change: Difference in pressure over the past 3 hours. Prefixed with a "+" or "-" to indicate increase or decrease in pressure respectively. Given in inches of Mercury (in Hg).

Sea Level Press.: Sea level pressure given in inches of Mercury (in Hg).

Report Type: Indicates type of weather observation. See ISD Documentation for further details (positions 42-46 in Control Data Section).

Precip Total: Amount of precipitation in inches to hundredths over the past hour. For certain automated stations, precipitation will be reported at sub-hourly intervals (e.g. every 15 or 20 minutes) as an accumulated amount of all precipitation within the preceding hour. A "T" indicates a trace amount of precipitation.

Altimeter setting: Atmospheric pressure reduced to sea level using temperature profile of the "standard" atmosphere. Given in inches of Mercury (in Hg).

Hourly Remarks:

Hourly Remarks present the raw surface observation data in the original format encoded into ICAO-standardized METAR format for global dissemination. Further information on decoding these observations can be found in the Federal Meteorological Handbook (FMH) No. 1, Surface Weather Observations & Reports (METAR). (add GOSIC or NWS link) Contact customer service at 828-271-4800 or ncdc.orders@noaa.gov for further information.

Hourly Precipitation Table:

The hourly precipitation data contained in the Hourly Observations are formatted into a 1 page table for easy viewing.

The hours of the day are on the horizontal axis in Local Standard Time (note: Daylight Savings Time (DST) is not used) and the days of the month are on the vertical axis. The liquid precipitation observation values given in inches to hundredths and are placed in the cell corresponding to the intersection of the day and hour. All quantities represent what amount of precipitation fell for the hour ending at the time indicated on the table. Trace amounts of precipitation are indicated with a "T."

Notes:
Blank/null = no precipitation was observed/reported for the hour ending at that date/time.
M = missing

Maximum Short Duration Precipitation: This table gives the greatest amount of precipitation to fall in the month over 12 different periods given in minutes (5, 10, 15, 20, 30, 45, 60, 80, 100, 120, 150 and 180). The top row value gives the maximum precipitation amount to the nearest hundredth of an inch and the bottom row value gives the day of the month and the ending time that the precipitation event ended using a 24-hour clock (Local Standard Time).

Notes:

* = Amounts included in following measurement; time distribution unknown
Blank/null = no precipitation was observed/reported
M = missing
T = indicates trace amount of precipitation

CSV and ASCII Data Files:

Customizable CSV and ASCII data output formats are available for the LCD data for usage in spreadsheet and database applications. Each row of the data begins with the station identification number (usually the contraction “WBAN:” followed by a 5-digit unique number assigned to the station). Optional fields following this are the station name (city or airport identification including state), latitude (degrees), longitude (degrees) and station elevation above sea level (tenths of meters). Remaining data values follow the order and descriptions of the Hourly Observations section above beginning with the date and time. After each day’s hourly observations, the daily data for that day is given in the following row and monthly data is in the row following the final hourly observations for the last day in the month. Daily and monthly values are as described above.

Special Indicator Appendix:

s = suspect value (appears with value)
T = trace precipitation amount or snow depth (an amount too small to measure, usually < 0.005 inches water equivalent) (appears instead of numeric value)
M = missing value (appears instead of value)
Blank = value is unreported (appears instead of value)

Present Weather Appendix:

AU codes

If AU codes are present they are listed first for weather type. AU codes are acquired from automated weather sensors. Codes for precipitation and obscurations are defined below:

DZ:01 - Drizzle
RA:02 - Rain
SN:03 - Snow
SG:04 - Snow Grains
IC:05 - Ice Crystals
PL:06 - Ice Pellets
GR:07 - Hail
GS:08- Small Hail an/or Snow Pellets
UP:09 - Unknown Precipitation
BR:1 - Mist
FG:2 - Fog
FU:3 - Smoke
VA:4 - Volcanic Ash

DU:5 - Widespread Dust
SA:6 - Sand
HZ:7 - Haze
PY:8 - Spray
PO:1 - Well developed dust/sand whirls
SQ:2 - Squalls
FC:3 - Funnel CLoud, Waterspout or Tornado
SS:4 - Sandstorm
DS:5 - Duststorm

The codes above could be preceded with a combination of the following descriptors:

- = light
+ = heavy
VC = vicinity (apparent but not at point of observation)
MI = shallow
PR = partial
BC = patches
DR = low drifting
BL = blowing
SH = showers
TS = thunderstorm
FZ = freezing

AW codes

Depending on equipment used at the location, some automated stations report AW codes either with or instead of AU codes. AW codes appear after AU codes (separated by a "|") when present. AW codes are defined as follows:

HZ:04 - Haze, smoke, or dust in suspension in the air, visibility equal to or greater than 1km
FU:05 - Smoke
DU:07 - Dust or sand raised by wind at or near the station at the time of observation, but no well-developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen or, in the case of ships, blowing spray at the station
BR:10 - Mist
11 - Diamond dust
12 - Distant lightning
SQ:18 - Squalls
20 - Fog (during preceding hour but not at time of observation)
21 - Precipitation (during preceding hour but not at time of observation)
22 - Drizzle (not freezing) or snow grains (during preceding hour but not at time of observation)
23 - Rain (not freezing) (during preceding hour but not at time of observation)
24 - Snow (during preceding hour but not at time of observation)
25 - Freezing drizzle or freezing rain (during preceding hour but not at time of observation)
26 - Thunderstorm (with or without precipitation) (during preceding hour but not at time of observation)(during preceding hour but not at time of observation)
27 - Blowing or drifting snow or sand (during preceding hour but not at time of observation)
28 - Blowing or drifting snow or sand, visibility equal to or greater than 1 km (during preceding hour but not at time of observation)
29 - Blowing or drifting snow or sand, visibility less than 1 km (during preceding hour but not at time of observation)
FG:30 - Fog
FG:31 - Fog or ice fog in patches
FG:32 - Fog or ice fog, has become thinner during the past hour
FG:33 - Fog or ice fog, no appreciable change during the past hour
FG:34 - Fog or ice fog, has begun or become thicker during the past hour

FG:35 - Fog, depositing rime
40 - Precipitation
41 - Precipitation, slight or moderate
42 - Precipitation, heavy
43 - Liquid precipitation, slight or moderate
44 - Liquid precipitation, heavy
45 - Solid precipitation, slight or moderate
46 - Solid precipitation, heavy
47 - Freezing precipitation, slight or moderate
48 - Freezing precipitation, heavy
DZ:50 - Drizzle
DZ:51 - Drizzle, not freezing, slight
DZ:52 - Drizzle, not freezing, moderate
DZ:53 - Drizzle, not freezing, heavy
FZDZ:54 - Drizzle, freezing, slight
FZDZ:55 - Drizzle, freezing, moderate
FZDZ:56 - Drizzle, freezing, heavy
DZ:57 - Drizzle and rain, slight
DZ:58 - Drizzle and rain, moderate or heavy
RA:60 - Rain
RA:61 - Rain, not freezing, slight
RA:62 - Rain, not freezing, moderate
RA:63 - Rain, not freezing, heavy
FZRA:64 - Rain, freezing, slight
FZRA:65 - Rain, freezing, moderate
FZRA:66 - Rain, freezing, heavy
RA:67 - Rain or drizzle and snow, slight
RA:68 - Rain or drizzle and snow, moderate or heavy
SN:70 - Snow
SN:71 - Snow, slight
SN:72 - Snow, moderate
SN:73 - Snow, heavy
PL:74 - Ice pellets, slight
PL:75 - Ice pellets, moderate
PL:76 - Ice pellets, heavy
SG:77 - Snow grains
IC:78 - Ice crystals
80 - Showers or intermittent precipitation
SHRA:81 - Rain showers or intermittent rain, slight
SHRA:82 - Rain showers or intermittent rain, moderate
SHRA:83 - Rain showers or intermittent rain, heavy
SHRA:84 - Rain showers or intermittent rain, violent
SHSN:85 - Snow showers or intermittent snow, slight
SHSN:86 - Snow showers or intermittent snow, moderate
SHSN:87 - Snow showers or intermittent snow, heavy
HAIL:89 - Hail
TS:90 - Thunderstorm
TS:91 - Thunderstorm, slight or moderate, with no precipitation
TS:92 - Thunderstorm, slight or moderate, with rain showers and/or snow showers
TS HAIL:93 - Thunderstorm, slight or moderate, with hail
TS:94 - Thunderstorm, heavy, with no precipitation
TS:95 - Thunderstorm, heavy, with rain showers and/or snow
TS+HAIL:96 - Thunderstorm, heavy, with hail
+FC:99 - Tornado

MW codes

Depending on equipment used at the location, manually augmented stations report MW codes either with or instead of AU and AW codes. MW codes appear last, after AU and AW codes (all three types are separated by a "|") when present. MW codes are defined as follows:

FU:04 - Visibility reduced by smoke, e.g. veldt or forest fires, industrial smoke or volcanic ashes
HZ:05 - Haze
DU:06 - Widespread dust in suspension in the air, not raised by wind at or near the station at the time of observation
DU:07 - Dust or sand raised by wind at or near the station at the time of observation, but no well-developed dust whirl(s) or sand whirl(s), and no duststorm or sandstorm seen or, in the case of ships, blowing spray at the station
DU:08 - Well developed dust whirl(s) or sand whirl(s) seen at or near the station during the preceding hour or at the time of observation, but no duststorm or sandstorm
DU:09 - Duststorm or sandstorm within sight at the time of observation, or at the station during the preceding hour
BR:10 - Mist
FG:11 - Patches of shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 meters on land or 10 meters at sea
FG:12 - More or less continuous shallow fog or ice fog at the station, whether on land or sea, not deeper than about 2 meters on land or 10 meters at sea
13 - Lightning visible, no thunder heard
14 - Precipitation within sight, not reaching the ground or the surface of the sea
15 - Precipitation within sight, reaching the ground or the surface of the sea, but distant, i.e., estimated to be more than 5 km from the station
16 - Precipitation within sight, reaching the ground or the surface of the sea, near to, but not at the station
TS:17 - Thunderstorm, but no precipitation at the time of observation
SQ:18 - Squalls at or within sight of the station during the preceding hour or at the time of observation
FC:19 - Funnel cloud(s) (Tornado cloud or waterspout) at or within sight of the station during the preceding hour or at the time of observation
20 - Drizzle (not freezing) or snow grains not falling as shower(s) (during the preceding hour but not at the time of observation)
21 - Rain (not freezing) not falling as shower(s) (during the preceding hour but not at the time of observation))
22 - Snow not falling as shower(s) (during the preceding hour but not at the time of observation)
23 - Rain and snow or ice pellets not falling as shower(s) (during the preceding hour but not at the time of observation)
24 - Freezing drizzle or freezing rain not falling as shower(s) (during the preceding hour but not at the time of observation)
25 - Shower(s) of rain (during the preceding hour but not at the time of observation)
26 - Shower(s) of snow or of rain and snow (during the preceding hour but not at the time of observation)
27 - Shower(s) of hail (Hail, small hail, snow pellets), or rain and hail (during the preceding hour but not at the time of observation)
28 - Fog or ice fog (during the preceding hour but not at the time of observation)
29 - Thunderstorm (with or without precipitation) (during the preceding hour but not at the time of observation)
DU:30 - Slight or moderate duststorm or sandstorm has decreased during the preceding hour
DU:31 - Slight or moderate duststorm or sandstorm no appreciable change during the preceding hour
DU:32 - Slight or moderate duststorm or sandstorm has begun or has increased during the preceding hour
DU:33 - Severe duststorm or sandstorm has decreased during the preceding hour
DU:34 - Severe duststorm or sandstorm no appreciable change during the preceding hour
DU:35 - Severe duststorm or sandstorm has begun or has increased during the preceding hour
DRSN:36 - Slight or moderate drifting snow generally low (below eye level)
DRSN:37 - Heavy drifting snow generally low (below eye level)
BLSN:38 - Slight or moderate blowing snow generally high (above eye level)
BLSN:39 - Heavy blowing snow generally high (above eye level)
FG:40 - Fog or ice fog at a distance at the time of observation, but not at the station during the preceding hour, the fog or ice fog extending to a level above that of the observer
FG:41 - Fog or ice fog in patches
FG:42 - Fog or ice fog, sky visible, has become thinner during the preceding hour

FG:43 - Fog or ice fog, sky invisible, has become thinner during the preceding hour
FG:44 - Fog or ice fog, sky visible, no appreciable change during the preceding hour
FG:45 - Fog or ice fog, sky invisible, no appreciable change during the preceding hour
FG:46 - Fog or ice fog, sky visible, has begun or has become thicker during the preceding hour
FG:47 - Fog or ice fog, sky invisible, has begun or has become thicker during the preceding hour
FG:48 - Fog, depositing rime, sky visible
FG:49 - Fog, depositing rime, sky invisible
DZ:50 - Drizzle, not freezing, intermittent, slight at time of observation
DZ:51 - Drizzle, not freezing, continuous, slight at time of observation
DZ:52 - Drizzle, not freezing, intermittent, moderate at time of observation
DZ:53 - Drizzle, not freezing, continuous, moderate at time of observation
DZ:54 - Drizzle, not freezing, intermittent, heavy (dense) at time of observation
DZ:55 - Drizzle, not freezing, continuous, heavy (dense) at time of observation
FZDZ:56 - Drizzle, freezing, slight
FZDZ:57 - Drizzle, freezing, moderate or heavy (dense)
DZ:58 - Drizzle and rain, slight
DZ:59 - Drizzle and rain, moderate or heavy
RA:60 - Rain, not freezing, intermittent, slight at time of observation
RA:61 - Rain, not freezing, continuous, slight at time of observation
RA:62 - Rain, not freezing, intermittent, moderate at time of observation
RA:63 - Rain, not freezing, continuous, moderate at time of observation
RA:64 - Rain, not freezing, intermittent, heavy at time of observation
RA:65 - Rain, not freezing, continuous, heavy at time of observation
FZRA:66 - Rain, freezing, slight
FZRA:67 - Rain, freezing, moderate or heavy
RA:68 - Rain or drizzle and snow, slight
RA:69 - Rain or drizzle and snow, moderate or heavy
SN:70 - Intermittent fall of snowflakes, slight at time of observation
SN:71 - Continuous fall of snowflakes, slight at time of observation
SN:72 - Intermittent fall of snowflakes, moderate at time of observation
SN:73 - Continuous fall of snowflakes, moderate at time of observation
SN:74 - Intermittent fall of snowflakes, heavy at time of observation
SN:75 - Continuous fall of snowflakes, heavy at time of observation
76 - Diamond dust (with or without fog)
SG:77 - Snow grains (with or without fog)
SN:78 - Isolated star-like snow crystals (with or without fog)
PL:79 - Ice pellets
SHRA:80 - Rain shower(s), slight
SHRA:81 - Rain shower(s), moderate or heavy
SHRA:82 - Rain shower(s), violent
SHRASN:83 - Shower(s) of rain and snow mixed, slight
SHRASN:84 - Shower(s) of rain and snow mixed, moderate or heavy
SHSN:85 - Show shower(s), slight
SHSN:86 - Snow shower(s), moderate or heavy
SH:87 - Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, slight
SH:88 - Shower(s) of snow pellets or small hail, with or without rain or rain and snow mixed, moderate or heavy
SH:89 - Shower(s) of hail (hail, small hail, snow pellets), with or without rain or rain and snow mixed, not associated with thunder, slight
SH:90 - Shower(s) of hail (hail, small hail, snow pellets), with or without rain or rain and snow mixed, not associated with thunder, moderate or heavy
RA:91 - Slight rain at time of observation, thunderstorm during the preceding hour but not at time of observation
RA:92 - Moderate or heavy rain at time of observation, thunderstorm during the preceding hour but not at time of observation
93 - Slight snow, or rain and snow mixed or hail (Hail, small hail, snow pellets), at time of observation, thunderstorm during the preceding hour but not at time of observation

94 - Moderate or heavy snow, or rain and snow mixed or hail(Hail, small hail, snow pellets) at time of observation, thunderstorm during the preceding hour but not at time of observation
TS:95 - Thunderstorm, slight or moderate, without hail (Hail, small hail, snow pellets), but with rain and/or snow at time of observation, thunderstorm at time of observation
TS:96 - Thunderstorm, slight or moderate, with hail (hail, small hail, snow pellets) at time of observation, thunderstorm at time of observation
TS:97 - Thunderstorm, heavy, without hail (Hail, small hail, snow pellets), but with rain and/or snow at time of observation, thunderstorm at time of observation
TS:98 - Thunderstorm combined with duststorm or sandstorm at time of observation, thunderstorm at time of observation
TS:99 - Thunderstorm, heavy, with hail (Hail, small hail, snow pellets) at time of observation, thunderstorm at time of observation

Wind Chill Chart

Temperature (°F)

Wind (mph)	Calm	40	35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40	-45
5		36	31	25	19	13	7	1	-5	-11	-16	-22	-28	-34	-40	-46	-52	-57	-63
10		34	27	21	15	9	3	-4	-10	-16	-22	-28	-35	-41	-47	-53	-59	-66	-72
15		32	25	19	13	6	0	-7	-13	-19	-26	-32	-39	-45	-51	-58	-64	-71	-77
20		30	24	17	11	4	-2	-9	-15	-22	-29	-35	-42	-48	-55	-61	-68	-74	-81
25		29	23	16	9	3	-4	-11	-17	-24	-31	-37	-44	-51	-58	-64	-71	-78	-84
30		28	22	15	8	1	-5	-12	-19	-26	-33	-39	-46	-53	-60	-67	-73	-80	-87
35		28	21	14	7	0	-7	-14	-21	-27	-34	-41	-48	-55	-62	-69	-76	-82	-89
40		27	20	13	6	-1	-8	-15	-22	-29	-36	-43	-50	-57	-64	-71	-78	-84	-91
45		26	19	12	5	-2	-9	-16	-23	-30	-37	-44	-51	-58	-65	-72	-79	-86	-93
50		26	19	12	4	-3	-10	-17	-24	-31	-38	-45	-52	-60	-67	-74	-81	-88	-95
55		25	18	11	4	-3	-11	-18	-25	-32	-39	-46	-54	-61	-68	-75	-82	-89	-97
60		25	17	10	3	-4	-11	-19	-26	-33	-40	-48	-55	-62	-69	-76	-84	-91	-98

Frostbite Times 30 minutes 10 minutes 5 minutes

$$\text{Wind Chill (°F)} = 35.74 + 0.6215T - 35.75(V^{0.16}) + 0.4275T(V^{0.16})$$

Where, T= Air Temperatur · (°F) V= Wind Speed (mph)

Effective 11/01/01

NOAA's National Weather Service

Heat Index

Temperature (°F)

Relative Humidity (%)	80	82	84	86	88	90	92	94	96	98	100	102	104	106	108	110
40	80	81	83	85	88	91	94	97	101	105	109	114	119	124	130	136
45	80	82	84	87	89	93	96	100	104	109	114	119	124	130	137	
50	81	83	85	88	91	95	99	103	108	113	118	124	131	137		
55	81	84	86	89	93	97	101	106	112	117	124	130	137			
60	82	84	88	91	95	100	105	110	116	123	129	137				
65	82	85	89	93	98	103	108	114	121	128	136					
70	83	86	90	95	100	105	112	119	126	134						
75	84	88	92	97	103	109	116	124	132							
80	84	89	94	100	106	113	121	129								
85	85	90	96	102	110	117	126	135								
90	86	91	98	105	113	122	131									
95	86	93	100	108	117	127										
100	87	95	103	112	121	132										

Likelihood of Heat Disorders with Prolonged Exposure or Strenuous Activity

Caution Extreme Caution Danger Extreme Danger

Appendix F

Groundwater Analytical Data (Organics): January 1, 2019 to December 31, 2019
Supplemental Groundwater Analytical Data (Organics): January 1, 2019 to December 31, 2019
Groundwater Analytical Data (Inorganics): January 1, 2019 to December 31, 2019
Table F-1: Groundwater 1,4-Dioxane Data Summary, 2019
Table F-2: Groundwater PFAS Data Summary, 2019

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		007	010	010	015	015	015
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER
Sample Date		04/08/2019	04/09/2019	10/14/2019	04/23/2019	04/23/2019	10/17/2019
Laboratory Sample I.D.		1031047	1031058	1176749	1042098	1042100	1180695
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	1.4 J
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	0.7	0.7	ND@1.0	ND@1.0	ND@5.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	7.3	7.8	ND@1.0	ND@1.0	1.1 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	1	1.0	ND@1.0	ND@1.0	ND@5.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@10	ND@10	ND@50
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@5.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	1.3	1.6	1.1	1.1	14
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@5.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@5.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@5.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@5.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	37	36	150	150	3200
TRICHLOROETHYLENE	ug/l	ND@0.5	9.2	9.9	3.1	2.7	47
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	0.06 J	0.06 J	ND@1.0	ND@1.0	ND@5.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@5.0

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		015	016	016	032B	032B	032B
Sample Description		REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER
Sample Date		10/17/2019	04/25/2019	11/13/2019	01/09/2019	01/09/2019	04/22/2019
Laboratory Sample I.D.		1180696	1044640	1204158	9965225	9965226	1042089
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	1.7 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.1 J	0.06 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@50	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	15	1	1.1	0.3 J	0.4 J	0.2 J
DICHLORODIFLUOROMETHANE	ug/l	ND@5.0	7.9	10	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	3200	11	14	0.8	0.8	0.7
TRICHLOROETHYLENE	ug/l	50	2.5	2.3	3.0	3.1	2.6
TRICHLOROFLUOROMETHANE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@5.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		032B	032B	046	046	046	046
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		07/02/2019	10/17/2019	01/09/2019	04/22/2019	07/02/2019	10/14/2019
Laboratory Sample I.D.		1095449	1180694	9965222	1042090	1095445	1176744
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.3 J	0.6	0.05 J	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.8	1.0	1.8	0.5 J	0.2 J	0.9
TRICHLOROETHYLENE	ug/l	3.4	4.1	0.09 J	ND@0.5	ND@0.5	0.08 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		048	048	048	048	053	053
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		01/09/2019	04/24/2019	07/01/2019	10/14/2019	05/01/2019	10/16/2019
Laboratory Sample I.D.		9965242	1044632	1095439	1176963	1049677	1180680
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.08 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	0.07 J	0.3 J	0.4 J	0.3 J	0.6
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	3.0	1.7	0.4 J	0.4 J	0.6	1.3
TRICHLOROETHYLENE	ug/l	0.2 J	0.3 J	0.3 J	0.2 J	0.6	1.2
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		054	054	059	060	061	064
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/25/2019	10/14/2019	04/29/2019	04/29/2019	04/23/2019	01/08/2019
Laboratory Sample I.D.		1044605	1176746	1046831	1046832	1042103	9965235
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.09 J	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.06 J	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	3.2	3.6	ND@0.5	ND@0.5	ND@0.5	0.05 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	1.9	2.3	ND@0.5	ND@0.5	ND@0.5	0.07 J
TRICHLOROETHYLENE	ug/l	5.4	6.2	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		064	064	064	065	065	065
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/04/2019	07/01/2019	10/08/2019	01/08/2019	04/04/2019	07/01/2019
Laboratory Sample I.D.		1028792	1095434	1172335	9965236	1028793	1095435
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.08 J	0.07 J	0.05 J	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.2 J	0.2 J	0.6	0.06 J	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	0.2 J	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		065	065	066	066	066	066
Sample Description		REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		07/01/2019	10/08/2019	01/09/2019	04/05/2019	07/01/2019	10/08/2019
Laboratory Sample I.D.		1095436	1172336	9965248	1028803	1095441	1172338
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	2.2 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		067	067	067	067	068	068
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		01/08/2019	04/05/2019	07/02/2019	10/08/2019	01/08/2019	04/25/2019
Laboratory Sample I.D.		9965220	1028804	1095447	1172339	9965241	1044641
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	2.7 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	0.07 J	0.09 J	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.2 J	0.1 J
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	0.09 J	0.1 J	0.08 J	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		068	068	068	069	085	085
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		07/01/2019	07/01/2019	10/15/2019	04/05/2019	04/11/2019	10/17/2019
Laboratory Sample I.D.		1095442	1095443	1176971	1028788	1035012	1180684
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	1.9 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	0.07 J	0.07 J	0.1 J	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		087	087	103	103	104	104
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/11/2019	11/11/2019	04/24/2019	10/16/2019	04/24/2019	10/16/2019
Laboratory Sample I.D.		1035013	1201352	1044595	1180687	1044596	1180688
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	0.09 J	0.07 J	1	1.1
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	1.7	1.9	32	36
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	0.4 J	0.5 J	4.4	5.6
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.1 J	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		105	105	106	109	109	113
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/25/2019	10/18/2019	04/16/2019	04/11/2019	10/17/2019	04/24/2019
Laboratory Sample I.D.		1044643	1180720	1037276	1035014	1180685	1044633
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.2 J	0.2 J	0.09 J	0.1 J	0.1 J	0.08 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.2 J	0.7	0.1 J	0.08 J	0.1 J	2.0
TRICHLOROETHYLENE	ug/l	0.4 J	0.5 J	ND@0.5	1.6	1.6	0.2 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		113	118	143	143	146	151
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/18/2019	04/18/2019	04/08/2019	04/16/2019	04/18/2019	06/10/2019
Laboratory Sample I.D.		1180712	1039536	1031046	1037277	1039513	1078819
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	780 J	0.08 J	0.08 J	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	0.07 J	ND@0.5
ACETONE	ug/l	ND@5.0	ND@25000	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.1 J	570 J	ND@0.5	ND@0.5	0.2 J	0.2 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	1.6	220000	12	12	0.06 J	ND@0.5
TRICHLOROETHYLENE	ug/l	0.3 J	810 J	ND@0.5	ND@0.5	0.07 J	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@2500	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		151	156	156	167	167	167
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER
Sample Date		10/09/2019	04/18/2019	10/16/2019	04/05/2019	04/05/2019	11/11/2019
Laboratory Sample I.D.		1172468	1039512	1180677	1028785	1028786	1201351
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	19	ND@5.0	ND@5.0	2.5 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.08 J	0.5 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.1 J	ND@0.5	0.1 J	0.1 J	0.1 J
TRICHLOROETHYLENE	ug/l	ND@0.5	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		178	181	181	204	502	520
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/15/2019	04/25/2019	10/18/2019	04/17/2019	04/05/2019	04/04/2019
Laboratory Sample I.D.		1037270	1044639	1180710	1039518	1028787	1028798
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	5.0	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	9.7	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	8.7	3.3 J	ND@5.0	2.3 J	1.9 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.3 J	2.6	0.6	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	2.1	13	4.7	0.4 J	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	0.8	4.0	0.9	0.2 J	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	0.6	0.2 J	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		520	521	521	545	545	559
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/14/2019	04/04/2019	10/14/2019	04/05/2019	10/15/2019	05/02/2019
Laboratory Sample I.D.		1176965	1028799	1176967	1028789	1176753	1049486
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	8.8
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	5.8
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	3.9
ACETONE	ug/l	ND@5.0	2.4 J	1.4 J	1.4 J	ND@5.0	ND@10
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.4 J
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.1 J	150
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TETRACHLOROETHYLENE	ug/l	0.09 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	47
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	98
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	2.0

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		559	559	561	561	561	563
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER
Sample Date		10/17/2019	10/17/2019	04/15/2019	04/15/2019	10/15/2019	04/24/2019
Laboratory Sample I.D.		1180692	1180693	1037273	1037274	1176972	1044630
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	5.8	5.6	0.5 J	0.5 J	1.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	0.1 J	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	5.7	5.6	0.07 J	0.07 J	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	4.3	4.2	ND@0.5	ND@0.5	ND@0.5	0.07 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	0.3 J	0.3 J	ND@0.5	ND@0.5	0.2 J	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	170	160	5.8	5.9	41	1.4
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	51	48	6.9	7.0	30	1.4
TRICHLOROETHYLENE	ug/l	99	97	2.2	2.1	8.8	2.6
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	1.3	1.2	0.2 J	0.2 J	1.4	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		563	564	564	571	571	572
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/21/2019	04/24/2019	10/18/2019	01/09/2019	04/24/2019	04/30/2019
Laboratory Sample I.D.		1184377	1044631	1180709	9965227	1044634	1046836
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.07 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@25000
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
CIS-1,2-DICHLOROETHYLENE	ug/l	2.6	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1300 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
TETRACHLOROETHYLENE	ug/l	1.4	0.07 J	0.09 J	0.07 J	0.07 J	200000
TRICHLOROETHYLENE	ug/l	3.1	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1100 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2500

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		574	576	576	577	577	579
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/30/2019	04/24/2019	10/09/2019	04/25/2019	10/21/2019	04/29/2019
Laboratory Sample I.D.		1046835	1044600	1172469	1044602	1184384	1046833
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@250	1.3	0.7	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@250	0.4 J	0.6	ND@0.5	ND@0.5	0.09 J
ACETONE	ug/l	ND@2500	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@250	0.4 J	0.4 J	ND@0.5	ND@0.5	0.2 J
DICHLORODIFLUOROMETHANE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.08 J
ETHYLBENZENE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	23000	16	17	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	100 J	1.2	3.2	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@250	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		580	580	580	581	600	601
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/10/2019	04/10/2019	10/07/2019	04/10/2019	04/16/2019	04/16/2019
Laboratory Sample I.D.		1034999	1035001	1172328	1035009	1037234	1037233
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.1 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.09 J
ACETONE	ug/l	ND@5.0	ND@5.0	1.7 J	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1.8
DICHLORODIFLUOROMETHANE	ug/l	0.6	0.6	0.8	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.3 J	0.3 J	0.5	ND@0.5	1.8	0.4 J
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.2 J	1.3
TRICHLOROFLUOROMETHANE	ug/l	1.4	1.5	0.6	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		601	602	603	604	607	607
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/18/2019	04/15/2019	04/18/2019	04/18/2019	04/16/2019	10/15/2019
Laboratory Sample I.D.		1180721	1037272	1039515	1039514	1037278	1176752
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.08 J	ND@0.5	ND@0.5	ND@0.5	130	140
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.1 J	ND@0.5	ND@0.5	ND@0.5	21 J	23
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@250	ND@130
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	45	37
CIS-1,2-DICHLOROETHYLENE	ug/l	1.9	ND@0.5	ND@0.5	ND@0.5	5600	5300
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
TETRACHLOROETHYLENE	ug/l	0.3 J	0.1 J	ND@0.5	ND@0.5	8700	8600
TRICHLOROETHYLENE	ug/l	1.4	ND@0.5	ND@0.5	ND@0.5	1600	1400
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@25	ND@13
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	330	170

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		609	609	609	610	610	610
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE
Sample Date		05/02/2019	06/11/2019	10/22/2019	06/10/2019	10/22/2019	10/22/2019
Laboratory Sample I.D.		1049678	1078821	1184378	1078818	1184387	1184388
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.2 J	0.3 J	0.3 J	14 J	12	11
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.08 J	ND@0.5	0.07 J	0.4 J	ND@5.0	ND@5.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@25 J	ND@50	ND@50
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
CIS-1,2-DICHLOROETHYLENE	ug/l	0.3 J	0.3 J	0.4 J	31 J	19	19
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0
TETRACHLOROETHYLENE	ug/l	5.9	9.7	6.3	500 J	460	470
TRICHLOROETHYLENE	ug/l	2.2	2.3	2.1	150 J	110	100
TRICHLOROFLUOROMETHANE	ug/l	0.8	0.8	0.7	1.3 J	1.5 J	1.5 J
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.5 J	ND@5.0	ND@5.0

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		611	612	612	612	612
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/23/2019	01/09/2019	04/22/2019	07/02/2019	10/07/2019
Laboratory Sample I.D.		1041784	9965223	1042093	1095448	1172332
Sample Comment Codes						
Parameter	**Units**					
Base/Neutral Extractables						
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics						
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	0.06 J	ND@0.5	ND@0.5	0.09 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.4 J	ND@0.5	ND@0.5	ND@0.5	0.2 J
TRICHLOROETHYLENE	ug/l	0.09 J	ND@0.5	ND@0.5	ND@0.5	0.08 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		622	622	622	623	623	624
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/22/2019	04/22/2019	10/15/2019	04/23/2019	11/19/2019	04/17/2019
Laboratory Sample I.D.		1041779	1041780	1176968	1041783	1207158	1039506
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.3 J	0.2 J	0.3 J	ND@1.0	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.2	1.2	1.3	ND@1.0	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@10	1.4 J	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	7.9	7.8	9.0	ND@1.0	3.4	2.1
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.1 J	0.1 J	0.08 J	130	120	4.1
TRICHLOROETHYLENE	ug/l	2.0	2.0	2.2	0.1 J	1.0	2.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	0.2 J	0.2 J	0.1 J	ND@1.0	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		624	627	627	627	628	628
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		11/18/2019	01/09/2019	04/19/2019	10/04/2019	01/09/2019	04/22/2019
Laboratory Sample I.D.		1207156	9965246	1040345	1169506	9965224	1042091
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	0.3 J	0.4 J	0.2 J	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	13	6.9	19	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	11	14	6.0	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	2.8 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	2.7	170	210	41	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	0.1 J	0.07 J	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	1.2	39	47	18	0.5	0.2 J
TRICHLOROETHYLENE	ug/l	2.2	17	20	5.2	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		628	628	640	640	701	702
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		07/02/2019	10/14/2019	04/15/2019	10/09/2019	04/09/2019	04/09/2019
Laboratory Sample I.D.		1095446	1176745	1037271	1172470	1031065	1031064
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	6.0	14	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.1 J	0.4 J	42	97	0.1 J	0.9
TRICHLOROETHYLENE	ug/l	ND@0.5	0.06 J	9.1	20	0.08 J	0.1 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		702	706	706	711	714	714
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/08/2019	04/16/2019	10/16/2019	06/05/2019	04/09/2019	10/09/2019
Laboratory Sample I.D.		1172341	1037279	1180690	1074991	1031057	1172472
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	2.9	2.4
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.08 J	0.1 J	ND@0.5	37	45
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.5 J	0.4 J	ND@0.5	5.4	6.6
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	3.8 J	21
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.1 J	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	150	250	ND@0.5	9.2	6.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	1.9	16	18	ND@0.5	290	240
TRICHLOROETHYLENE	ug/l	0.3 J	5.8	6.8	ND@0.5	63	56
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	130	57	ND@0.5	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		716	716	716	720	720	722
Sample Description		GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		05/02/2019	10/22/2019	10/22/2019	04/24/2019	10/21/2019	04/30/2019
Laboratory Sample I.D.		1049679	1184389	1184390	1044635	1184386	1046844
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	40 J	56	54	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@100 J	ND@50	ND@50	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	17 J	18	18	0.3 J	0.5 J	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	800 J	900	900	1.3	1.6	ND@0.5
TRICHLOROETHYLENE	ug/l	17 J	17	17	0.2 J	0.2 J	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@10 J	ND@5.0	ND@5.0	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		732	732	732	734	734	735
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/17/2019	04/17/2019	10/18/2019	04/22/2019	11/19/2019	04/10/2019
Laboratory Sample I.D.		1039507	1039516	1180711	1041778	1207159	1034997
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@25	ND@13	ND@5.0	ND@0.5	ND@0.5	ND@2.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@25	ND@13	ND@5.0	0.3 J	0.2 J	ND@2.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	150	150	230	1.5	1.6	160
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	4.7 J	5.1 J	7.0	0.9	0.8	4.0
ACETONE	ug/l	ND@250	ND@130	20 J	ND@5.0	ND@5.0	17 J
CHLOROBENZENE	ug/l	ND@25	ND@13	ND@5.0	ND@0.5	ND@0.5	ND@2.5
CIS-1,2-DICHLOROETHYLENE	ug/l	130	140	170	2.5	3.4	42
DICHLORODIFLUOROMETHANE	ug/l	ND@25	ND@13	ND@5.0	0.2 J	ND@0.5	0.6 J
ETHYLBENZENE	ug/l	ND@25	ND@13	ND@5.0	ND@0.5	ND@0.5	ND@2.5
M,P-XYLENE	ug/l	ND@25	ND@13	ND@5.0	ND@0.5	ND@0.5	ND@2.5
O-XYLENE	ug/l	ND@25	ND@13	ND@5.0	ND@0.5	ND@0.5	ND@2.5
TETRACHLOROETHYLENE	ug/l	2200	2000	2100	37	20	740
TRICHLOROETHYLENE	ug/l	480	440	560	10	9.7	39
TRICHLOROFLUOROMETHANE	ug/l	3.5 J	3.2 J	3.6 J	0.3 J	0.3 J	ND@2.5
VINYL CHLORIDE	ug/l	ND@25	ND@13	ND@5.0	ND@0.5	ND@0.5	ND@2.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		735	737	737	737	737	739
Sample Description		GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	REPLICATE	GROUNDWATER
Sample Date		10/04/2019	04/10/2019	04/10/2019	11/13/2019	11/13/2019	04/19/2019
Laboratory Sample I.D.		1169501	1034995	1034996	1204159	1204160	1040370
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	130	7.8	8.2	7.4	7.6	0.3 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	6.6 J	1	1	0.8	0.9	ND@0.5
ACETONE	ug/l	20 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	170	0.2 J	0.2 J	0.1 J	0.1 J	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@10	0.08 J	0.08 J	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	1700	5.7	5.8	4.4	4.4	0.1 J
TRICHLOROETHYLENE	ug/l	90	1.2	1.2	0.9	0.9	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@10	0.3 J	0.3 J	0.3 J	0.3 J	ND@0.5
VINYL CHLORIDE	ug/l	ND@10	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		740	740	740	742	742	742
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE
Sample Date		01/09/2019	04/19/2019	10/07/2019	06/05/2019	10/22/2019	10/22/2019
Laboratory Sample I.D.		9965243	1040350	1172329	1074990	1184380	1184381
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	1.7	0.2 J	0.2 J	0.1 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.09 J	4.8	ND@0.5 J	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.4 J	0.8	1	0.07 J	0.06 J	0.05 J
DICHLORODIFLUOROMETHANE	ug/l	0.08 J	1	0.5	ND@0.5 J	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	1.3	1.8	2.7	0.3 J	0.2 J	0.2 J
TRICHLOROETHYLENE	ug/l	1.7	2.2	3.3	0.2 J	0.1 J	0.1 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		743	744	744	745	751	753
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/19/2019	04/15/2019	10/08/2019	04/15/2019	04/24/2019	04/24/2019
Laboratory Sample I.D.		1040349	1037269	1172340	1037268	1044598	1044599
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	6.3	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	0.1 J	0.1 J	ND@0.5	ND@0.5	0.07 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.06 J	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.07 J	0.2 J	0.2 J	ND@0.5	0.6	0.4 J
TRICHLOROETHYLENE	ug/l	ND@0.5	0.3 J	0.4 J	ND@0.5	0.3 J	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.3 J	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		754	755	755	755	756	756
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER
Sample Date		04/22/2019	04/22/2019	10/14/2019	10/14/2019	01/09/2019	04/23/2019
Laboratory Sample I.D.		1042094	1042092	1176747	1176748	9965245	1042102
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.4 J	0.5 J	0.5	1.6	0.8
TRICHLOROETHYLENE	ug/l	ND@0.5	0.1 J	0.2 J	0.2 J	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		757	757	761	763	766	766
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE
Sample Date		04/08/2019	10/09/2019	04/09/2019	04/09/2019	04/10/2019	04/10/2019
Laboratory Sample I.D.		1031055	1172471	1031062	1031060	1035003	1035005
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.5	0.4 J
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.3 J	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.5 J	0.2 J	0.1 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.2 J	0.3 J	ND@0.5	ND@0.5	0.4 J	0.3 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.8	0.7
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.7	0.9	ND@0.5	ND@0.5	0.7	0.6
TRICHLOROETHYLENE	ug/l	2.6	3.5	ND@0.5	ND@0.5	0.8	0.6
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		766	767	767	768	768	768
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE
Sample Date		10/04/2019	04/10/2019	10/04/2019	04/17/2019	10/04/2019	10/04/2019
Laboratory Sample I.D.		1169502	1035007	1169503	1039528	1169504	1169505
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	1.3	0.3 J	0.6	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.7	ND@0.5	1.0	ND@0.5	0.2 J	0.2 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	7.3	1.1	19	ND@0.5	ND@0.5	0.1 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	0.1 J	0.2 J	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	26	9.2	90	1.6	3.9	3.6
DICHLORODIFLUOROMETHANE	ug/l	1.2	0.05 J	0.4 J	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	2.7	1.7	3.7	6.1	15	14
TRICHLOROETHYLENE	ug/l	4.1	2.4	6.3	8.3	14	13
TRICHLOROFLUOROMETHANE	ug/l	1.1	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	0.1 J	0.2 J	0.7	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		769	769	771	771	772	772
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/19/2019	10/07/2019	04/17/2019	10/04/2019	04/17/2019	10/04/2019
Laboratory Sample I.D.		1040347	1172330	1039532	1169498	1039524	1169496
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	0.2 J	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.7	1.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.8	0.8	ND@0.5	ND@0.5	ND@0.5	0.07 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	4.0	3.8	0.3 J	0.5	0.5 J	0.9
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	3.0	3.4	1.7	2.0	0.2 J	0.06 J
TRICHLOROETHYLENE	ug/l	5.5	5.6	1.5	1.8	0.7	0.8
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	0.08 J	0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		773	773	774	774	775	777
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/17/2019	10/04/2019	04/08/2019	10/07/2019	04/08/2019	04/11/2019
Laboratory Sample I.D.		1039522	1169497	1031049	1172333	1031051	1035015
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.2 J	0.2 J	ND@0.5	ND@0.5	0.06 J	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.07 J	0.07 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	0.2 J	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		777	779	779	789	791	792
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/18/2019	04/18/2019	10/15/2019	04/17/2019	04/08/2019	04/17/2019
Laboratory Sample I.D.		1180722	1039535	1176751	1039520	1031053	1039526
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		793	793	832	857	857	858
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/17/2019	10/04/2019	04/23/2019	04/04/2019	10/14/2019	04/04/2019
Laboratory Sample I.D.		1039530	1169495	1042097	1028800	1176964	1028797
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	0.09 J	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.6	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	1.8 J	ND@5.0	1.8 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	3.0	4.4	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	2.3	2.3	ND@0.5	0.09 J	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	2.1	2.6	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	0.1 J	0.1 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		858	921	921	922	922	923
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/14/2019	04/18/2019	11/15/2019	04/17/2019	11/15/2019	04/18/2019
Laboratory Sample I.D.		1176966	1039508	1205079	1039504	1205078	1039510
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.4 J	0.6	0.3 J	0.3 J	0.3 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.3 J	0.5	0.2 J	0.4 J	0.7
ACETONE	ug/l	1.7 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	5.7	9.0	4.5	5.7	34
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.9	0.9	7.1	0.1 J	22
TRICHLOROETHYLENE	ug/l	ND@0.5	3.7	3.6	1.7	0.8	20
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	0.5 J	0.3 J	0.5 J	0.9

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		923	923	929	929	929	931
Sample Description		REPLICATE	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER
Sample Date		04/18/2019	11/13/2019	04/16/2019	04/16/2019	11/12/2019	04/16/2019
Laboratory Sample I.D.		1039511	1204161	1037231	1037232	1201354	1037229
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.3 J	0.4 J	3.6	11	3.9	0.8 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.7	0.7	0.3 J	0.4 J	0.3 J	0.5 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@10	6.6	ND@10	ND@25
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
CIS-1,2-DICHLOROETHYLENE	ug/l	35	32	16	4.1	18	66
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
TETRACHLOROETHYLENE	ug/l	22	23	230	120	270	640
TRICHLOROETHYLENE	ug/l	20	24	6.3	5.4	7.2	25
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@2.5
VINYL CHLORIDE	ug/l	0.9	0.7	ND@1.0	ND@0.5	ND@1.0	0.6 J

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		931	932	932	941	941	943
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/17/2019	04/15/2019	10/17/2019	04/25/2019	10/16/2019	04/29/2019
Laboratory Sample I.D.		1180683	1037226	1180682	1044638	1180675	1046842
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.6 J	3.1	0.6	60	9.4	2.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.4 J	1.2	0.3 J	1.3 J	0.4 J	0.2 J
ACETONE	ug/l	ND@25	ND@5.0	ND@5.0	ND@25	190	ND@5.0
CHLOROBENZENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	71	19	2.8	17	6.8	3.8
DICHLORODIFLUOROMETHANE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
O-XYLENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@2.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	810	9.7	2.4	590	290	7.7
TRICHLOROETHYLENE	ug/l	29	16	2.8	140	65	8.5
TRICHLOROFLUOROMETHANE	ug/l	ND@2.5	0.2 J	ND@0.5	0.5 J	0.3 J	0.09 J
VINYL CHLORIDE	ug/l	ND@2.5	0.2 J	ND@0.5	ND@2.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		943	944	944	952	952	953
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/15/2019	04/29/2019	10/15/2019	05/01/2019	10/21/2019	04/16/2019
Laboratory Sample I.D.		1176970	1046843	1176969	1049675	1184385	1037230
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.8	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.2 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@10
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	3.5	ND@0.5	0.05 J	ND@0.5	ND@0.5	0.8 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TETRACHLOROETHYLENE	ug/l	6.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	450
TRICHLOROETHYLENE	ug/l	7.3	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1.2
TRICHLOROFLUOROMETHANE	ug/l	0.06 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1 J
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		953	954	954	956	956	958
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		11/18/2019	04/18/2019	11/14/2019	04/16/2019	11/12/2019	04/29/2019
Laboratory Sample I.D.		1207155	1039509	1204163	1037228	1201355	1046834
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@2.5	0.2 J	0.2 J	0.1 J	0.2 J	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@2.5	0.4 J	0.6	0.4 J	0.5 J	ND@0.5
ACETONE	ug/l	ND@25	8.2	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	1.1 J	28	130	68	59 J	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@2.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	430	33	81	23	170 J	0.1 J
TRICHLOROETHYLENE	ug/l	1.4 J	13	18	6.2	20	0.06 J
TRICHLOROFLUOROMETHANE	ug/l	0.7 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@2.5	1.1	5.0	2.0	2.3	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		958	959	959	960	960	960
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE
Sample Date		11/13/2019	04/25/2019	11/14/2019	06/20/2019	10/18/2019	10/18/2019
Laboratory Sample I.D.		1204157	1044603	1204164	1087012	1180718	1180719
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	12	19	3.5	13	20
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	0.6	0.6	0.9	0.6	0.8
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	1.6	2.0	1.3	1.9	2.0
ACETONE	ug/l	ND@5.0	3.1 J	ND@5.0	ND@5.0	5.7	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	0.2 J	0.3 J	0.07 J	0.3 J	0.3 J
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	53	53	33	40	41
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.1 J	27	22	29	14	16
TRICHLOROETHYLENE	ug/l	0.07 J	22	20	17	13	14
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	0.5 J	0.1 J	0.2 J	0.1 J	0.2 J
VINYL CHLORIDE	ug/l	ND@0.5	1.5	2.7	0.9	6.2	6.4

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		963	963	964	964	965	966
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/05/2019	10/16/2019	04/05/2019	10/16/2019	04/22/2019	04/23/2019
Laboratory Sample I.D.		1028801	1180678	1028802	1180679	1041781	1041785
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.2 J
ACETONE	ug/l	2.9 J	ND@5.0	2.3 J	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.6	0.3 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.4 J	7.1
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.5 J	0.7
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Parameter	Units						
Sample Location		966	987	987	987	987	990
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		10/16/2019	01/08/2019	04/04/2019	07/01/2019	10/14/2019	01/08/2019
Laboratory Sample I.D.		1180676	9965237	1028794	1095437	1176962	9965238
Sample Comment Codes							
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.09 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.3 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	9.0	0.09 J	0.09 J	0.06 J	ND@0.5	1
TRICHLOROETHYLENE	ug/l	0.8	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.1 J
TRICHLOROFLUOROMETHANE	ug/l	0.3 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		990	990	990	990	998	998
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/04/2019	04/04/2019	07/01/2019	10/08/2019	04/09/2019	10/16/2019
Laboratory Sample I.D.		1028795	1028796	1095438	1172337	1031067	1180689
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.08 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	0.9 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.06 J	1.1	1.3
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	1	1	1	1.3	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	0.1 J	0.1 J	0.1 J	0.2 J	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.4 J	0.5 J

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		999	999	999	PW-23	PW-23	PW-23
Sample Description		GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER
Sample Date		04/24/2019	04/24/2019	10/16/2019	01/08/2019	01/08/2019	04/11/2019
Laboratory Sample I.D.		1044636	1044637	1180681	9965239	9965240	1035016
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	2.1 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.06 J	0.06 J	0.05 J	0.1 J	0.1 J	0.08 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.8	0.8	0.8	1.7	1.7	1.0
TRICHLOROETHYLENE	ug/l	0.2 J	0.1 J	0.2 J	0.2 J	0.2 J	0.1 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW-23	PW-23
Sample Description		GROUNDWATER	GROUNDWATER
Sample Date		07/01/2019	10/17/2019
Laboratory Sample I.D.		1095440	1180697
Sample Comment Codes			
Parameter	**Units**		
Base/Neutral Extractables			
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5
Volatile Organics			
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	0.09 J	0.2 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.7	0.4 J
TRICHLOROETHYLENE	ug/l	0.2 J	0.2 J
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Former IBM East Fishkill Facility
Supplemental Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		012	617
Sample Description		GROUNDWATER	GROUNDWATER
Sample Date		11/12/2019	10/07/2019
Laboratory Sample I.D.		1201356	1172331
Sample Comment Codes			
Parameter	**Units**		
Base/Neutral Extractables			
1,2-DICHLOROBENZENE	ug/l	6.4 J	ND@0.5
Volatile Organics			
1,1,1-TRICHLOROETHANE	ug/l	22 J	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	45 J	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@50	ND@0.5
ACETONE	ug/l	ND@500	ND@5.0
CHLOROBENZENE	ug/l	ND@50	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	12000	0.1 J
DICHLORODIFLUOROMETHANE	ug/l	ND@50	ND@0.5
ETHYLBENZENE	ug/l	ND@50	ND@0.5
M,P-XYLENE	ug/l	ND@50	ND@0.5
O-XYLENE	ug/l	ND@50	ND@0.5
TETRACHLOROETHYLENE	ug/l	3000	0.09 J
TRICHLOROETHYLENE	ug/l	1500	0.5 J
TRICHLOROFLUOROMETHANE	ug/l	ND@50	ND@0.5
VINYL CHLORIDE	ug/l	670	ND@0.5

Former IBM East Fishkill Facility
Supplemental Groundwater Analytical Data - Organics
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		007	010	015	015	068	104
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER
Sample Date		04/08/2019	04/09/2019	04/23/2019	04/23/2019	04/25/2019	04/24/2019
Laboratory Sample I.D.		1031047	1031059	1042099	1042101	1044642	1044596
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	NA	NA	2.5	2.5	NA	NA
Metals							
ARSENIC, DISSOLVED	mg/l	NA	NA	NA	NA	0.0038	NA
ARSENIC, TOTAL	mg/l	NA	NA	NA	NA	0.0069	NA
CHROMIUM, DISSOLVED	mg/l	ND@0.0040	ND@0.0040	0.0139	0.0188	NA	ND@0.0040
CHROMIUM, TOTAL	mg/l	0.00074 J	0.0199	0.0605	0.0691	NA	0.0019 J
NICKEL, DISSOLVED	mg/l	NA	NA	NA	NA	NA	NA
NICKEL, TOTAL	mg/l	NA	NA	NA	NA	NA	NA

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		204	580	580	581	627	627
Sample Description		GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/17/2019	04/10/2019	04/10/2019	04/10/2019	01/09/2019	04/19/2019
Laboratory Sample I.D.		1039519	1034999	1035001	1035010	9965246	1040346
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	NA	3.6	2.4	NA	340	195
Metals							
ARSENIC, DISSOLVED	mg/l	NA	NA	NA	NA	0.0015 J	0.00075 J
ARSENIC, TOTAL	mg/l	NA	NA	NA	NA	0.0016 J	0.00090 J
CHROMIUM, DISSOLVED	mg/l	0.0092	0.00071 J	0.0010 J	ND@0.0040	NA	NA
CHROMIUM, TOTAL	mg/l	2.23	0.0353	0.0337	0.0125	NA	NA
NICKEL, DISSOLVED	mg/l	NA	NA	NA	NA	4.44	1.84
NICKEL, TOTAL	mg/l	NA	NA	NA	NA	4.34	2.30

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		701	706	735	740	740	754
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/09/2019	04/16/2019	04/10/2019	01/09/2019	04/19/2019	04/22/2019
Laboratory Sample I.D.		1031066	1037279	1034997	9965243	1040351	1042094
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	NA	ND@0.50	7.4	9.2	6.9	NA
Metals							
ARSENIC, DISSOLVED	mg/l	NA	NA	0.00079 J	NA	NA	NA
ARSENIC, TOTAL	mg/l	NA	NA	0.0015 J	NA	NA	NA
CHROMIUM, DISSOLVED	mg/l	0.00076 J	NA	NA	0.0017 J	0.0016 J	ND@0.0040
CHROMIUM, TOTAL	mg/l	0.0093	NA	NA	0.0147	0.0109	0.0013 J
NICKEL, DISSOLVED	mg/l	NA	NA	NA	NA	NA	NA
NICKEL, TOTAL	mg/l	NA	NA	NA	NA	NA	NA

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		761	763	766	766	767	768
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	REPLICATE	GROUNDWATER	GROUNDWATER
Sample Date		04/09/2019	04/09/2019	04/10/2019	04/10/2019	04/10/2019	04/17/2019
Laboratory Sample I.D.		1031063	1031061	1035003	1035005	1035007	1039528
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	NA	NA	2.3	2.1	2.3	0.47 J
Metals							
ARSENIC, DISSOLVED	mg/l	NA	NA	0.0014 J	0.0014 J	0.0046	0.0023
ARSENIC, TOTAL	mg/l	NA	NA	0.0194	0.0201	0.146	0.0512
CHROMIUM, DISSOLVED	mg/l	ND@0.0040	ND@0.0040	0.00083 J	ND@0.0040	0.0011 J	0.478
CHROMIUM, TOTAL	mg/l	0.464	0.0019 J	0.595	0.621	28.7	15.3
NICKEL, DISSOLVED	mg/l	NA	NA	0.320	0.327	NA	0.200
NICKEL, TOTAL	mg/l	NA	NA	0.517	0.534	NA	2.97

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		769	771	772	773	774	775
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/19/2019	04/17/2019	04/17/2019	04/17/2019	04/08/2019	04/08/2019
Laboratory Sample I.D.		1040347	1039533	1039525	1039523	1031049	1031052
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	ND@0.50	NA	NA	NA	NA	NA
Metals							
ARSENIC, DISSOLVED	mg/l	ND@0.0020	NA	ND@0.0020	NA	NA	NA
ARSENIC, TOTAL	mg/l	0.0020	NA	0.0051	NA	NA	NA
CHROMIUM, DISSOLVED	mg/l	0.0058	0.0110	0.0024 J	0.0013 J	0.00071 J	0.0036 J
CHROMIUM, TOTAL	mg/l	0.656	4.87	1.63	0.691	0.0725	0.0162
NICKEL, DISSOLVED	mg/l	0.182	NA	0.308	NA	NA	NA
NICKEL, TOTAL	mg/l	0.408	NA	0.480	NA	NA	NA

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		789	791	792	793	952	959
Sample Description		GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER	GROUNDWATER
Sample Date		04/17/2019	04/08/2019	04/17/2019	04/17/2019	05/01/2019	04/25/2019
Laboratory Sample I.D.		1039521	1031053	1039527	1039530	1049675	1044603
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	NA	NA	NA	ND@0.50	NA	NA
Metals							
ARSENIC, DISSOLVED	mg/l	NA	NA	ND@0.0020	ND@0.0020	ND@0.0020	ND@0.0020
ARSENIC, TOTAL	mg/l	NA	NA	0.0053	0.0023	0.0012 J	0.0189
CHROMIUM, DISSOLVED	mg/l	0.00079 J	0.0371	0.0203	0.0216	ND@0.0040	NA
CHROMIUM, TOTAL	mg/l	0.916	44.3	1.20	1.26	0.0031 J	NA
NICKEL, DISSOLVED	mg/l	NA	NA	NA	0.0312	NA	NA
NICKEL, TOTAL	mg/l	NA	NA	NA	0.166	NA	NA

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		960
Sample Description		GROUNDWATER
Sample Date		05/01/2019
Laboratory Sample I.D.		1049674
Sample Comment Codes		
Parameter	**Units**	
Inorganics		
FLUORIDE	mg/l	NA
Metals		
ARSENIC, DISSOLVED	mg/l	ND@0.0020
ARSENIC, TOTAL	mg/l	0.0089
CHROMIUM, DISSOLVED	mg/l	NA
CHROMIUM, TOTAL	mg/l	NA
NICKEL, DISSOLVED	mg/l	NA
NICKEL, TOTAL	mg/l	NA

Former IBM East Fishkill Facility
Groundwater Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Table F-1
Groundwater 1,4-Dioxane Data Summary
Former IBM East Fishkill Facility
East Fishkill, New York

		Site Area	Area A, Bedrock	Area A	Area A, Bedrock	Area D	Area C, Bedrock	Area C, Bedrock
		LabID	1201356	1179172	1179607	1179173	1179170	1179171
		SampleID	GW191112012	GW191017714	GW191018732	GW191017032B	GW191017559	NR191017311
		Location	GW-012	GW-714	GW-732	GW-032B	GW-559	GW-559 (Dup)
Parameter	**Units**	**Cas Number | Date**	11/12/2019	10/17/2019	10/18/2019	10/17/2019	10/17/2019	10/17/2019
1,4-Dioxane	ug/l	123-91-1	0.1 J	ND@0.3	2	ND@0.3	0.4	0.4

		Site Area	B/330, Bedrock	Bedrock	Bedrock	Bedrock
		LabID	1179174	1179608	1179609	1179175
		SampleID	GW191017931	GW191018960	NR191018318	GW191017085
		Location	GW-931	GW-960	GW-960 (Dup)	GW-085
Parameter	**Units**	**Cas Number | Date**	10/17/2019	10/18/2019	10/18/2019	10/17/2019
1,4-Dioxane	ug/l	123-91-1	ND@0.3	0.4	0.4	ND@0.3

Key:
J - Estimated value
ND@X - Not Detected at Detection Limit X
ug/l - micrograms per liter
Dup - Duplicate sample
Samples analyzed by USEPA Method SW-846 8270D SIM

Table F-2
Groundwater PFAS Data Summary, 2019
Former IBM East Fishkill Facility
East Fishkill, New York

					Sample Location	**GW-061**	**GW-064**	**GW-064 (Dup)**	**GW-065**	**GW-066**	**GW-067**	**GW-990**
					Site Area	**B/330**	**Area B**	**Area B**	**Area B**	**Area D**	**Area D**	**SEQ**
					Sample Designation	GW191205061	GW191122064	NR191122310	GW191122065	GW191205066	GW191205067	GW191122990
					Sample Date	12/5/2019	11/22/2019	11/22/2019	11/22/2019	12/5/2019	12/5/2019	11/22/2019
					Analytical Laboratory Identification #	1217467	1210677	1210678	1210676	1217469	1217471	1210680
					Units	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Group	**Chemical Name**	**Abbreviation**	**# Carbon Atoms**	**Mol. Weight (g/mol)**	**CAS Number**							
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**C-4**	**299.09**	**375-73-5**	1.3 J	4.5	4.7	4.0	4.6	1.7 J	0.58 J
	Perfluorohexanesulfonic acid	**PFHxS**	**C-6**	**399.11**	**355-46-4**	1.0 J	49	53	39	4.0	10	1.2 J
	Perfluoroheptanesulfonic acid	PFHpS	C-7	449.12	375-92-8	ND@1.7	0.64 J	0.69 J	0.48 J	ND@1.6	0.65 J	ND@1.7
	Perfluorooctanesulfonic acid	**PFOS**	**C-8**	**499.12**	**1763-23-1**	1.4 J	26	28	19	15	68	1.5 J
	Perfluorodecanesulfonic acid	PFDS	C-10	599.14	335-77-3	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	C-4	214.04	375-22-4	ND@4.3	4.5	4.8	5.0	19	21	ND@4.3
	Perfluoropentanoic acid	PFPeA	C-5	264.05	2706-90-3	ND@1.7	2.4	2.5	3.0	8.8	12	ND@1.7
	Perfluorohexanoic acid	PFHxA	C-6	314.05	307-24-4	ND@1.7	8.0	8.5	9.4	6.8	10	ND@1.7
	Perfluoroheptanoic acid	**PFHpA**	**C-7**	**364.06**	**375-85-9**	ND@1.7	1.3 J	1.2 J	1.3 J	5.3	12	ND@1.7
	Perfluorooctanoic acid	**PFOA**	**C-8**	**414.07**	**335-67-1**	0.45 J	4.4	4.4	3.9	23	22	ND@1.7
	Perfluorononanoic acid	**PFNA**	**C-9**	**464.08**	**375-95-1**	ND@1.7	ND@1.7	ND@1.7	ND@1.7	0.51 J	4.1	ND@1.7
	Perfluorodecanoic acid	PFDA	C-10	514.08	335-76-2	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
	Perfluoroundecanoic acid	PFUA/PFUdA	C-11	564.09	2058-94-8	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
	Perfluorododecanoic acid	PFDoA	C-12	614.10	307-55-1	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
	Perfluorotridecanoic acid	PFTriA/PFTrDA	C-13	664.10	72629-94-8	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
	Perfluorotetradecanoic acid	PFTA/PFTeDA	C-14	714.11	376-06-7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	C-6	428.17	27619-97-2	ND@4.3	ND@4.3	ND@4.3	ND@4.3	ND@4.0	ND@4.4	ND@4.3
	8:2 Fluorotelomer sulfonate	8:2 FTS	C-8	528.18	39108-34-4	ND@2.6	ND@2.6	ND@2.6	ND@2.6	ND@2.4	ND@2.7	ND@2.6
Perfluorooctane-sulfonamides	Perfluorooctanesulfonamide	FOSA	C-8	499.15	754-91-6	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7
Perfluorooctane-sulfonamidoacetic acids	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	C-8	585.24	2991-50-6	ND@2.6	ND@2.6	ND@2.6	ND@2.6	ND@2.4	ND@2.7	ND@2.6
	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	C-8	571.21	2355-31-9	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.7

NOTES:
Bold entries depict the 6 PFAS identified in the United States Environmental Protection Agency (USEPA) Third Unregulated Contaminant Monitoring Rule (UCMR3)
"ng/L" - denotes concentration in units of nanograms per liter
"J" - signifies estimated concentration below Limit of Quantitation but above Method Detection Limit
"ND@X" - signifies "Not Detected at Limit of Quantitation X"
N/A - Not Applicable
SEQ - Southeast Quadrant
Dup - denotes duplicate sample

Appendix G

Production Well Analytical Data: January 1, 2019 to December 31, 2019
Table G-1: Groundwater Treatment Facility PFAS Data Summary, 2019

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 1	PW- 1	PW- 1	PW- 1	PW- 1	PW- 1
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		01/08/2019	02/04/2019	03/01/2019	03/06/2019	03/20/2019	04/04/2019
Laboratory Sample I.D.		9965217	9980328	9996721	420-150417-2	420-151114-2	1028777
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	0.06 J	ND@1.0	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.8	1.9	2.6	2.4	2.2	2.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.06 J	0.08 J	0.09 J	ND@1.0	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	1.1	1.3	1.3	1.2	1.3	1.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.0	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	14	15	17	14	14	16
TRICHLOROETHYLENE	ug/l	5.1	5.6	6.6	5.3	5.9	6.7
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 1	PW- 1	PW- 1	PW- 1	PW- 1 GTF IN	PW- 1 GTF IN
Sample Description		REPLICATE	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		04/04/2019	04/26/2019	07/05/2019	10/02/2019	03/06/2019	03/20/2019
Laboratory Sample I.D.		420-151880-2	1045054	1096028	1168571	420-150417-3	420-151114-3
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	2.6	1.9 J	2.0 J	2.1	2.2	2.1
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	0.09 J	0.09 J	0.08 J	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0 J	1.2 J	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	1.4	1.4 J	1.4 J	1.5	1.3	1.3
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	13	16 J	18 J	15	15	14
TRICHLOROETHYLENE	ug/l	6.3	6.1 J	5.9 J	6.5	5.6	5.9
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5 J	ND@0.5 J	ND@0.5	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 1 GTF IN	PW- 1 GTF IN	PW- 1 GTF IN	PW- 1 GTF IN	PW- 1 GTF IN	PW- 1 GTF IN
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		04/18/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019	09/03/2019
Laboratory Sample I.D.		420152552-10	1049483	1074985	1096029	1117096	1142900
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	2.9	2.5	1.9 J	2.2	2.1 J	2.4
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	0.09 J	0.08 J	0.08 J	0.09 J	0.1 J
ACETONE	ug/l	ND@5.0	ND@5.0	1 J	ND@5.0	1.1 J	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	1.1	1.5	1.5 J	1.4	1.5 J	1.6
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
TETRACHLOROETHYLENE	ug/l	11	17	17 J	19	17 J	17
TRICHLOROETHYLENE	ug/l	4.4	6.4	6.5 J	6.4	6.7 J	6.9
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5 J	ND@0.5

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 1 GTF IN	PW- 1 GTF IN	PW- 1 GTF IN	PW- 2	PW- 2	PW- 2
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		10/02/2019	11/08/2019	12/06/2019	01/08/2019	02/04/2019	03/01/2019
Laboratory Sample I.D.		1168570	1199815	1218140	9965219	9980329	9996723
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	2.3	2.4	2.5	170	160	180
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.1 J	0.1 J	0.1 J	12 J	12 J	ND@100
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@500	ND@500	ND@1000
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
CIS-1,2-DICHLOROETHYLENE	ug/l	1.5	1.6	1.5	1300	1200	1300
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@50	6.3 J	ND@100
TETRACHLOROETHYLENE	ug/l	17	17	16	13000	13000	12000
TRICHLOROETHYLENE	ug/l	6.9	7.0	6.7	880	790	900
TRICHLOROFLUOROMETHANE	ug/l	0.05 J	ND@0.5	ND@0.5	ND@50	ND@50	ND@100
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	130	170	150

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 2	PW- 2	PW- 2	PW- 2	PW- 2	PW- 2
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	REPLICATE	PUMPING WELL	PUMPING WELL
Sample Date		03/13/2019	03/27/2019	04/04/2019	04/04/2019	04/26/2019	07/05/2019
Laboratory Sample I.D.		420-150763-2	420151449-10	1028766	420-151880-3	1045055	1096024
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	1.3 J	ND@10	ND@50 J	ND@10	ND@25	ND@25
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@10	ND@10	ND@50 J	ND@10	ND@25	ND@25
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	120	150	150 J	160	83	120
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	7.8 J	9.1 J	11 J	9.3 J	9.6 J	9.8 J
ACETONE	ug/l	ND@50	ND@50	ND@500 J	ND@50	ND@250	ND@250
CHLOROBENZENE	ug/l	ND@10	ND@10	ND@50 J	ND@10	ND@25	ND@25
CIS-1,2-DICHLOROETHYLENE	ug/l	990	1100	1200 J	950	1200	1200
DICHLORODIFLUOROMETHANE	ug/l	ND@10	ND@10	ND@50 J	ND@10	ND@25	ND@25
ETHYLBENZENE	ug/l	3.3 J	ND@10	ND@50 J	ND@10	3.4 J	ND@25
M,P-XYLENE	ug/l	1.8 J	ND@20	ND@50 J	ND@20	ND@25	ND@25
O-XYLENE	ug/l	5.4 J	ND@10	5.2 J	ND@10	4.9 J	4.4 J
TETRACHLOROETHYLENE	ug/l	7900	8000	8800 J	9100	11000	11000
TRICHLOROETHYLENE	ug/l	620	610	760 J	640	700	670
TRICHLOROFLUOROMETHANE	ug/l	ND@10	ND@10	ND@50 J	ND@10	ND@25	ND@25
VINYL CHLORIDE	ug/l	110	130	130 J	140	120	95

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 2	PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		10/03/2019	03/13/2019	03/27/2019	04/04/2019	04/18/2019	05/01/2019
Laboratory Sample I.D.		1169371	420-150763-3	420151449-11	1028767	420-152552-2	1049471
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@50	1.4 J	ND@10	ND@50 J	ND@10	ND@100
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@50	ND@10	ND@10	ND@50 J	ND@10	ND@100
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	160	70	88	140 J	170	150
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	14 J	6.1 J	7.0 J	12 J	ND@10	ND@100
ACETONE	ug/l	ND@500	ND@50	ND@50	ND@500 J	ND@50	ND@1000
CHLOROBENZENE	ug/l	ND@50	ND@10	ND@10	ND@50 J	ND@10	ND@100
CIS-1,2-DICHLOROETHYLENE	ug/l	1300	650	1100	1200 J	960	1200
DICHLORODIFLUOROMETHANE	ug/l	ND@50	ND@10	ND@10	ND@50 J	ND@10	ND@100
ETHYLBENZENE	ug/l	ND@50	3.1 J	ND@10	ND@50 J	ND@10	ND@100
M,P-XYLENE	ug/l	ND@50	1.8 J	ND@20	ND@50 J	ND@20	ND@100
O-XYLENE	ug/l	5.0 J	5.4 J	ND@10	ND@50 J	ND@10	ND@100
TETRACHLOROETHYLENE	ug/l	11000	3400	6900	8900 J	9300	11000
TRICHLOROETHYLENE	ug/l	740	310 J	540	760 J	530	710
TRICHLOROFLUOROMETHANE	ug/l	ND@50	ND@10	ND@10	ND@50 J	ND@10	ND@100
VINYL CHLORIDE	ug/l	160	92	98	130 J	170	120

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN	PW- 2 GTF IN
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		06/04/2019	07/05/2019	08/02/2019	09/03/2019	10/03/2019	11/08/2019
Laboratory Sample I.D.		1074976	1096025	1117087	1142891	1169368	1199818
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	73	90	73	110	140	140
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	8.4 J	9.2 J	ND@50	9.5 J	11 J	12 J
ACETONE	ug/l	ND@250	ND@250	ND@500	ND@500	ND@500	ND@500
CHLOROBENZENE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
CIS-1,2-DICHLOROETHYLENE	ug/l	1200	1100	1100	1300	1300	1300
DICHLORODIFLUOROMETHANE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
ETHYLBENZENE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
M,P-XYLENE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
O-XYLENE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
TETRACHLOROETHYLENE	ug/l	11000	10000	11000	11000	12000	10000
TRICHLOROETHYLENE	ug/l	660	670	600	710	730	730
TRICHLOROFLUOROMETHANE	ug/l	ND@25	ND@25	ND@50	ND@50	ND@50	ND@50
VINYL CHLORIDE	ug/l	98	100	89	110	140	150

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW- 2 GTF IN	PW-25	PW-25	PW-25	PW-25	PW-25
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		12/03/2019	01/08/2019	02/04/2019	03/01/2019	03/07/2019	03/20/2019
Laboratory Sample I.D.		1215244	9965218	9980330	9996722	420-150470-2	420-151114-6
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@25	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@25	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	130	15	20	21	22	17
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	10 J	ND@5.0	ND@5.0	ND@5.0	0.50 J	0.45 J
ACETONE	ug/l	ND@250	ND@50	ND@50	ND@50	ND@5.0	3.5 J
CHLOROBENZENE	ug/l	ND@25	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	1200	39	41	40	36	40
DICHLORODIFLUOROMETHANE	ug/l	ND@25	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	3.2 J	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@25	ND@5.0	ND@5.0	ND@5.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	4.1 J	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	12000	690	680	720	570	520
TRICHLOROETHYLENE	ug/l	690	120	150	150	110	110
TRICHLOROFLUOROMETHANE	ug/l	ND@25	ND@5.0	ND@5.0	ND@5.0	ND@1.0	0.24 J
VINYL CHLORIDE	ug/l	120	ND@5.0	ND@5.0	ND@5.0	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW-25	PW-25	PW-25	PW-25	PW-25 GTF IN	PW-25 GTF IN
Sample Description		PUMPING WELL	REPLICATE	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		04/04/2019	04/04/2019	07/05/2019	10/02/2019	03/07/2019	03/20/2019
Laboratory Sample I.D.		1028780	420-151880-7	1096020	1168575	420-150470-3	420-151114-7
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	16	24	15	15	16	17
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.5 J	0.51 J	0.4 J	0.5 J	0.44 J	0.41 J
ACETONE	ug/l	ND@25	ND@5.0	ND@25	ND@25	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	43	40	39	37	35	38
DICHLORODIFLUOROMETHANE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.5	ND@2.0	ND@2.5	ND@2.5	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	680	540	730	580	540	520
TRICHLOROETHYLENE	ug/l	130	130	120	120	100	100
TRICHLOROFLUOROMETHANE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@2.5	ND@1.0	ND@2.5	ND@2.5	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW-25 GTF IN	PW-25 GTF IN	PW-25 GTF IN	PW-25 GTF IN	PW-25 GTF IN	PW-25 GTF IN
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		04/18/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019	09/03/2019
Laboratory Sample I.D.		420152552-13	1049480	1074988	1096021	1117099	1142903
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	20	18	14	14	11	17
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@5.0	0.5 J	0.4 J	ND@5.0	ND@5.0
ACETONE	ug/l	ND@5.0	ND@50	4.6 J	ND@25	ND@50	ND@50
CHLOROBENZENE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
CIS-1,2-DICHLOROETHYLENE	ug/l	36	40	43	40	36	43
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
ETHYLBENZENE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
M,P-XYLENE	ug/l	ND@2.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	1.0 J
O-XYLENE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
TETRACHLOROETHYLENE	ug/l	580	670	740	730	620	650
TRICHLOROETHYLENE	ug/l	110	130	140	120	120	140
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0
VINYL CHLORIDE	ug/l	ND@1.0	ND@5.0	ND@2.5	ND@2.5	ND@5.0	ND@5.0

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		PW-25 GTF IN	PW-25 GTF IN	PW-25 GTF IN
Sample Description		PUMPING WELL	PUMPING WELL	PUMPING WELL
Sample Date		10/02/2019	11/08/2019	12/06/2019
Laboratory Sample I.D.		1168574	1199827	1218143
Sample Comment Codes				
Parameter	**Units**			
Base/Neutral Extractables				
1,2-DICHLOROBENZENE	ug/l	ND@2.5	ND@2.5	ND@2.5
Volatile Organics				
1,1,1-TRICHLOROETHANE	ug/l	ND@2.5	ND@2.5	ND@2.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	15	16	15
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.5 J	0.4 J	0.4 J
ACETONE	ug/l	ND@25	ND@25	ND@25
CHLOROBENZENE	ug/l	ND@2.5	ND@2.5	ND@2.5
CIS-1,2-DICHLOROETHYLENE	ug/l	39	40	40
DICHLORODIFLUOROMETHANE	ug/l	ND@2.5	ND@2.5	ND@2.5
ETHYLBENZENE	ug/l	ND@2.5	ND@2.5	ND@2.5
M,P-XYLENE	ug/l	ND@2.5	ND@2.5	ND@2.5
O-XYLENE	ug/l	ND@2.5	ND@2.5	ND@2.5
TETRACHLOROETHYLENE	ug/l	610	630	620
TRICHLOROETHYLENE	ug/l	120	130	120
TRICHLOROFLUOROMETHANE	ug/l	ND@2.5	ND@2.5	ND@2.5
VINYL CHLORIDE	ug/l	ND@2.5	ND@2.5	ND@2.5

Former IBM East Fishkill Facility
Production Well Analytical Data - Organics
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Table G-1
Groundwater Treatment Facility PFAS Data Summary, 2019
Former IBM East Fishkill Facility
East Fishkill, New York

					Sample Location	**PW-1 GTF**	**PW-1 GTF**	**PW-1 GTF**	**PW-2 GTF**	**PW-2 GTF**	**PW-2 GTF**	**PW-2 GTF**	**PW-2 GTF**	**PW-25 GTF**	**PW-25 GTF**	**PW-25 GTF**
					Description	PW-1 Influent	GAC Mid-Point	GTF Effluent	PW-2 Influent	PW-2 Inf. (Dup)	Perox Carb Eff.	GAC Mid-Point	GTF Effluent	PW-25 Influent	GAC Mid-Point	GTF Effluent
					Sample Designation	PW191213210A	PW191213210E	PW191213210F	PW191213220A	NR191213321	PW191213220E	PW191213220I	PW191213220J	PW191213325A	PW191213325E	PW191213325F
					Sample Date	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
					Analytical Laboratory Identification #	1224627	1224626	1224625	1224634	1224635	1224633	1224632	1224631	1224630	1224629	1224628
					Units	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Group	**Chemical Name**	**Abbreviation**	**# Carbon Atoms**	**Mol. Weight (g/mol)**	**CAS Number**	**Analytical Laboratory Results**										
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**C-4**	**299.09**	**375-73-5**	0.94 J	ND@1.7	ND@1.7	3.9	3.8	ND@1.7	ND@1.7	ND@1.7	1.7 J	ND@1.7	ND@1.7
	Perfluorohexanesulfonic acid	**PFHxS**	**C-6**	**399.11**	**355-46-4**	6.4	ND@1.7	ND@1.7	17	19	ND@1.7	ND@1.7	ND@1.7	9.1	ND@1.7	ND@1.7
	Perfluoroheptanesulfonic acid	PFHpS	C-7	449.12	375-92-8	ND@1.7	ND@1.7	ND@1.7	0.54 J	0.51 J	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
	Perfluorooctanesulfonic acid	**PFOS**	**C-8**	**499.12**	**1763-23-1**	1.8	ND@1.7	ND@1.7	30	28	ND@1.7	ND@1.7	ND@1.7	14	ND@1.7	ND@1.7
	Perfluorodecanesulfonic acid	PFDS	C-10	599.14	335-77-3	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	C-4	214.04	375-22-4	2.0 J	2.4 J	2.1 J	15	14	21	2.3 J	ND@4.3	3.0 J	3.8 J	3.6 J
	Perfluoropentanoic acid	PFPeA	C-5	264.05	2706-90-3	0.82 J	0.57 J	ND@1.7	32	30	44	ND@1.7	ND@1.7	2.5	2.2	ND@1.7
	Perfluorohexanoic acid	PFHxA	C-6	314.05	307-24-4	2.1	ND@1.7	ND@1.7	29	25	2.4	ND@1.7	ND@1.7	3.1	0.67 J	ND@1.7
	Perfluoroheptanoic acid	**PFHpA**	**C-7**	**364.06**	**375-85-9**	ND@1.7	ND@1.7	ND@1.7	11	9.2	ND@1.7	ND@1.7	ND@1.7	1.5 J	ND@1.7	ND@1.7
	Perfluorooctanoic acid	**PFOA**	**C-8**	**414.07**	**335-67-1**	1.5 J	ND@1.7	ND@1.7	33	29	ND@1.7	ND@1.7	ND@1.7	6.2	ND@1.7	ND@1.7
	Perfluorononanoic acid	**PFNA**	**C-9**	**464.08**	**375-95-1**	ND@1.7	ND@1.7	ND@1.7	0.70 J	0.75 J	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
	Perfluorodecanoic acid	PFDA	C-10	514.08	335-76-2	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
	Perfluoroundecanoic acid	PFUA/PFUdA	C-11	564.09	2058-94-8	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
	Perfluorododecanoic acid	PFDoA	C-12	614.10	307-55-1	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
	Perfluorotridecanoic acid	PFTriA/PFTrDA	C-13	664.10	72629-94-8	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
	Perfluorotetradecanoic acid	PFTA/PFTeDA	C-14	714.11	376-06-7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	C-6	428.17	27619-97-2	ND@4.2	ND@4.3	ND@4.3	21	21	ND@4.4	ND@4.2	ND@4.3	22	ND@4.3	ND@4.2
	8:2 Fluorotelomer sulfonate	8:2 FTS	C-8	528.18	39108-34-4	ND@2.5	ND@2.6	ND@2.6	1.3 J	1.3 J	ND@2.6	ND@2.5	ND@2.6	ND@2.6	ND@2.6	ND@2.5
Perfluorooctane-sulfonamides	Perfluorooctanesulfonamide	FOSA	C-8	499.15	754-91-6	ND@1.7	ND@1.7	ND@1.7	0.45 J	ND@1.7	ND@1.7	ND@1.7	ND@1.7	0.59 J	ND@1.7	ND@1.7
Perfluorooctane-sulfonamidoacetic acids	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	C-8	585.24	2991-50-6	ND@2.5	ND@2.6	ND@2.6	ND@2.6	ND@2.6	ND@2.6	ND@2.5	ND@2.6	ND@2.6	ND@2.6	ND@2.5
	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	C-8	571.21	2355-31-9	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7	ND@1.7

					Sample Location	**B/384**	**B/384**	**B/384**	**B/384**	**B/384**	**B/384**	**B/384**	**B/384**
					Description	Sump Influent	Air Stripper Eff.	GAC Mid-Point	GAC Effluent	Sump Influent	Air Stripper Inf.	GAC Mid-Point	GTF Effluent
					Sample Designation	SW190606384A	SW190606384C	SW190606384J	SW190606384L	SW191213384A	SW191213384B	SW191213384J	SW191213384L
					Sample Date	6/6/2019	6/6/2019	6/6/2019	6/6/2019	12/13/2019	12/13/2019	12/13/2019	12/13/2019
					Analytical Laboratory Identification #	Lab ID: 1075864	Lab ID: 1075863	Lab ID: 1075865	Lab ID: 1075866	1224640	1224639	1224638	1224636
					Units	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Group	**Chemical Name**	**Abbreviation**	**# Carbon Atoms**	**Mol. Weight (g/mol)**	**CAS Number**	**Analytical Laboratory Results**							
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**C-4**	**299.09**	**375-73-5**	2.8	2.9	ND@0.90	ND@0.93	15	14	ND@1.7	ND@1.8
	Perfluorohexanesulfonic acid	**PFHxS**	**C-6**	**399.11**	**355-46-4**	8.3	7.2	ND@1.8	ND@1.9	4.6	4.6	ND@1.7	ND@1.8
	Perfluoroheptanesulfonic acid	PFHpS	C-7	449.12	375-92-8	1.4 J	0.98 J	ND@1.8	ND@1.9	0.66 J	0.63 J	ND@1.7	ND@1.8
	Perfluorooctanesulfonic acid	**PFOS**	**C-8**	**499.12**	**1763-23-1**	180	130	ND@1.8	ND@1.9	82	89	ND@1.7	ND@1.8
	Perfluorodecanesulfonic acid	PFDS	C-10	599.14	335-77-3	ND@1.7	ND@1.8	ND@1.8	ND@1.9	ND@1.7	ND@1.7	ND@1.7	ND@1.8
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	C-4	214.04	375-22-4	25	25	2.3 J	ND@5.6	23	23	11	ND@4.6
	Perfluoropentanoic acid	PFPeA	C-5	264.05	2706-90-3	17	17	ND@5.4	ND@5.6	12	12	1.1 J	ND@1.8
	Perfluorohexanoic acid	PFHxA	C-6	314.05	307-24-4	12	14	ND@1.8	ND@1.9	10	9.9	ND@1.7	ND@1.8
	Perfluoroheptanoic acid	**PFHpA**	**C-7**	**364.06**	**375-85-9**	10	9.3	ND@0.90	ND@0.93	5.5	5.9	ND@1.7	ND@1.8
	Perfluorooctanoic acid	**PFOA**	**C-8**	**414.07**	**335-67-1**	32	25	ND@0.90	ND@0.93	20	19	ND@1.7	ND@1.8
	Perfluorononanoic acid	**PFNA**	**C-9**	**464.08**	**375-95-1**	4.0	3.1	ND@1.8	ND@1.9	2.0	2.1	ND@1.7	ND@1.8
	Perfluorodecanoic acid	PFDA	C-10	514.08	335-76-2	1.5 J	1.0 J	ND@1.8	ND@1.9	0.86 J	1.1 J	ND@1.7	ND@1.8
	Perfluoroundecanoic acid	PFUA/PFUdA	C-11	564.09	2058-94-8	ND@1.7	ND@1.8	ND@1.8	ND@1.9	ND@1.7	ND@1.7	ND@1.7	ND@1.8
	Perfluorododecanoic acid	PFDoA	C-12	614.10	307-55-1	ND@1.7	ND@1.8	ND@1.8	ND@1.9	ND@1.7	ND@1.7	ND@1.7	ND@1.8
	Perfluorotridecanoic acid	PFTriA/PFTrDA	C-13	664.10	72629-94-8	ND@0.87	ND@0.90	ND@0.90	ND@0.93	ND@1.7	ND@1.7	ND@1.7	ND@1.8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	C-14	714.11	376-06-7	ND@0.87	ND@0.90	ND@0.90	ND@0.93	ND@1.7	ND@1.7	ND@1.7	ND@1.8
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	C-6	428.17	27619-97-2	ND@1.7	ND@1.8	ND@1.8	ND@1.9	ND@4.3	ND@4.3	ND@4.3	ND@4.6
	8:2 Fluorotelomer sulfonate	8:2 FTS	C-8	528.18	39108-34-4	ND@5.2	ND@5.4	ND@5.4	ND@5.6	ND@2.6	ND@2.6	ND@2.6	ND@2.8
Perfluorooctane-sulfonamides	Perfluorooctanesulfonamide	FOSA	C-8	499.15	754-91-6	5.1	3.6	ND@2.7	ND@2.8	2.4	2.6	ND@1.7	ND@1.8
Perfluorooctane-sulfonamidoacetic acids	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	C-8	585.24	2991-50-6	ND@2.6	ND@2.7	ND@2.7	ND@2.8	ND@2.6	ND@2.6	ND@2.6	ND@2.8
	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	C-8	571.21	2355-31-9	ND@2.6	ND@2.7	ND@2.7	ND@2.8	ND@1.7	ND@1.7	ND@1.7	ND@1.8

NOTES:
Bold entries depict the 6 PFAS identified in the United States Environmental Protection Agency (USEPA) Third Unregulated Contaminant Monitoring Rule (UCMR3)
"ng/L" - denotes concentration in units of nanograms per liter
"J" - signifies estimated concentration below Limit of Quantitation but above Method Detection Limit
"ND@X" - signifies "Not Detected at Limit of Quantitation X"
N/A - Not Applicable
GAC - Granular Activated Carbon
GTF - Groundwater Treatment Facility
Dup - denotes duplicate sample

Appendix H

Quality Assurance/Quality Control Analytical Data: January 1, 2019 to December 31, 2019
Table H-1: Quality Assurance/Quality Control PFAS Data Summary, 2019

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND
Sample Date		01/08/2019	01/09/2019	04/04/2019	04/05/2019	04/08/2019	04/09/2019
Laboratory Sample I.D.		9965234	9965221	1028791	1028784	1031045	1031056
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	2.8 J	2.2 J	2.4 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND
Sample Date		04/10/2019	04/11/2019	04/15/2019	04/16/2019	04/17/2019	04/18/2019
Laboratory Sample I.D.		1034994	1035011	1037225	1037275	1039503	1039534
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	2.7 J	2.8 J	ND@5.0	ND@5.0	ND@5.0	1 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND
Sample Date		04/19/2019	04/22/2019	04/23/2019	04/24/2019	04/25/2019	04/26/2019
Laboratory Sample I.D.		1040369	1041777	1042096	1044629	1044601	1045053
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	1.1 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0	1.1 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND
Sample Date		04/29/2019	04/30/2019	05/01/2019	05/02/2019	06/05/2019	06/10/2019
Laboratory Sample I.D.		1046830	1046841	1049672	1049680	1074989	1078816
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	1 J	1.0 J	0.9 J	1.1 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND
Sample Date		06/11/2019	06/20/2019	07/01/2019	07/02/2019	10/04/2019	10/07/2019
Laboratory Sample I.D.		1078820	1087011	1095433	1095444	1169500	1172327
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND	WTR LVL IND
Sample Date		10/08/2019	10/09/2019	10/14/2019	10/15/2019	10/16/2019	10/17/2019
Laboratory Sample I.D.		1172334	1172467	1176961	1176750	1180674	1180691
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK
Sample Description		SUBM PUMP	WTR LVL IND	WTR LVL IND	WTR LVL IND	SUBM PUMP	WTR LVL IND
Sample Date		10/18/2019	10/21/2019	10/22/2019	11/11/2019	11/12/2019	11/13/2019
Laboratory Sample I.D.		1180708	1184383	1184379	1201350	1201353	1204156
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	EQ RINSE BLK	FIELD BLANK	FIELD BLANK
Sample Description		WTR LVL IND	SUBM PUMP	SUBM PUMP	SUBM PUMP		
Sample Date		11/14/2019	11/15/2019	11/18/2019	11/19/2019	03/01/2019	04/04/2019
Laboratory Sample I.D.		1204162	1205077	1207154	1207157	420-150171-2	1028775
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	1.0 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0	3.5 J
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	0.2 J
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		FIELD BLANK	FIELD BLANK	FIELD BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description					NO. 1	NO. 2	NO. 1
Sample Date		07/05/2019	10/02/2019	10/03/2019	01/08/2019	01/08/2019	02/04/2019
Laboratory Sample I.D.		1096032	1168561	1169369	9965216	9965233	9980327
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	0.9 J	1.6 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.08 J	0.1 J	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 1	NO. 1	NO. 2	NO. 1	NO. 1
Sample Date		02/26/2019	02/27/2019	03/01/2019	03/01/2019	03/05/2019	03/06/2019
Laboratory Sample I.D.		420-149960-6	420-150051-1	9996720	420-150171-1	420-150277-1	420-150417-1
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
Sample Date		03/07/2019	03/08/2019	03/13/2019	03/14/2019	03/15/2019	03/20/2019
Laboratory Sample I.D.		420-150470-1	420-150528-1	420-150763-1	420-150809-1	420-150850-1	420-151114-1
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 1	NO. 2	NO. 3	NO. 1	NO. 1
Sample Date		03/27/2019	04/04/2019	04/04/2019	04/04/2019	04/05/2019	04/08/2019
Laboratory Sample I.D.		420-151449-1	1028765	420-151880-1	1028790	1028783	1031044
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	3.4 J	ND@5.0	ND@5.0	2.0 J	1.6 J
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@2.0	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 1	NO. 1	NO. 2	NO. 1	NO. 2
Sample Date		04/10/2019	04/12/2019	04/15/2019	04/15/2019	04/17/2019	04/17/2019
Laboratory Sample I.D.		1034993	420-152295-1	1037267	1037224	1039517	1039502
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	3.0 J	ND@5.0	2.9 J	2.6 J	2.7 J	3.1 J
CHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@2.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1
Sample Date		04/18/2019	04/19/2019	04/19/2019	04/22/2019	04/22/2019	04/24/2019
Laboratory Sample I.D.		420-152552-1	1040343	1040368	1042088	1041776	1044594
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	2.3 J	2.9 J	3.0 J	2.7 J	2.7 J
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 2	NO. 1	NO. 1	NO. 2	NO. 1	NO. 2
Sample Date		04/24/2019	04/26/2019	04/29/2019	04/29/2019	05/01/2019	05/01/2019
Laboratory Sample I.D.		1044628	1045052	1046829	1046840	1049470	420-153080-1
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
ACETONE	ug/l	3.0 J	2.9 J	2.4 J	3.1 J	2.7 J	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 3	NO. 1	NO. 1	NO. 2	NO. 1	NO. 1
Sample Date		05/01/2019	05/06/2019	06/04/2019	06/04/2019	06/06/2019	06/10/2019
Laboratory Sample I.D.		1049671	420-153238-1	420-154621-1	1074973	420-154870-1	1078815
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	1.7 J	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 1	NO. 1	NO. 2	NO. 1	NO. 2
Sample Date		06/20/2019	07/01/2019	07/05/2019	07/05/2019	08/02/2019	08/02/2019
Laboratory Sample I.D.		1087010	1095432	420-156455-1	1096012	420-157919-1	1117084
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@2.0	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 1	NO. 2	NO. 1	NO. 1	NO. 2	NO. 1
Sample Date		09/03/2019	09/03/2019	10/02/2019	10/03/2019	10/03/2019	10/04/2019
Laboratory Sample I.D.		420-159568-1	1142888	1168559	1169359	420-161395-1	1169499
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@0.5	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 2	NO. 1	NO. 1	NO. 1	NO. 2	NO. 1
Sample Date		10/04/2019	10/07/2019	10/09/2019	10/14/2019	10/14/2019	10/16/2019
Laboratory Sample I.D.		1169494	1172326	1172466	1176743	1176960	1180686
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 2	NO. 1	NO. 2	NO. 1	NO. 2	NO. 1
Sample Date		10/16/2019	10/18/2019	10/18/2019	10/21/2019	10/21/2019	11/08/2019
Laboratory Sample I.D.		1180673	1180717	1180707	1184382	1184373	1199812
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK	TRIP BLANK
Sample Description		NO. 2	NO. 1	NO. 1	NO. 1	NO. 1	NO. 1
Sample Date		11/08/2019	11/11/2019	11/13/2019	11/15/2019	11/18/2019	12/03/2019
Laboratory Sample I.D.		420-163089-1	1201349	1204155	1205076	1207153	1215237
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Sample Location		TRIP BLANK	TRIP BLANK
Sample Description		NO. 2	NO. 1
Sample Date		12/03/2019	12/06/2019
Laboratory Sample I.D.		420-164017-1	1218137
Sample Comment Codes			
Parameter	**Units**		
Base/Neutral Extractables			
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5
Volatile Organics			
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Quality Assurance/Quality Control Analytical Data
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Table H-1
Quality Assurance / Quality Control PFAS Data Summary, 2019
Former IBM East Fishkill Facility
East Fishkill, New York

					Sample Location	**Trip Blank**	**Trip Blank**	**Trip Blank**	**Equip. Blank**	**Equip. Blank**	**Field Blank**	**Field Blank**	**Field Blank**
					Description	N/A	N/A	N/A	WLID	WLID	At GW-064	At GW-066	In B/384
					Sample Designation	ETB911221122	ETB12051205	ETB912131213	EB191122303	EB191205303	FB191122301	FB191205301	FB191213301
					Sample Date	11/22/2019	12/5/2019	12/13/2019	11/22/2019	12/5/2019	11/22/2019	12/5/2019	12/13/2019
					Analytical Laboratory Identification #	1210674	1217466	1224624	1210675	1217470	1210679	1217468	1224637
					Units	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
Group	**Chemical Name**	**Abbreviation**	**# Carbon Atoms**	**Mol. Weight (g/mol)**	**CAS Number**	**Analytical Laboratory Results**							
Perfluoroalkyl sulfonates	**Perfluorobutanesulfonic acid**	**PFBS**	**C-4**	**299.09**	**375-73-5**	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorohexanesulfonic acid	**PFHxS**	**C-6**	**399.11**	**355-46-4**	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluoroheptanesulfonic acid	PFHpS	C-7	449.12	375-92-8	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorooctanesulfonic acid	**PFOS**	**C-8**	**499.12**	**1763-23-1**	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorodecanesulfonic acid	PFDS	C-10	599.14	335-77-3	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
Perfluoroalkyl carboxylates	Perfluorobutanoic acid	PFBA	C-4	214.04	375-22-4	ND@4.2	ND@4.4	ND@4.3	ND@4.3	ND@4.3	ND@4.1	ND@4.4	ND@4.4
	Perfluoropentanoic acid	PFPeA	C-5	264.05	2706-90-3	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorohexanoic acid	PFHxA	C-6	314.05	307-24-4	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluoroheptanoic acid	**PFHpA**	**C-7**	**364.06**	**375-85-9**	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorooctanoic acid	**PFOA**	**C-8**	**414.07**	**335-67-1**	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorononanoic acid	**PFNA**	**C-9**	**464.08**	**375-95-1**	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorodecanoic acid	PFDA	C-10	514.08	335-76-2	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluoroundecanoic acid	PFUA/PFUdA	C-11	564.09	2058-94-8	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorododecanoic acid	PFDoA	C-12	614.10	307-55-1	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorotridecanoic acid	PFTriA/PFTrDA	C-13	664.10	72629-94-8	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
	Perfluorotetradecanoic acid	PFTA/PFTeDA	C-14	714.11	376-06-7	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
Fluorinated Telomer Sulfonates	6:2 Fluorotelomer sulfonate	6:2 FTS	C-6	428.17	27619-97-2	ND@4.2	ND@4.4	ND@4.3	ND@4.3	ND@4.3	ND@4.1	ND@4.4	ND@4.4
	8:2 Fluorotelomer sulfonate	8:2 FTS	C-8	528.18	39108-34-4	ND@2.5	ND@2.6	ND@2.6	ND@2.6	ND@2.6	ND@2.4	ND@2.6	ND@2.6
Perfluorooctane-sulfonamides	Perfluorooctanesulfonamide	FOSA	C-8	499.15	754-91-6	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8
Perfluorooctane-sulfonamidoacetic acids	N-ethyl perfluorooctanesulfonamidoacetic acid	N-EtFOSAA	C-8	585.24	2991-50-6	ND@2.5	ND@2.6	ND@2.6	ND@2.6	ND@2.6	ND@2.4	ND@2.6	ND@2.6
	N-methyl perfluorooctanesulfonamidoacetic acid	N-MeFOSAA	C-8	571.21	2355-31-9	ND@1.7	ND@1.8	ND@1.7	ND@1.7	ND@1.7	ND@1.6	ND@1.8	ND@1.8

NOTES:
Bold entries depict the 6 PFAS identified in the United States Environmental Protection Agency (USEPA) Third Unregulated Contaminant Monitoring Rule (UCMR3)
"ng/L" - denotes concentration in units of nanograms per liter
"J" - signifies estimated concentration below Limit of Quantitation but above Method Detection Limit
"ND@X" - signifies "Not Detected at Limit of Quantitation X"
N/A - Not Applicable
WLID - Water Level Indicator

Appendix I

Groundwater Treatment Analytical Data (Organics): January 1, 2019 to December 31, 2019
Groundwater Treatment Analytical Data (Inorganics): January 1, 2019 to December 31, 2019

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		210E	210F	210F	210F	210F	210F
Sample Description		PW-1 GAC	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF
Sample Date		12/06/2019	03/06/2019	03/08/2019	03/13/2019	03/20/2019	03/27/2019
Laboratory Sample I.D.		1218139	420-150417-5	420-150528-2	420-150763-9	420-151114-5	420-151449-3
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.8	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.1 J	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	0.5 J	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		210F	210F	210F	210F	210F	210F
Sample Description		PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF
Sample Date		04/04/2019	04/18/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019
Laboratory Sample I.D.		1028779	420152552-12	1049485	1074983	1096031	1117094
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@2.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@1.0	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		210F	210F	210F	210F	220C	220C
Sample Description		PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-1 GTF EF	PW-2 RAY EF	PW-2 RAY EF
Sample Date		09/03/2019	10/02/2019	11/08/2019	12/06/2019	03/13/2019	03/15/2019
Laboratory Sample I.D.		1142898	1168568	1199813	1218138	420-150763-5	420-150850-2
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.76 J	0.80 J
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	87	120
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.07 J	9.1	9.2
ACETONE	ug/l	ND@5.0	1.1 J	ND@5.0	ND@5.0	20	15
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.71 J	0.20 J
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	1.5	1.7
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220C	220C	220C	220C	220C	220C
Sample Description		PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF
Sample Date		03/20/2019	03/27/2019	04/04/2019	04/12/2019	04/18/2019	05/01/2019
Laboratory Sample I.D.		420151114-10	420151449-12	420-151880-4	420-152295-2	420-152552-3	420-153080-2
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	1.2
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	0.95 J	0.86 J	0.86 J	0.93 J	ND@1.0	0.91 J
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	110	90	130	180	160	120
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	8.4	8.0	11	9.4	13	9.1
ACETONE	ug/l	11	7.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	1100
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	0.90 J
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	0.37 J
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	1.2
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	2.2	0.39 J	0.74 J	9000
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	670
TRICHLOROFLUOROMETHANE	ug/l	1.7	1.4	ND@1.0	1.6	ND@1.0	1.6
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	130

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220C	220C	220C	220C	220C	220C
Sample Description		PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF
Sample Date		05/06/2019	05/20/2019	06/04/2019	06/06/2019	07/05/2019	08/02/2019
Laboratory Sample I.D.		420-153238-2	420-153969-1	420-154621-2	420-154870-2	420-156455-2	420-157919-2
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	0.97 J	1.1	0.82 J	0.88 J	1.1	1.1
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	130	140	130	130	120	140
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	11	11	10	9.5	12	13
ACETONE	ug/l	7.3	12	7.2	6.9	7.1	11
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	1.9	2.2	1.8	2.1	1.9	2.3
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220C	220C	220C	220C	220C	220E
Sample Description		REPLICATE	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 RAY EF	PW-2 PCAR EF
Sample Date		08/02/2019	09/03/2019	10/03/2019	11/08/2019	12/03/2019	10/03/2019
Laboratory Sample I.D.		420-157919-3	420-159568-2	420-161395-5	420-163089-2	420-164017-2	1169367
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	1.2	0.65 J	0.78 J	1.1	1.0	0.4 J
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	140	130	110	130	150	110
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	12	12	6.2	12	13	12
ACETONE	ug/l	9.2	24	7.2	14	12	11
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	10
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	0.98 J	1.1	0.3 J
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	0.78 J	ND@1.0	ND@1.0	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	2.4	ND@1.0	1.6	2.2	2.2	1.6
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220E	220I	220I	220I	220I	220I
Sample Description		PW-2 PCAR EF	PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GAC
Sample Date		12/03/2019	03/13/2019	03/15/2019	03/20/2019	03/27/2019	04/04/2019
Laboratory Sample I.D.		1215245	420-150763-6	420-150850-3	420151114-11	420151449-13	1028768
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	0.8	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	140	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	9.7	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
ACETONE	ug/l	8.4	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	13	ND@1.0	ND@1.0	ND@1.0	ND@1.0	0.09 J
DICHLORODIFLUOROMETHANE	ug/l	0.4 J	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.21 J	0.33 J	ND@1.0	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	0.08 J
TRICHLOROFLUOROMETHANE	ug/l	1.9	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220I	220I	220I	220I	220I	220I
Sample Description		REPLICATE	PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GAC
Sample Date		04/04/2019	04/12/2019	04/18/2019	05/01/2019	06/04/2019	07/05/2019
Laboratory Sample I.D.		420-151880-5	420-152295-3	420-152552-4	1049473	1074975	1096026
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	1.1
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	1 J
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	0.3 J	0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	0.5 J	0.7

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220I	220I	220I	220I	220I	220J
Sample Description		PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GAC	PW-2 GTF EF
Sample Date		08/02/2019	09/03/2019	10/03/2019	11/08/2019	12/03/2019	03/13/2019
Laboratory Sample I.D.		1117086	1142890	1169365	1199817	1215246	420-150763-7
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.08 J	ND@0.5	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.09 J	16	54	100	ND@0.5	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	12	19	18	14	ND@0.5	ND@1.0
ACETONE	ug/l	ND@5.0	1.7 J	5.6	11	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.7	ND@0.5	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	0.8	0.5	0.4 J	0.4 J	ND@0.5	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	0.3 J	0.9	1.3	ND@0.5	ND@1.0
VINYL CHLORIDE	ug/l	1.0	0.9	0.4 J	0.3 J	ND@0.5	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220J	220J	220J	220J	220J	220J
Sample Description		PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF	REPLICATE	PW-2 GTF EF
Sample Date		03/15/2019	03/20/2019	03/27/2019	04/04/2019	04/04/2019	04/12/2019
Laboratory Sample I.D.		420-150850-4	420151114-12	420151449-14	1028769	420-151880-6	420-152295-4
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	0.31 J	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220J	220J	220J	220J	220J	220J
Sample Description		PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF
Sample Date		04/18/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019	09/03/2019
Laboratory Sample I.D.		420-152552-5	1049472	1074974	1096027	1117085	1142889
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	0.3 J	9.2
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	0.2 J	0.6	0.8
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.1 J
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	0.2 J	0.7	0.9	0.9

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		220J	220J	220J	325E	325F	325F
Sample Description		PW-2 GTF EF	PW-2 GTF EF	PW-2 GTF EF	PW-25 GAC	PW-25 GTF EF	PW-25 GTF EF
Sample Date		10/03/2019	11/08/2019	12/03/2019	12/06/2019	03/07/2019	03/08/2019
Laboratory Sample I.D.		1169361	1199816	1215247	1218142	420-150470-5	420-150528-3
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	4.0	40	ND@0.5	22	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	19	18	ND@0.5	0.7	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	3.9 J	ND@5.0	1.8 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	62	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	0.6	0.5 J	ND@0.5	ND@0.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.1 J	0.27 J	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	14	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	0.5	ND@0.5	0.3 J	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	0.7	0.4 J	ND@0.5	0.1 J	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		325F	325F	325F	325F	325F	325F
Sample Description		PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF
Sample Date		03/13/2019	03/20/2019	03/27/2019	04/04/2019	04/18/2019	05/01/2019
Laboratory Sample I.D.		420-150763-8	420-151114-9	420-151449-5	1028782	420152552-15	1049482
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		325F	325F	325F	325F	325F	325F
Sample Description		PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF	PW-25 GTF EF
Sample Date		06/04/2019	07/05/2019	08/02/2019	09/03/2019	10/02/2019	11/08/2019
Laboratory Sample I.D.		1074986	1096023	1117097	1142901	1168572	1199825
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.3 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.08 J	0.4 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	1.2 J	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	0.08 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.1 J	0.2 J	0.2 J

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		325F	384A	384A	384A	384A	384A
Sample Description		PW-25 GTF EF	AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL
Sample Date		12/06/2019	02/26/2019	03/01/2019	03/01/2019	04/04/2019	05/01/2019
Laboratory Sample I.D.		1218141	420-149960-1	9996724	420-150171-3	1028770	1049474
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@10	ND@100	4.8 J	ND@50	ND@50
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@10	ND@100	2.7 J	ND@50	ND@50
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	1.6	18	120	85	ND@50	ND@50
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.7	ND@10	ND@100	ND@10	ND@50	ND@50
ACETONE	ug/l	ND@5.0	ND@50	ND@1000	ND@50	ND@500	ND@500
CHLOROBENZENE	ug/l	ND@0.5	ND@10	ND@100	ND@10	ND@50	ND@50
CIS-1,2-DICHLOROETHYLENE	ug/l	1.1	45	79 J	66	50 J	38 J
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@10	ND@100	ND@10	ND@50	ND@50
ETHYLBENZENE	ug/l	ND@0.5	ND@10	ND@100	4.5 J	ND@50	ND@50
M,P-XYLENE	ug/l	ND@0.5	ND@20	ND@100	11 J	ND@50	ND@50
O-XYLENE	ug/l	ND@0.5	ND@10	ND@100	8.1 J	ND@50	ND@50
TETRACHLOROETHYLENE	ug/l	ND@0.5	7000	15000	12000	6800	9300
TRICHLOROETHYLENE	ug/l	ND@0.5	54	230	170	180	220
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@10	ND@100	ND@10	ND@50	ND@50
VINYL CHLORIDE	ug/l	0.1 J	ND@10	ND@100	2.1 J	ND@50	ND@50

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384A	384A	384A	384A	384A	384A
Sample Description		AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL
Sample Date		06/04/2019	07/05/2019	08/02/2019	09/03/2019	10/02/2019	11/08/2019
Laboratory Sample I.D.		1074981	1096014	1117092	1142896	1168565	1199823
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@25	ND@25	ND@50	ND@25	1.3 J	1.3 J
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	1.2 J
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@25	4.4 J	ND@50	ND@25	ND@10	ND@10
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10
ACETONE	ug/l	53 J	ND@250	ND@500	ND@250	ND@100	ND@100
CHLOROBENZENE	ug/l	ND@25	3.1 J	ND@50	ND@25	1.2 J	1.9 J
CIS-1,2-DICHLOROETHYLENE	ug/l	36	35	27 J	24 J	13	26
DICHLORODIFLUOROMETHANE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10
ETHYLBENZENE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10
M,P-XYLENE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10
O-XYLENE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10
TETRACHLOROETHYLENE	ug/l	9900	11000	7200	3600	1700	4000
TRICHLOROETHYLENE	ug/l	310	440	270	260	140	290
TRICHLOROFLUOROMETHANE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10
VINYL CHLORIDE	ug/l	ND@25	ND@25	ND@50	ND@25	ND@10	ND@10

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384A	384B	384B	384B	384B	384B
Sample Description		AREA A INFL	AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS IN
Sample Date		12/03/2019	02/26/2019	03/01/2019	03/05/2019	03/14/2019	03/27/2019
Laboratory Sample I.D.		1215248	420-149960-2	9996726	420-150277-2	420-150809-2	420-151449-6
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@25	ND@10	ND@100	ND@10	1.6 J	ND@10
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	4.8 J	11	100	5.9 J	2.7 J	ND@10
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
ACETONE	ug/l	ND@250	ND@50	ND@1000	ND@50	ND@50	ND@50
CHLOROBENZENE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
CIS-1,2-DICHLOROETHYLENE	ug/l	42	46	120	53	46	48
DICHLORODIFLUOROMETHANE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
ETHYLBENZENE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
M,P-XYLENE	ug/l	ND@25	ND@20	ND@100	ND@20	ND@20	ND@20
O-XYLENE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
TETRACHLOROETHYLENE	ug/l	7700	5300	14000	8900	6900	5600
TRICHLOROETHYLENE	ug/l	430	57	220	120	130	140
TRICHLOROFLUOROMETHANE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10
VINYL CHLORIDE	ug/l	ND@25	ND@10	ND@100	ND@10	ND@10	ND@10

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384B	384B	384B	384B	384B	384B
Sample Description		AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS IN
Sample Date		04/04/2019	04/18/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019
Laboratory Sample I.D.		1028772	420-152552-6	1049476	1074980	1096016	1117091
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@25	ND@10	ND@50	ND@13	ND@25	ND@25
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@25	ND@10	ND@50	2.0 J	ND@25	ND@25
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@25	ND@10	ND@50	ND@13	3.8 J	ND@25
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@25	ND@10	ND@50	ND@13	ND@25	ND@25
ACETONE	ug/l	ND@250	ND@50	ND@500	26 J	ND@250	ND@250
CHLOROBENZENE	ug/l	ND@25	ND@10	ND@50	1.6 J	ND@25	ND@25
CIS-1,2-DICHLOROETHYLENE	ug/l	43	31	37 J	32	31	26
DICHLORODIFLUOROMETHANE	ug/l	ND@25	ND@10	ND@50	ND@13	ND@25	ND@25
ETHYLBENZENE	ug/l	ND@25	ND@10	ND@50	ND@13	ND@25	ND@25
M,P-XYLENE	ug/l	ND@25	ND@20	ND@50	ND@13	ND@25	ND@25
O-XYLENE	ug/l	ND@25	ND@10	ND@50	ND@13	ND@25	ND@25
TETRACHLOROETHYLENE	ug/l	6500	5200	7600	6700	7700	3300
TRICHLOROETHYLENE	ug/l	140	110	190	240	310	210
TRICHLOROFLUOROMETHANE	ug/l	ND@25	ND@10	ND@50	ND@13	ND@25	ND@25
VINYL CHLORIDE	ug/l	ND@25	ND@10	ND@50	ND@13	20 J	15 J

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384B	384B	384B	384B	384C	384C
Sample Description		AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS IN	AREA A AS EF	AREA A AS EF
Sample Date		09/03/2019	10/02/2019	11/08/2019	12/03/2019	02/26/2019	03/01/2019
Laboratory Sample I.D.		1142895	1168564	1199822	1215250	420-149960-3	9996727
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	1.1 J	1.0 J	ND@10	ND@50	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	0.7 J	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
ACETONE	ug/l	ND@50	ND@50	ND@100	ND@500	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	1.4 J	0.9 J	1.4 J	ND@50	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	23	12	22	37 J	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	2300	1100	2600	6900	0.70 J	0.1 J
TRICHLOROETHYLENE	ug/l	190	100	200	360	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@5.0	ND@5.0	ND@10	ND@50	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384C	384C	384C	384C	384C	384C
Sample Description		AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A AS EF
Sample Date		03/01/2019	03/05/2019	03/14/2019	03/20/2019	03/27/2019	04/04/2019
Laboratory Sample I.D.		420-150171-4	420-150277-3	420-150809-3	420151114-13	420-151449-7	1028773
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	0.39 J	ND@1.0	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384C	384C	384C	384C	384C	384C
Sample Description		AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A AS EF
Sample Date		04/18/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019	09/03/2019
Laboratory Sample I.D.		420-152552-7	1049477	1074979	1096017	1117090	1142894
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	1.5 J	ND@5.0	1.9 J	2.1 J
CHLOROBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	0.06 J	0.1 J	0.7 J	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@0.5	ND@0.5	ND@0.5 J	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384C	384C	384C	384I	384J	384J
Sample Description		AREA A AS EF	AREA A AS EF	AREA A AS EF	AREA A GAC	AREA A GAC	AREA A GAC
Sample Date		10/02/2019	11/08/2019	12/03/2019	02/26/2019	03/01/2019	03/05/2019
Laboratory Sample I.D.		1168563	1199821	1215251	420-149960-4	9996728	420-150277-4
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
ACETONE	ug/l	2.0 J	ND@5.0	1.0 J	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@2.0	ND@0.5	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	0.17 J	0.3 J	0.20 J
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@1.0	ND@0.5	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384J	384J	384J	384J	384J	384J
Sample Description		AREA A GAC	AREA A GAC	AREA A GAC	AREA A GAC	AREA A GAC	AREA A GAC
Sample Date		03/14/2019	03/20/2019	03/27/2019	04/04/2019	04/18/2019	05/01/2019
Laboratory Sample I.D.		420-150809-4	420151114-14	420-151449-8	1028774	420-152552-8	1049478
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.22 J	0.30 J	0.20 J	ND@0.5	ND@1.0	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384J	384J	384J	384J	384J	384J
Sample Description		AREA A GAC	AREA A GAC	AREA A GAC	AREA A GAC	AREA A GAC	AREA A GAC
Sample Date		06/04/2019	07/05/2019	08/02/2019	09/03/2019	10/02/2019	11/08/2019
Laboratory Sample I.D.		1074978	1096018	1117089	1142893	1168562	1199820
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	1.0 J	ND@5.0	1.8 J	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.2 J	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384J	384K	384L	384L	384L	384L
Sample Description		AREA A GAC	AREA A EF	AREA A EF	AREA A EF	AREA A EF	AREA A EF
Sample Date		12/03/2019	02/26/2019	02/27/2019	03/01/2019	03/01/2019	03/05/2019
Laboratory Sample I.D.		1215252	420-149960-5	420-150051-2	9996729	420-150171-5	420-150277-5
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	0.1 J	ND@1.0	0.24 J	ND@0.5	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384L	384L	384L	384L	384L	384L
Sample Description		AREA A EF	AREA A EF	AREA A EF	AREA A EF	AREA A EF	AREA A EF
Sample Date		03/14/2019	03/20/2019	03/27/2019	04/04/2019	04/18/2019	05/01/2019
Laboratory Sample I.D.		420-150809-5	420151114-15	420-151449-9	1028776	420-152552-9	1049479
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@0.5	ND@2.0	ND@0.5
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	0.3 J
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5
VINYL CHLORIDE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@0.5	ND@1.0	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384L	384L	384L	384L	384L	384L
Sample Description		AREA A EF	AREA A EF	AREA A EF	AREA A EF	AREA A EF	AREA A EF
Sample Date		06/04/2019	07/05/2019	08/02/2019	09/03/2019	10/02/2019	11/08/2019
Laboratory Sample I.D.		1074977	1096019	1117088	1142892	1168560	1199819
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	1.4 J	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
ETHYLBENZENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
M,P-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
O-XYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TETRACHLOROETHYLENE	ug/l	0.2 J	0.07 J	0.07 J	0.09 J	ND@0.5	ND@0.5
TRICHLOROETHYLENE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5
VINYL CHLORIDE	ug/l	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5	ND@0.5

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		384L	395	395	511	511	511
Sample Description		AREA A EF	B/384 SUMP	B/384 SUMP	C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 1
Sample Date		12/03/2019	07/05/2019	10/02/2019	01/02/2019	01/07/2019	01/14/2019
Laboratory Sample I.D.		1215253	1096013	1168567	R1900049-002	R1900160-002	R1900406-002
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@0.5	ND@250	ND@50	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@0.5	ND@250	14 J	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	240 J	62	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@0.5	ND@250	ND@50	ND@1.0	ND@1.0	0.44 J
ACETONE	ug/l	ND@5.0	ND@2500	ND@500	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@0.5	ND@250	ND@50	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@0.5	73 J	44 J	ND@1.0	ND@1.0	2.2
DICHLORODIFLUOROMETHANE	ug/l	ND@0.5	ND@250	ND@50	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@0.5	ND@250	ND@50	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@0.5	ND@250	ND@50	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@0.5	30 J	ND@50	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@0.5	74000	29000	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@0.5	1500	1400	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@0.5	ND@250	ND@50	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	ND@0.5	ND@250	ND@50	24	24	22

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		511	511	511	511	511	511
Sample Description		C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 1
Sample Date		01/21/2019	01/28/2019	02/04/2019	02/07/2019	02/11/2019	02/18/2019
Laboratory Sample I.D.		R1900598-002	R1900769-002	R1901028-002	R1901217-001	R1901351-002	R1901421-002
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	0.30 J	1.5	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.95 J	1.6	3.1	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	15	40	130	ND@1.0	ND@1.0	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	0.45 J	0.58 J	0.69 J	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	18	14	14	3.5	4.5	8.3

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		511	511	511	512	512	512
Sample Description		C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 1	C CARB/GAC 2	C CARB/GAC 2	C CARB/GAC 2
Sample Date		02/25/2019	03/04/2019	03/11/2019	01/02/2019	01/07/2019	01/14/2019
Laboratory Sample I.D.		R1901640-002	R1901899-002	R1902088-002	R1900049-003	R1900160-003	R1900406-003
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	3.2 J	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	2.1	2.6	3.5
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	9.6	ND@1.0	17	16	17	15

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		512	512	512	512	512	512
Sample Description		C CARB/GAC 2	C CARB/GAC 2	C CARB/GAC 2	C CARB/GAC 2	C CARB/GAC 2	C CARB/GAC 2
Sample Date		01/21/2019	01/28/2019	02/04/2019	02/11/2019	02/18/2019	02/25/2019
Laboratory Sample I.D.		R1900598-003	R1900769-003	R1901028-003	R1901351-003	R1901421-003	R1901640-003
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	0.42 J	0.76 J	1.0	1.3	1.6
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	2.8 J	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	5.8	8.7	20	26	48	72
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	0.24 J	0.23 J	0.32 J
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	15	13	16	13	16	14

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		512	512	513	513	513	513
Sample Description		C CARB/GAC 2	C CARB/GAC 2	C CARB/GAC 3	C CARB/GAC 3	C CARB/GAC 3	C CARB/GAC 3
Sample Date		03/04/2019	03/11/2019	01/02/2019	01/07/2019	01/14/2019	01/21/2019
Laboratory Sample I.D.		R1901899-003	R1902088-003	R1900049-004	R1900160-004	R1900406-004	R1900598-004
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.51 J	0.69 J	0.82 J	1.3	1.9	2.9
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	2.4	2.4	0.47 J	0.53 J	0.71 J	0.73 J
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	2.5 J	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	120	140	1.7	3.0	5.4	8.3
DICHLORODIFLUOROMETHANE	ug/l	0.41 J	0.46 J	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	17	17	3.4	3.2	2.9	2.3

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		513	513	513	513	513	513
Sample Description		C CARB/GAC 3	C CARB/GAC 3	C CARB/GAC 3	C CARB/GAC 3	C CARB/GAC 3	C CARB/GAC 3
Sample Date		01/28/2019	02/04/2019	02/11/2019	02/18/2019	02/25/2019	02/27/2019
Laboratory Sample I.D.		R1900769-004	R1901028-004	R1901351-004	R1901421-004	R1901640-004	R1901751-001
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	3.9	6.0	4.4	8.6	9.3	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.83 J	0.87 J	0.68 J	1.1	0.79 J	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	12	19	20	27	33	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	2.0	1.9	1.2	1.5	1.2	0.55 J

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		513	513	555	555	555	555
Sample Description		C CARB/GAC 3	C CARB/GAC 3	C CARB EFFL	C CARB EFFL	C CARB EFFL	C CARB EFFL
Sample Date		03/04/2019	03/11/2019	01/02/2019	01/07/2019	01/14/2019	01/21/2019
Laboratory Sample I.D.		R1901899-004	R1902088-004	R1900049-001	R1900160-001	R1900406-001	R1900598-001
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	0.26 J	ND@1.0	0.39 J
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	0.28 J	0.45 J	0.73 J	1.1
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	0.87 J	0.91 J	0.55 J	0.60 J	0.62 J	0.56 J

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location		555	555	555	555	555	555
Sample Description		C CARB EFFL	C CARB EFFL	C CARB EFFL	C CARB EFFL	C CARB EFFL	C CARB EFFL
Sample Date		01/28/2019	02/04/2019	02/11/2019	02/18/2019	02/25/2019	03/04/2019
Laboratory Sample I.D.		R1900769-001	R1901028-001	R1901351-001	R1901421-001	R1901640-001	R1901899-001
Sample Comment Codes							
Parameter	**Units**						
Base/Neutral Extractables							
1,2-DICHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
Volatile Organics							
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	0.41 J	0.59 J	1.4	0.99 J	1.1	ND@1.0
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ACETONE	ug/l	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0	ND@5.0
CHLOROBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
CIS-1,2-DICHLOROETHYLENE	ug/l	1.3	1.6	4.2	3.1	3.7	ND@1.0
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
ETHYLBENZENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
M,P-XYLENE	ug/l	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0	ND@2.0
O-XYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TETRACHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROETHYLENE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0	ND@1.0
VINYL CHLORIDE	ug/l	0.94 J	1.3	0.44 J	0.33 J	0.37 J	ND@1.0

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Sample Location	555
Sample Description	C CARB EFFL
Sample Date	03/11/2019
Laboratory Sample I.D.	R1902088-001
Sample Comment Codes	

Parameter	Units		
Base/Neutral Extractables			
1,2-DICHLOROBENZENE	ug/l	ND@1.0	
Volatile Organics			
1,1,1-TRICHLOROETHANE	ug/l	ND@1.0	
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	
1,2-DICHLORO-1,2,2-TRIFLUOROETHANE	ug/l	ND@1.0	
ACETONE	ug/l	2.9	J
CHLOROBENZENE	ug/l	ND@1.0	
CIS-1,2-DICHLOROETHYLENE	ug/l	ND@1.0	
DICHLORODIFLUOROMETHANE	ug/l	ND@1.0	
ETHYLBENZENE	ug/l	ND@1.0	
M,P-XYLENE	ug/l	ND@2.0	
O-XYLENE	ug/l	ND@1.0	
TETRACHLOROETHYLENE	ug/l	ND@1.0	
TRICHLOROETHYLENE	ug/l	ND@1.0	
TRICHLOROFLUOROMETHANE	ug/l	ND@1.0	
VINYL CHLORIDE	ug/l	ND@1.0	

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Organics
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		384A	384A	384A	384A	384A	384A
Sample Description		AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL
Sample Date		03/01/2019	04/04/2019	05/01/2019	06/04/2019	07/05/2019	08/02/2019
Laboratory Sample I.D.		9996724	1028770	1049474	1074981	1096015	1117092
Sample Comment Codes							
Parameter	**Units**						
Inorganics							
FLUORIDE	mg/l	1.4	1.7	2.0	1.6	1.8	2.2
Metals							
CHROMIUM, DISSOLVED	mg/l	0.0025 J	0.0027 J	0.0027 J	0.0029 J	0.0019 J	0.0021 J
CHROMIUM, TOTAL	mg/l	0.0028 J	0.0037 J	0.0030 J	0.0018 J	0.0066	0.0018 J

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Sample Location		384A	384A	384A	384A
Sample Description		AREA A INFL	AREA A INFL	AREA A INFL	AREA A INFL
Sample Date		09/03/2019	10/02/2019	11/08/2019	12/03/2019
Laboratory Sample I.D.		1142896	1168566	1199823	1215248
Sample Comment Codes					
Parameter	**Units**				
Inorganics					
FLUORIDE	mg/l	1.9	2.5	2.6	2.6
Metals					
CHROMIUM, DISSOLVED	mg/l	0.0015 J	0.0021	0.0015 J	0.0023
CHROMIUM, TOTAL	mg/l	0.0018 J	0.0024	0.0016 J	0.0025

Former IBM East Fishkill Facility
Groundwater Treatment Analytical Data - Inorganics
January 1, 2019 - December 31, 2019

Explanation of Reporting Conventions and Key to Comment Codes

Reporting Conventions

NA	Not Analyzed
ND@X	Not Detected at Detection Limit X

Code	Explanation
J	Estimated value - compound meets identification criteria, but result is less than the reporting limit

Appendix J

Groundwater Statistics

Maximum Groundwater Concentrations in GMP Wells during 2019
Statistical Trends in Contaminant Reduction Wells
Evaluations of Statistical Trends in Point-of-Compliance Wells
Statistical Evaluation of Changes in Water Quality at Corrective Action Monitoring Wells using the Mann-Whitney Test

Maximum Groundwater Concentrations in GMP Wells during 2019 (µg/l) (does not include production wells or groundwater treatment points)					
Parameter	**NYSGQS (µg/l)**	**Soil Water-Bearing Zones**		**Bedrock Water-Bearing Zones**	
		Location	**Conc. (µg/l)**	**Location**	**Conc. (µg/l)**
Chlorobenzene	5	714	0.1	607	45
1,2-Dichlorobenzene	3	015	1.7	960	20
Dichlorodifluoromethane (Freon® 12)	5	016	10	734	0.2
Ethylbenzene	5	none	not detected	none	not detected
Vinyl Chloride	2	706	130	607	330
1,2-Dichloro-1,2,2-trifluoroethane (Freon® 123a)	5	767	19	607	23
Tetrachloroethene	5	572	200,000	118	220,000
1,1,2-trichloro-1,2,2-trifluoroethane (Freon® TF)	5	735	160	118	780
Trichloroethene	5	572	1,100	607	1,600
cis-1,2-Dichloroethene	5	572	1,300	607	5,600
Total Fluoride	1,500	627	340,000	not applicable	not applicable[2]
Chromium (total) Chromium (dissolved)	50	791 768	44,300 478	952 none	3.1 not detected
Arsenic (total) Arsenic (dissolved)	25	767 767	146 4.6	959 none	18.9 not detected
Nickel (total) Nickel (dissolved)	100	627 627	4,440 4,340	not applicable	not applicable[2]
Acetone[1,3]	None[3]	714	21	941	190
Trichlorofluoromethane (Freon® 11)	5	580	1.5	732	3.6
m,p-xylene	5	627	0.1	none	not detected
o-xylene	5	627	0.1	none	not detected
1,1,1-Trichloroethane	5	714	2.9	734	0.3

NYSGQS - New York State Groundwater Quality Standard (6NYCRR Part 703). All concentrations have been rounded to not more than two significant figures for VOCs and three significant figures for inorganic parameters.
1 - Common laboratory contaminant.
2 - Bedrock monitoring wells are not sampled for total fluoride or nickel.
3 - A "general organic guidance value" of 50 µg/l has been established for this parameter (Part 702.15 of the NY State Water Quality Regulations).
Due to the very high concentrations of PCE in wells 572, 574, and 118, higher concentrations of some parameters may have been diluted out in the laboratory analysis for these three wells.

Statistical Trends in Contaminant Reduction Monitoring Wells 2010-2019						
Well	**Figure Number**	**Location**	**Parameter**	**Trend**	**Confidence Limit**	**Test Type**
010	3-1	Area A	PCE-Series Freon® TF	Decreasing No trend	>95% --	MK
016	3-2	Area A	PCE-Series Freon® TF	Decreasing NA	>95% --	MK
032B [1]	3-3	Area D	PCE-Series Freon® TF	No trend NA	-- --	MK
103	3-4	Area A	PCE-Series Freon® TF	Decreasing NA	>95% --	MK
104	3-5	Area A	PCE-Series Freon® TF	Increasing NA	>90% --	MK
105	3-6	Area A (bedrock)	PCE-Series Freon® TF	No trend NA	-- --	MK
612	3-7	B/322	PCE-Series Freon® TF	Decreasing NA	>95% --	MK
628	3-13	Area B	PCE-Series Freon® TF	Decreasing NA	>95% --	MK
714	3-11	Area A	PCE-Series Freon® TF	No trend No trend	-- --	MK
716	3-12	Area A (bedrock)	PCE-Series Freon® TF	Decreasing Decreasing	>95% >95%	MK
943	3-14	Area C (Landfill) (bedrock)	PCE-Series Freon® TF	No trend No trend	-- --	MK
B/384 Sump [2]	3-19	Area A	PCE-Series Freon® TF	Decreasing NA	>95% --	MK
PW-1	3-15	Bedrock	PCE-Series Freon® TF	Decreasing Decreasing	>95% >95%	MK
PW-2	3-16	Bedrock	PCE-Series Freon® TF	Decreasing Decreasing	>95% >95%	MK
PW-25	3-18	Bedrock	PCE-Series Freon® TF	Decreasing Decreasing	>95% >95%	MK

Test Type: MK = Mann-Kendall test for trend with deseasonalized data, where possible.
1 - Well 032B replaced well 032A in September 2012.
2 - Location designation 395 from 2010 through 2018, 384A beginning in 2019.
NA – Testing for trend is not applicable, average data from 2010 to 2019 is zero or near zero.

Evaluations of Statistical Trends in Point-of-Compliance Wells 2010-2019					
Well	**Figure No.**	**Location**	**Parameter**	**Trend**	**Confidence Limit**
064	3-20	Area B	PCE-Series Freon® TF	Decreasing No trend	>95% --
065	3-21	Area B	PCE-Series Freon® TF	No trend No trend	-- --
066	3-22	Area D	PCE-Series Freon® TF	No trend No trend	-- --
067	3-23	Area D	PCE-Series Freon® TF	No trend No trend	-- --
987	3-24	Southeast Quadrant	PCE-Series Freon® TF	No trend No trend	-- --
990	3-25	Southeast Quadrant	PCE-Series Freon® TF	Decreasing No trend	>95% --
All wells are soil monitoring wells except wells 065 and 987.					

Statistical Evaluation of Changes in Water Quality at Corrective Action Monitoring Wells using the Mann-Whitney Test, adjusted for Seasonality
Evaluation Period: 2010-2019

Key Compound: **PCE-Series**
Statistically Significant Change in Concentration: **Decrease**

Well	Location	Well	Location
010	Area A	742	B/322 (Bedrock)
015	Area A	755	B/322
016	Area A	766	B/322
053	Area C (Landfill, Bedrock)	767	B/322
064	Area B	769	B/322
113	Bedrock	772	B/322
181	B/330	793	B/322
B/384 Sump	Area A (sample point 395/384A)	921	B/330
559	Area C (Landfill, Bedrock)	922	B/330 (Bedrock)
564	Bedrock	923	B/330 (Bedrock)
601	B/330	941	B/330 (Bedrock)
610	B/330 (Bedrock)	956	B/330
612	B/322	959	B/322 (Bedrock)
622	B/330 (Bedrock)	960	B/322 (Bedrock)
623	B/330 (Bedrock)	990	SEQ
628	Area B	999	Area A
720	Area A	PW-1	Bedrock
732	Area A (Bedrock)	PW-2	Bedrock
734	Area A (Bedrock)		

Key Compound: **PCE-Series**
Statistically Significant Change in Concentration: **Increase**

Well	Location	Well	Location
048	SEQ	607	B/330 (Bedrock)
054	Area C	706	Area A
104	Area A	757	Area D
109	Bedrock	953	B/330 (Bedrock)

Statistical Evaluation of Changes in Water Quality at Corrective Action Monitoring Wells using the Mann-Whitney Test, adjusted for Seasonality
Evaluation Period: 2010-2019 (continued)

Key Compound: Freon® TF
Statistically Significant Change in Concentration: Decrease

Well	Location	Well	Location
559	Area C (Landfill)	941	B/330 (Bedrock)
609	B/330 (Bedrock)	943	Area C (Landfill, Bedrock)
610	B/330 (Bedrock)	959	B/322 (Bedrock)
716	Bedrock	960	B/322 (Bedrock)
732	Area A (Bedrock)	PW-1	Bedrock
921	B/330	PW-2	Bedrock
922	B/330 (Bedrock)	PW-25	Bedrock
923	B/330 (Bedrock)		

Key Compound: **Freon® TF**
Statistically Significant Change in Concentration: **Increase**

Well	Location	Well	Location
607	B/330 (Bedrock)	769	B/322

Appendix K

Vapor Intrusion Assessment Annual Report

SANBORN HEAD ENGINEERING

Building Trust. Engineering Success.

VAPOR INTRUSION ASSESSMENT
2019 ANNUAL REPORT

Former IBM East Fishkill Facility
Hopewell Junction, New York

Corporate Environmental Affairs

Prepared for IBM Corporation
File No. 2999.06
May 2020

SANBORN HEAD ENGINEERING
Building Trust. Engineering Success.

20 Foundry Street
Concord, NH 03301

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

May 18, 2020
File No. 2999.06

Re: Vapor Intrusion Assessment – 2019 Annual Report
Former IBM East Fishkill Facility
Hopewell Junction, New York
EPA ID No. NYD000707901, NYSDEC Site No. 314054

Dear Mr. Chartrand:

The enclosed report provides a summary of vapor intrusion assessment and mitigation-related work that was completed in 2019 at the former IBM East Fishkill facility. We understand that this report will be included as an appendix to the facility's 2019 Annual Corrective Action Status Report. Please contact us if you have any questions.

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

David Shea, P.E.
Principal Engineer

JHS/DS

Encl. Vapor Intrusion Assessment – 2019 Annual Report

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SANBORN HEAD ENGINEERING

Building Trust. Engineering Success.

VAPOR INTRUSION ASSESSMENT
2019 ANNUAL REPORT

Former IBM East Fishkill Facility
Hopewell Junction, New York

Prepared for
IBM Corporation

Corporate Environmental Affairs

Prepared by
Sanborn, Head Engineering, P.C.

File 2999.06
May 2020

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1 Report Organization 1
1.2 Objectives and Scope 1
1.3 VI RFI Work Plan Status and Responsibility 2

2.0 STATUS OF BUILDING HVAC, INFRASTRUCTURE, AND OCCUPANCY 2
2.1 B310 (iPark) 2
2.2 B330C (iPark) 3
2.3 B330D (iPark) 4
2.4 B338 (iPark) 4
2.5 B339 (iPark) 5
2.6 B322 (GF) 6

3.0 IAQ SAMPLING REQUESTED BY DEPARTMENTS 6
3.1 B320B (Global Foundries) 6
3.2 B323 (Global Foundries) 7
3.3 B386 (Global Foundries) 8

4.0 SUBSLAB DEPRESSURIZATION AND SOIL VAPOR EXTRACTION SYSTEMS 8
4.1 B330D SSD System 9
4.1.1 Expanded VE-1 SSD System Installation and Start-Up 9
4.1.2 IAQ Sampling and Results 10
4.1.3 Operations and Performance Monitoring 10
4.2 B310 SSD System 11
4.2.1 SSD System VE-2 Operations and Performance Monitoring 11
4.2.2 Southern SSD System Pilot Testing 13
4.2.3 SSD Pilot Testing in Areas North and West of VE-2 13
4.3 B308/B310 Linkway SSD System 13
4.4 Area A SVE System 14
4.5 B330C Interim SSD System 16
4.6 B330D Interim SSD Systems 17
4.7 B330C SSD System 19
4.7.1 IAQ Sampling and Results 20
4.7.2 Operations Maintenance and Performance Monitoring 20

5.0 UPCOMING ACTIVITIES 21

TABLES

Table 1 VI RFI Work Plan Building Status
Table 2 Summary of 8-Hour Indoor Air Sampling Results – B320B
Table 3 Summary of 8-Hour Indoor Air Sampling Results – B323
Table 4 Summary of 8-Hour Indoor Air Sampling Results – B386

FIGURES

Figure 1 Site Location Plan
Figure 2 Building Location Plan
Figure 3 B330C Occupancy Summary Figure (2019)
Figure 4 B330D Occupancy Summary Figure (2019)
Figure 5 Summary of 8-Hour Indoor Air Sampling Results – B320B
Figure 6 Summary of 8-Hour Indoor Air Sampling Results – B323
Figure 7 Summary of 8-Hour Indoor Air Sampling Results – B386
Figure 8 Extent of Subslab Depressurization – B330D
Figure 9 Extent of Subslab Depressurization – B310
Figure 10 Extent of Subslab Depressurization – B308/310 Linkway
Figure 11 Extent of Subsurface Depressurization (5 Ft Depth) – Area A SVE System
Figure 12 Extent of Subsurface Depressurization (10 Ft Depth) – Area A SVE System
Figure 13 Extent of Subslab Depressurization – B330C

APPENDICES

Appendix A Limitations
Appendix B Excerpts from iPark Reports
Appendix C HVAC Conditions During Sampling

1.0 INTRODUCTION

This report summarizes the status of vapor intrusion (VI) assessment and mitigation-related work at the former IBM East Fishkill Facility (the site) for the calendar year 2019. Site ownership was transferred to Global Foundries (GF) in 2015, who then sold portions of the site in September 2017 to iPark East Fishkill LLC and iPark East Fishkill I LLC (collectively referred to as either iPark or National Resources [NR]). This report will be submitted to the New York State Department of Environmental Conservation (NYSDEC) and Department of Health (NYSDOH) (collectively the Departments,) as an appendix to the 2019 Annual Corrective Action Status Report prepared on behalf of IBM by Groundwater Sciences Corporation (GSC).

A site location plan is provided as Figure 1, and a map of site lot lines and buildings is provided as Figure 2. The work described herein was conducted on behalf of IBM by Sanborn, Head Engineering, PC (SHPC) in general accordance with IBM's Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan dated June 15, 2009 (VI RFI Work Plan), which was approved by the Departments.

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

1.1 Report Organization

This report is organized into four sections as described below:

Section 1 presents a general introduction, including the objectives and scope of the report, and a summary of the status of the buildings that were the focus of the VI RFI Work Plan.

Section 2 summarizes changes to heating, ventilating, and air conditioning (HVAC) operations, building layout/infrastructure, and occupancy for buildings where changes occurred in 2019.

Section 3 provides a summary of indoor air quality (IAQ) sampling that was conducted in three buildings owned by GF at the request of the Departments.

Section 4 provides a summary of subslab depressurization (SSD) and exterior soil vapor extraction (SVE) system operation and performance in 2019, including the construction and start-up of a new SSD system in B330C and expansion of an existing SSD system in B330D, and subsequent IAQ sampling.

Section 5 provides a summary of upcoming activities at the site.

1.2 Objectives and Scope

The purpose of this report is to summarize the status of VI assessment and mitigation-related work conducted by IBM and iPark for the calendar year 2019. The work performed in 2019 included indoor air and/or subslab vapor sampling in Buildings 310, 330C, 330D, 320B, 323, 338, 339, and 386. In addition, this report provides system performance data for

four SSD systems, three interim SSD systems, and one exterior SVE system, and documents the start-up and performance monitoring of two new or expanded SSD systems in B330C and B330D. These systems are being operated at the site for VI mitigation and volatile organic compound (VOC) source reduction.

In general, summary reports have been submitted to the Departments by IBM and iPark for the work discussed herein. Therefore, this report serves as an overall summary of the previous submittals, which are referenced in the applicable sections below.

1.3 VI RFI Work Plan Status and Responsibility

IBM's VI RFI Work Plan for VI assessment focused on 13 buildings. The activities in 2019 and the status of the 13 buildings are summarized in Table 1. IBM divested its former East Fishkill facility to GF in July 2015, who sold portions of the campus to iPark in September 2017, including some of the buildings subject to the VI RFI Work Plan. IBM maintains responsibility for execution of the VI RFI Work Plan in spaces that are and remain industrial use. A Consent Order was being negotiated with NYSDEC and the Part 373 co-permittees (IBM, iPark and GF) during 2019 to allow commercial use within a designated area of the parcels owned by iPark. As part of a separate agreement among IBM, iPark, and GF, iPark is responsible for VI-related assessments and mitigation in the iPark commercial spaces, including the installation of SSD systems for VI mitigation purposes in each commercial space.

IBM is working cooperatively with GF and iPark to monitor and maintain the appropriate HVAC operating conditions necessary for VI mitigation in routinely occupied portions of the buildings that were the focus of the VI RFI Work Plan. It is GF's and iPark's responsibility to communicate to IBM planned changes to occupancy or HVAC conditions in these buildings, so that IBM can assess whether additional IAQ testing is warranted. IBM maintains responsibility for operation and maintenance (O&M) of the existing SSD and SVE systems for VI mitigation and VOC source reduction in the industrial spaces.

2.0 STATUS OF BUILDING HVAC, INFRASTRUCTURE, AND OCCUPANCY

In 2019, iPark and GF made HVAC, infrastructure, and/or occupancy changes in the buildings described below. HVAC and infrastructure changes were generally made to renovate areas for new tenants. The following sections describe the general changes that were made and associated indoor air quality sampling. The building owner is specified in the section headings.

2.1 B310 (iPark)

In late 2018, iPark completed construction of a new wall to partition off the occupied Model Shop area from the remaining areas of B310, which are vacant and have had interior walls demolished and infrastructure such as piping and exhaust systems removed. The Model Shop area is leased to GF by iPark. It is located at the southern end of B310 and is equipped with two air handling units (AHUs) that serve two HVAC zones. The HVAC systems in the remaining part of the building have been turned off since the areas are vacant.

IAQ sampling was performed in November 2018 to assess whether building renovations affected the potential for soil vapor intrusion, as documented in a January 2019 letter report submitted to the Departments.[1]

As documented in the January 2019 letter, indoor air concentrations of tetrachloroethene (PCE) and trichloroethene (TCE) had increased since the previous round of IAQ sampling conducted in April 2016 prior to the construction of the Model Shop partition wall and other changes to the building. As a result, from December 2018 through February 2019, IBM performed testing of adjustments to HVAC systems in the Model Shop, including IAQ screening, to evaluate if HVAC adjustments could improve IAQ.

The results suggested that the HVAC systems were unlikely to be capable of decreasing and maintaining PCE and TCE to levels in the Model Shop consistent with pre-renovation levels. Therefore, IBM conducted a subslab vapor investigation and SSD pilot test in the Model Shop area and the vacant area to the north of the partitioning wall in May and September 2019 in accordance with work plans approved by the Departments.[2,3] The purpose of this work was to evaluate the feasibility of SSD to mitigate soil vapor intrusion in those areas. This work is discussed further in Section 4.2 and resulted in the design and partial construction of an SSD system in the southern area of B310 (with construction, completion, and system start-up scheduled for 2020).

2.2 B330C (iPark)

Renovations were completed in 2019 in the southwestern portion of B330C for iPark's tenant, Country Produce, which took occupancy of the space in the summer of 2019. The space is being used by Country Produce for food processing and packaging operations. No other occupancy changes were noted by iPark in B330C in 2019. Building occupancy information provided to IBM by iPark on August 26, 2019 is shown on Figure 3.

The Country Produce space is reportedly served by rooftop air handling units (RTUs) that were installed during the renovation. Beyond that, iPark has not indicated that changes were made to HVAC settings in B330C in 2019.

The first phase of a permanent SSD system for B330C was installed and put into operation by IBM in 2019, as described in Section 4.7 below. The area of influence of the SSD system covers the newly occupied Country Produce tenant space. IAQ sampling conducted by iPark in the Country Produce tenant space prior to occupancy and after start-up is described in Section 4.7.1.

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1 Sanborn, Head Engineering, P.C., *Indoor Air Quality Testing Results, Building 310 – Model Shop Area, IBM East Fishkill Facility, Hopewell Junction, NY*, January 23, 2019.

2 Sanborn, Head Engineering, P.C., *Work Plan for Subslab Depressurization Pilot Testing, Building 310 – Model Shop Area, Former IBM East Fishkill Facility, Hopewell Junction, New York*, April 18, 2019.

3 Sanborn, Head Engineering, P.C., *Work Plan for Subslab Depressurization Pilot Testing, Building 310 – South-Central Area, Former IBM East Fishkill Facility, Hopewell Junction, New York*, August 23, 2019.

2.3 B330D (iPark)

Renovations were completed in 2019 in the northern portion of B330D for iPark's tenant, Crepini, which took occupancy of the space in the fall of 2019. The space is being used by Crepini for food processing and packaging operations. No other occupancy changes were noted by iPark on the first floor of B330D in 2019. Building occupancy information is shown on Figure 4.

The Crepini space is reportedly served by pre-existing air handling units and new air recirculation units that were installed during the renovation. Beyond that, iPark has not indicated that changes were made to HVAC settings in B330D in 2019.

The existing SSD system VE-1 in the northern portion of the building was expanded by IBM and put into operation in 2019 as described in Section 4.1 below. The area of influence of the expanded SSD system covers the Crepini tenant space. IAQ sampling conducted by iPark in the Crepini tenant space prior to occupancy and after start-up is described in Section 4.1.2.

2.4 B338 (iPark)

In 2019, iPark indicated its intention to re-occupy portions of B338, including for potential commercial uses. A subslab vapor and indoor air sampling program was subsequently completed by iPark to assess for the potential for soil vapor intrusion.

On June 18, 2019, GZA GeoEnvironmental of New York (GZA) conducted subslab vapor and IAQ testing in B338 on behalf of iPark. B338 was unoccupied at the time of sampling. Indoor air samples were collected at four locations co-located with new subslab vapor monitoring points. PCE was detected at each of the indoor air samples at concentrations ranging from 0.28 to 0.33 µg/m^3. TCE was detected at one of the four indoor air location at a concentration of 0.28 µg/m^3. PCE was detected in each of the subslab vapor samples at concentrations ranging from 104 to 1,010 µg/m^3. TCE was detected at one of the four subslab vapor locations at a concentration of 2.26 µg/m^3.

Results of the indoor air and subslab vapor sampling were provided to the Departments in a September 2019 report prepared by GZA.[4] A figure and data summary table from the report are included in Appendix B. GZA concluded that the potential exists for vapor intrusion into B338 based on elevated concentration of PCE in subslab vapor, and recommended that an evaluation be conducted to assess whether vapor intrusion mitigation is needed based on the final proposed tenant layout, and an evaluation of appropriate mitigation methods be conducted.

iPark will be installing an SSD system as a VI mitigation measure in B338 in 2020.

[4] GZA GeoEnviromental of New York, *Building 338 Sub-Slab Vapor Investigation, Former IBM Facility, Hopewell Junction, NY,* September 2019.

2.5 B339 (iPark)

In 2019, iPark indicated its intention to re-occupy B339, including for potential commercial use. The proposed use includes bakery manufacturing and packaging operations. The new tenant intends to occupy the space in early 2020. The building had been vacant for many years, and IAQ sampling had not been previously completed. Significant building renovations were conducted by iPark in the fall and winter of 2019 for the new tenant space, which will occupy the full building footprint. The renovation work included the installation of a new HVAC system for the building consisting of two RTUs and one ductless split unit.

In September 2019, Walden Environmental Engineering, PLLC, of Latham, New York (Walden) collected subslab soil, subslab vapor, and indoor air samples in B339 on behalf of iPark. Walden indicated that the subslab soil sample results meet the NYCRR Part 375-6.8(b) residential use soil cleanup objectives (SCOs). PCE was detected in one indoor air sample at a concentration of 1.08 µg/m^3. TCE was not detected above the laboratory reporting limit in any of the indoor air samples. PCE and TCE were detected at concentrations of up to 73.9 and 2.13 µg/m^3, respectively, in subslab vapor. Walden recommended sealing potential vapor entry pathways, such as floor cracks and penetrations, and installing a vapor mitigation system as a preventive measure to ensure protection against soil vapor intrusion. Results of the indoor air and subslab vapor sampling were provided to the Departments in an October 2019 report prepared by Walden.[5] A figure and data summary table from the report are included in Appendix B.

iPark submitted a vapor mitigation system design report to the Departments in November 2019.[6] As indicated in the report, the proposed vapor mitigation system was proposed as a preventive measure to ensure protection against soil vapor intrusion.

On December 2, 2019, Walden conducted IAQ testing on behalf of iPark after building renovations were complete and prior to occupancy. Indoor air samples were collected at seven locations while the HVAC was operating under occupied conditions. The proposed vapor mitigation system had not been installed at the time of IAQ sampling. PCE was detected in one indoor air sample at a concentration of 0.89 µg/m^3. TCE was not detected at any of the indoor air sample locations.

Results of the indoor air sampling were provided to the Departments in a December 2019 report prepared by Walden.[7] The Departments subsequently provided approval for occupancy in a December 13, 2019 letter to iPark. A figure and data summary table from the report are included in Appendix B.

iPark is planning to install the B339 vapor mitigation system in 2020.

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[5] Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019.

[6] Walden Environmental Engineering, PLLC, *Building 339 Vapor Mitigation System Basis of Design at iPark 84, Former IBM East Fishkill Facility,* November 7, 2019.

[7] Walden Environmental Engineering, PLLC, *Building 339, Jane Bakes, Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* December 2019.

2.6 B322 (GF)

In 2019, GF completed the demolition of the northern two-thirds of B322. The remaining southern portion of B322 contains an intermittently occupied telephone switch room, restrooms, hallways, and vacant space. Indoor air samples were collected in the intermittently occupied portion of B322 in October 2015,[8] at which time PCE and TCE were not detected above the analytical reporting limit. The recent infrastructure changes are not expected to negatively impact indoor air quality in the remaining portion of the building, which does not overlie the overburden or bedrock groundwater plume. However, IBM intends to collect screening-level indoor air samples using a field gas chromatograph / electron capture detector (GC-ECD) in the intermittently occupied areas in 2020. IBM may collect 8-hour indoor air samples if the screening results indicate indoor air concentrations have significantly increased since the building was last sampled in 2015.

3.0 IAQ SAMPLING REQUESTED BY DEPARTMENTS

The Departments requested that IBM collect IAQ samples in three buildings owned by GF in a July 26, 2018 comment letter to IBM on the 2017 VI Assessment Annual Report. The following sections provide a description of the Departments' request, IAQ sampling summary, and results for each building. The owner of the building is indicated in the section headings.

3.1 B320B (Global Foundries)

In its July 26, 2018 letter to IBM, the Departments required that indoor air samples be collected in the 2018-2019 heating season due to the persistence of low concentrations of vinyl chloride historically detected in the C4 clean room area.

On February 27, 2019, Sanborn Head collected indoor air samples on behalf of IBM at eight locations within the building, at locations that had been sampled previously at least once. To obtain samples under conservative conditions (i.e., minimal outside air exchange), the outside air dampers on the AHU with modulating dampers (HVAC-304) were set at minimum open position and not allowed to vary during sampling. Appendix C.1 presents the HVAC settings during the February 2019 sampling.

The results of the IAQ sampling were provided to the Departments in a May 2019 letter report.[9] A summary of the results is provided in Table 2, and the results for key VOCs are shown on Figure 5, along with previous historical sample results.

In general, the 2019 results for vinyl chloride were similar to previous sample results and ranged in concentration from non-detect to 0.31 µg/m^3.

A follow-up field reconnaissance was conducted on April 3, 2019 to assess factors that may have contributed to detections of PCE, TCE, and cis-1,2-dichloroethene (cis-1,2-DCE) at

[8] Sanborn, Head Engineering, P.C., *Data Transmittal for B322 Indoor Air Quality Testing, IBM's Former East Fishkill Facility, Hopewell Junction, New York*, January 2016.

[9] Sanborn, Head Engineering, P.C., *B320B Indoor Air Quality Data Summary Report, Former IBM East Fishkill Facility, Hopewell Junction, NY*, May 2019.

IA0705 that were significantly higher than historical sampling rounds. Follow-up indoor air screening was conducted using a field GC-ECD. As described in the previously referenced May 2019 letter report, the field reconnaissance and additional HVAC review did not reveal conditions that would explain VOC presence at IA0705. In addition, PCE and TCE were not detected with the GC-ECD during the April indoor air screening. IBM elected to collect a second 8-hour indoor air sample at IA0705 to confirm the initial results.

On June 5, 2019, Sanborn Head collected indoor air samples on behalf of IBM at two locations within the building, IA0705 and IA0738. Location IA0738 was added to provide additional spatial data in the area of IA0705. The outside air dampers on the HVAC units serving the areas being sampled do not modulate; therefore, no changes were made to the HVAC settings prior to sampling. Appendix C.2 presents the HVAC settings during the June 2019 sampling.

PCE, TCE, and cis-1,2-DCE were not detected above reporting limits in the samples collected at IA0705 and IA0738. The results of the June 2019 sampling were provided to the Departments in an August 2019 letter report.[10] A summary of the results is provided in Table 2, and the results for key VOCs are shown on Figure 5.

Based on the combined results of the field screening and sampling, the February 2019 concentrations of PCE, TCE, and cis-1,2-DCE at IA0705 appear to be anomalous. Based on that and the low concentrations of vinyl chloride, which were generally similar to historical results, no additional sampling is proposed in B320B.

3.2 B323 (Global Foundries)

In its July 26, 2018 letter to IBM, the Departments recommended indoor air monitoring be conducted in B323 to confirm that conditions have not changed since the last round of IAQ sampling performed in 2009, given that the building overlies the groundwater VOC plume.

On February 26, 2019, Sanborn Head collected indoor air samples on behalf of IBM at 12 locations within the building to update the prior sampling results from July 2009. To obtain samples under conservative conditions (i.e., minimal outside air exchange), the outside air dampers on the AHUs where they modulate were set at their minimum open position and not allowed to vary during sampling. A summary of the HVAC settings for the zones that were sampled is presented in Appendix C.3.

The results of the IAQ sampling are documented in a May 2019 letter report submitted to the Departments.[11] A summary of the results is provided in Table 3, and results of select VOCs are shown on Figure 6.

PCE was detected in only 2 of the 12 indoor air samples (IA0808 and IA0813), at a maximum concentration of 4.1 µg/m^3. TCE was detected in one sample collected from the northeastern portion of the building (IA0805) at a concentration of 0.19 µg/m^3. Vinyl chloride was

[10] Sanborn, Head Engineering, P.C., *B320B IAQ Re-Sampling Summary Report, Former IBM East Fishkill Facility, Hopewell Junction, NY*, August 2019.

[11] Sanborn, Head Engineering, P.C., *Indoor Air Quality Data Summary Report, Building 323, Former IBM East Fishkill Facility, Hopewell Junction, NY*, May 2019.

detected at concentrations ranging from 0.1 to 0.26 µg/m^3 in three samples collected from the southern portion of the building. The low-level detections of vinyl chloride are unaccompanied by the parent compounds PCE and TCE, suggesting that the vinyl chloride detects may be related to other background sources rather than vapor intrusion. These results are consistent with the July 2009 sampling results. Therefore, no additional indoor air sampling is proposed in B323.

3.3 B386 (Global Foundries)

In its July 26, 2018 letter to IBM, the Departments recommended indoor air monitoring be conducted in B386 to confirm that conditions had not changed since the last round of IAQ sampling performed in 2009, given that the building overlies the groundwater VOC plume.

On February 26, 2019, Sanborn Head collected indoor air samples on behalf of IBM at four locations within the building to update the prior sampling results from July 2009. The outside air dampers on the HVAC unit serving the area being sampled do not modulate; therefore, no changes were made to the HVAC settings prior to sampling. A summary of the HVAC settings for the zone that was sampled are presented in Appendix C.4.

The results of the IAQ sampling are documented in a May 2019 letter report submitted to the Departments.[12] A summary of the results is provided in Table 4, and results of select VOCs are shown on Figure 7.

Consistent with the 2009 sample results, PCE and its breakdown products were not detected above the laboratory RLs in the four indoor air samples. Therefore, no additional indoor air sampling is proposed in B386.

4.0 SUBSLAB DEPRESSURIZATION AND SOIL VAPOR EXTRACTION SYSTEMS

The following systems were in operation in 2019:

- An SSD system in the northern portion of Building 330D (designated as VE-1; footprint expanded in 2019);
- An SSD system in Building 310 (designated as VE-2);
- An SSD system in the Building 308/310 linkway (linkway / VE-2A);
- An exterior SVE system in Remediation Area A (designated as VE-3);
- An interim SSD system in the former Baseline Area of Building 330C (designated as VE-4);
- Two interim SSD systems in Building 330D (designated as VE-5 and VE-6); and

[12] Sanborn, Head Engineering, P.C., *Indoor Air Quality Data Summary Report, Building 386, Former IBM East Fishkill Facility, Hopewell Junction, NY*, May 2019.

- An SSD system in B330C (designated VE-7; started-up in 2019).

The primary purpose of the SSD systems is to mitigate the vapor intrusion pathway and secondarily provide VOC source reduction. The Area A SVE system was installed for supplemental VOC source reduction from a portion of a historical source area. The B330C and B330D interim SSD systems were installed to target the highest concentrations of PCE in subslab vapor and serve as provisional mitigation until permanent SSD systems are installed. Operations and performance summaries of the systems are provided below.

4.1 B330D SSD System

The B330D SSD system (VE-1; previously referred to as the 80K area system) was put into operation on October 6, 2010 as documented in a December 2011 report submitted to the Departments.[13] As discussed further in the 2016 Annual Report, the points of subslab vapor extraction were changed from the original five extraction ports in use since system startup to suction pit SP4001 on December 29, 2016. The purpose of the change was to decrease the energy consumption and physical footprint of the system, while maintaining a similar area of influence.

The coverage of the VE-1 system was expanded in 2019 to include more of the Crepini tenant space, as discussed in the following sections. The expanded VE-1 system is also referred to as the B330D North SSD system.

4.1.1 Expanded VE-1 SSD System Installation and Start-Up

In November and December 2018, IBM installed a new SSD system equipment enclosure on the northwest side of B330D. The new equipment enclosure was subsequently connected to the existing SSD vacuum piping for VE-1 and began operation on January 11, 2019.

VE-1 was expanded into the Crepini tenant space in May and June 2019 by connecting the interior vacuum piping to two new extraction ports in the northeast area of the building (EP4017 and EP4023). The expanded SSD system began operation on June 26, 2019 and was documented in a December 2019 report[14] submitted to the Departments.

Cross-slab differential pressure readings were recorded in B330D on December 18, 2019. These readings, along with the applied vacuum and flow rates at the extraction locations, and the inferred extent of subslab depressurization, are shown on Figure 8. The influence of the two interim SSD systems, located in the central and southern portions of B330D, is also depicted on Figure 8, given that all three systems were operating at the time. The interim SSD systems are described in subsequent sections.

[13] Sanborn, Head Engineering, PC, *Performance Monitoring and Confirmatory Sampling Results – Building 330D VOC Source Assessment, Hopewell Junction, NY, IBM East Fishkill Facility,* December 2011.

[14] Sanborn, Head Engineering, P.C., *Subslab Depressurization System Completion and Startup Report, Building 330D North System, Former IBM East Fishkill Facility, Hopewell Junction, NY*, December 2019.

4.1.2 IAQ Sampling and Results

On August 26, 2019, approximately two months following start-up of the expanded VE-1 system, Walden conducted IAQ testing in the Crepini tenant space on behalf of iPark.

As described in Walden's summary report,[15] indoor air samples were collected at 11 locations while the SSD system was operating and the HVAC was operating under occupied conditions. PCE was detected in each indoor air sample at concentrations ranging from 1.3 to 7.3 µg/m^3. TCE was detected at four of the indoor air sample locations at concentrations ranging from 0.23 to 0.56 µg/m^3.

In a September 27, 2019 letter to iPark, the Departments noted that methylene chloride was detected in indoor air above typical background concentrations and requested that a second round of indoor air sampling be conducted during the 2019/2020 heating season.

On December 27, 2019, Walden conducted a second round of IAQ testing in the Crepini tenant space on behalf of iPark. As described in Walden's summary report.[16] indoor air samples were collected at two locations where methylene chloride was previously detected in indoor air. Methylene chloride was not detected in either of the December 2019 indoor air samples, and Walden concluded that the August 2019 results were anomalies potentially associated with cleaning agents / aerosol products or newly installed furniture. The Departments issued a letter to iPark on January 22, 2020 indicating that no additional indoor air sampling is needed in this space at this time based on the December 2019 indoor air results.

Sample location figures and data summary tables from Walden's reports are included in Appendix B for reference.

4.1.3 Operations and Performance Monitoring

The SSD system is designed for continuous operation and is equipped with sensors, alarms (e.g., low vacuum, power outage), and an autodialer that automatically communicates such alarms to the appropriate personnel. There were no significant shutdown periods in 2019, as was confirmed by our review of the 2019 operation log sheets. To ensure its ongoing effectiveness, IBM conducts periodic monitoring of operations and performance. Operations monitoring includes periodic review of system components, the results of which are recorded on a system log sheet. Monitoring of vacuum field conditions (cross-slab differential pressure) was also conducted to verify adequate subslab depressurization, as described in Section 4.1.1. Based on our review of the operations log sheets, cross-slab differential pressure measurements, and IAQ sampling, it is our opinion that the SSD system operated in accordance with its design objectives.

[15] Walden Environmental Engineering, PLLC, *Indoor Air Quality Testing Summary Report, iPark 84, Former IBM East Fishkill Facility, Building 700 (Formerly 330D), Crepini Space,* September 16, 2019.

[16] Walden Environmental Engineering, PLLC, *Building 700 (Formerly 330D), Crepini Space, Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* January 3, 2020.

Performance monitoring also includes sampling of extracted and treated vapor to track VOC mass removal and the need for change-outs of the granular activated carbon (GAC) treatment units. System influent vapor samples were collected monthly and analyzed for VOCs. Approximately 810 pounds of PCE were removed from the subsurface during 2019, bringing the total PCE mass removed since the October 2010 system startup to approximately 17,200 pounds. A plot of mass removal rate and cumulative mass removed is shown on Exhibit 4.1 below.

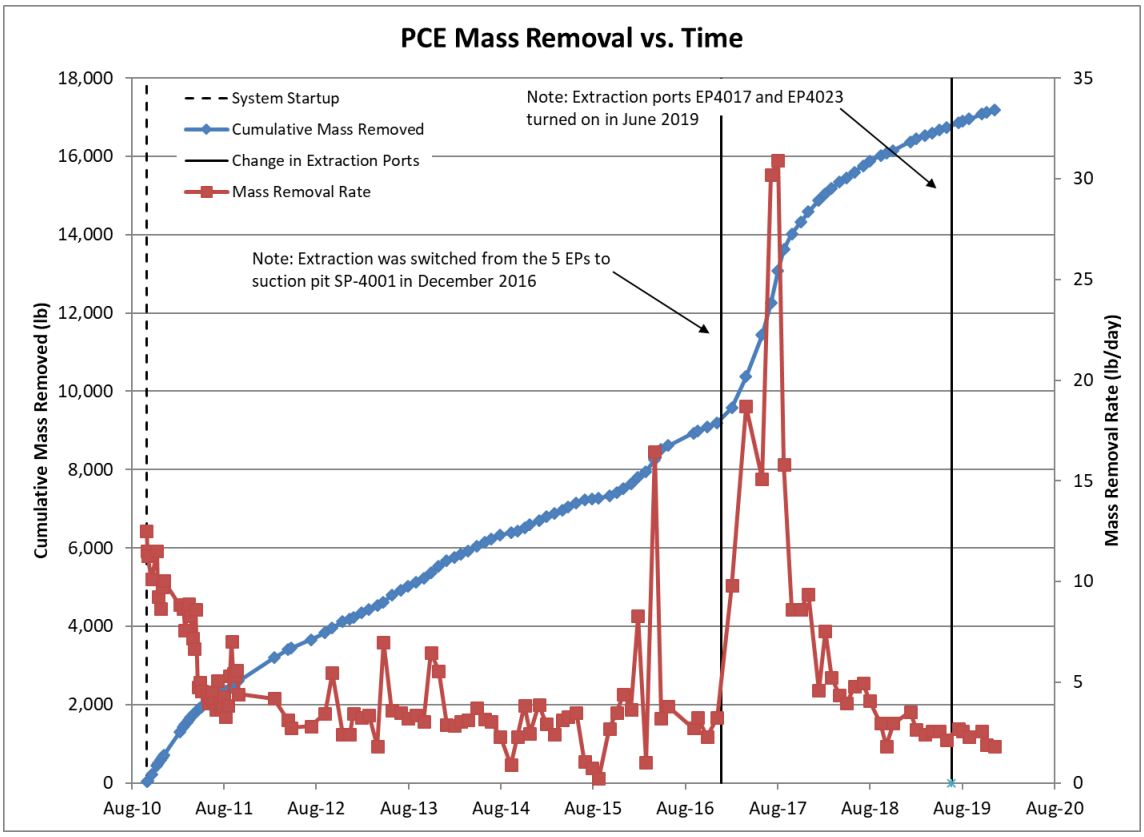

Exhibit 4.1 – VE1 PCE Mass Removal vs. Time

4.2 B310 SSD System

The following sections summarize VI-related work conducted by IBM in B310 in 2019.

4.2.1 SSD System VE-2 Operations and Performance Monitoring

The B310 SSD system (VE-2) was put into operation in February 2012 as documented in a May 2013 report submitted to the Departments.[17] Please note that the area served by VE-2 was vacant in 2019.

The SSD system is designed for continuous operation and is equipped with sensors, alarms (e.g., low vacuum, power outage), and an autodialer that automatically communicates such

[17] Sanborn, Head Engineering, P.C., *Performance Monitoring and Confirmatory Sampling Results – Building 310 VOC Source Assessment, IBM East Fishkill Facility, Hopewell Junction, NY*, May 2013.

alarms to the appropriate personnel. To ensure its ongoing effectiveness, IBM conducts periodic monitoring of operations and performance. Operations monitoring includes periodic review of system components, the results of which are recorded on a system log sheet. Performance monitoring involves sampling of extracted and treated vapor to track VOC mass removal and the need for change-outs of the GAC treatment units. Monitoring of vacuum field conditions (cross-slab differential pressure) was also conducted to verify adequate subslab depressurization.

Our review of the 2019 operations log sheets indicated that the system operated consistently without any significant shutdowns. Cross-slab differential pressure readings within B310 were recorded on December 16, 2019. These readings, along with the applied vacuums and flow rates at each of the operating extraction ports, and the inferred extent of subslab depressurization, are shown on Figure 9. Based on our review of the operations log sheets and the cross-slab differential pressure measurements, it is our opinion that the SSD system operated in accordance with its design objectives.

System influent vapor samples were collected monthly and analyzed for VOCs. Approximately 40 pounds of PCE were removed from the subsurface during 2019, bringing the total mass of PCE removed since the February 2012 system startup to approximately 5,700 pounds. A plot of mass removal rate and cumulative mass removed since system start-up is shown on Exhibit 4.2 below.

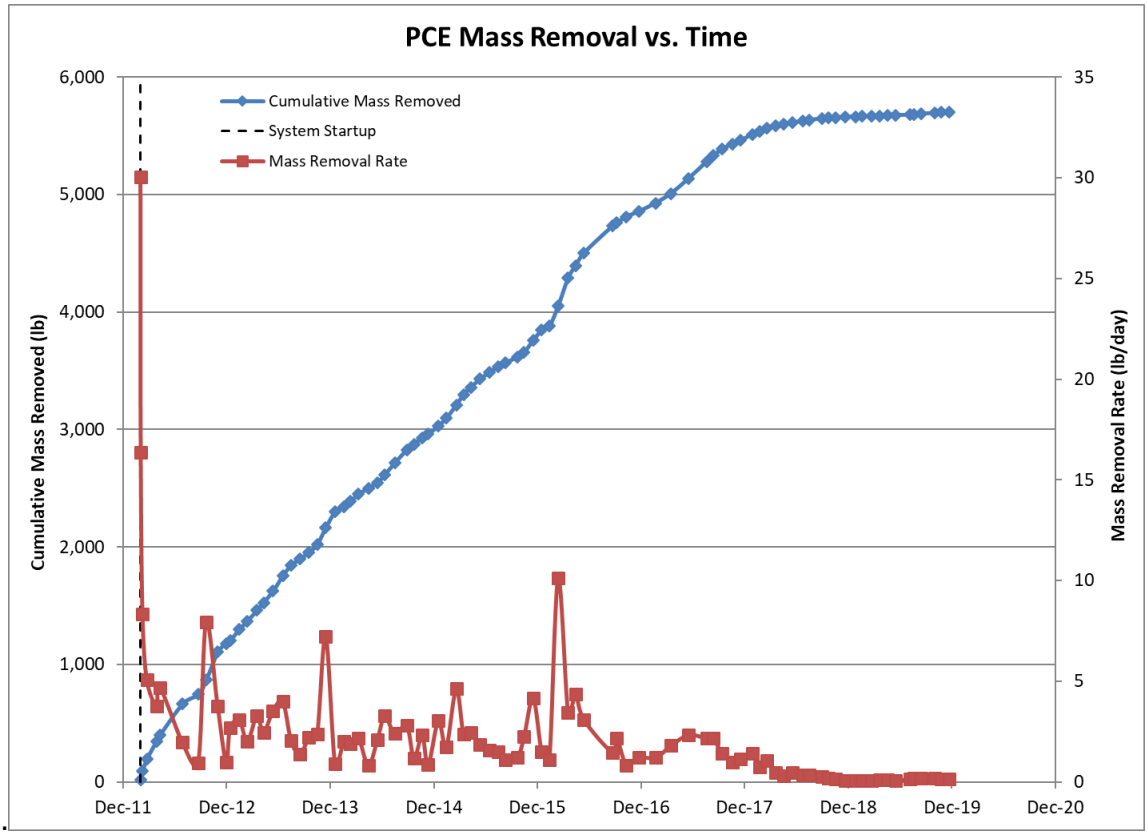

Exhibit 4.2 – VE-2 PCE Mass Removal vs. Time

4.2.2 Southern SSD System Pilot Testing

SSD pilot testing activities were conducted in June 2019 and September 2019 in the southern portion of B310, including the Model Shop and the vacant area to its north, as documented in a November 2019 report[18] submitted to the Departments. A design basis for the SSD and treatment system was developed from the results of pilot testing. The design basis is intended to achieve subslab depressurization beneath the southern portion of B310, including the occupied Model Shop area and the currently vacant area north of the partitioning wall.

Construction of the SSD system began in the first quarter of 2020, with start-up targeted in the second quarter of 2020.

After the startup of the SSD system, IBM intends to conduct system performance monitoring and indoor air sampling, the results of which will be submitted to the Departments in a report of construction completion and startup.

4.2.3 SSD Pilot Testing in Areas North and West of VE-2

SSD pilot testing was completed in the vacant areas of B310 to the north and west of SSD system VE-2 in December 2019, the results of which were submitted to the Departments in a March 2020 report.[19] The pilot testing results indicated that SSD using conventional extraction ports does not appear to be a feasible means of VI mitigation in the area to the north of VE-2.

Although pilot testing indicated that SSD may be feasible in the area to the west of VE-2, subslab vapor and indoor air screening data from that area suggest that SSD may not significantly reduce indoor air concentrations, which are expected to be acceptable without implementing SSD in that area.

Therefore, further testing and design of SSD to the north and west of VE-2 was not proposed. Re-sampling of indoor air will be conducted upon completion of building renovations and prior to occupancy.

4.3 B308/B310 Linkway SSD System

In September and October 2015, an SSD system (VE-2A) was constructed within the linkway connecting Building 308 and Building 310 as a supplemental VI mitigation measure. The system was put into operation on October 7, 2015, as documented in a February 2016 report[20] submitted to the Departments. In 2018, the linkway was walled-off at its entry to B308; thus, the linkway is no longer in use.

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[18] Sanborn, Head Engineering, PC, *Subslab Depressurization Conceptual Design Report – Building 310, Former IBM East Fishkill Facility, Hopewell Junction, NY*, November 22, 2019.

[19] Sanborn, Head Engineering, PC, *Subslab Depressurization Pilot Testing Summary Report, Northwest Area of Building 310, Former IBM East Fishkill Facility, Hopewell Junction, NY*, March 2020.

[20] Sanborn, Head Engineering, PC, *Subslab Depressurization System Startup Report – Building 308/Building 310 Linkway, Former IBM East Fishkill Facility, Hopewell Junction, NY*, February 2016.

The SSD system consists of three vapor extraction ports each connected to dedicated fans mounted to the north exterior wall of the linkway. Soil vapor collected from each individual extraction port is discharged directly to the atmosphere through an exhaust stack extending above the linkway roofline.

Cross-slab differential pressure readings were recorded in the linkway on December 18, 2019. At this time, Fan #3 connected to EP-213 was found to be off due to a mechanical malfunction. As a result, and as shown on Figure 10, the inferred extent of vacuum influence was limited to the eastern portion of the linkway. It is expected that sufficient depressurization of the subslab across the width of the eastern portion of the linkway (north-south direction) is present based on the cross-slab differential pressure response observed along the length of the linkway at distances greater than the width of the linkway.

The system is equipped with an alarm that provides notification if the fans shut down. Each of the fans connected to the extraction ports shut down periodically throughout the year during extremely cold weather or due to temporary power outages. However, fans would only remain off for no more than a day before returning to normal operation. As noted above, Fan #3 in the linkway, which is connected to EP-213, was noted to have malfunctioned and inoperable due to cold weather during the December 2019 monitoring round. Fan #3 is anticipated to be replaced in the second quarter of 2020.

Overall, the linkway SSD system is meeting its design objectives of depressurizing the subslab and preventing VOC vapors from migrating into indoor air. Cross-slab differential pressure measurements will continue to be collected on a yearly basis to assess the continued performance of the system.

4.4 Area A SVE System

An exterior SVE system (VE-3) was installed during the second quarter of 2015 to address the presence of VOCs, primarily PCE, in soil vapor located in Remediation Area A, as documented in a February 2016 report[21] to NYSDEC. The SVE system has operated from the spring to fall due to the potential for excessive condensate generation in the exposed aboveground pipe network and freezing in cold weather. In 2019, the system was re-started on April 29, 2019 and was shut down for the winter on October 21, 2019.

The SVE system consists of six soil vapor extraction wells, and a blower and treatment system that are housed in a shipping container located along the east side of Building 310, within Area A. The extraction wells (SDV-1, 3, 5, 6, 7, 8) are screened in the lower portion of the soil fill at a depth of approximately 7.5 to 10 feet below ground surface (bgs). Only three wells (SDV-5, 6, and 8) operated in 2019 because they best met the objectives of achieving the greatest mass removal compared to other wells while attaining a reasonable extent of vacuum influence.

[21] *Sanborn, Head Engineering, PC, Installation and Performance Monitoring Report – Area A Pilot SVE System, Hopewell Junction, NY, Former IBM East Fishkill Facility,* February 2016.

Subsurface differential pressure readings were recorded within Area A just prior to system shut down in October 2019. Figures 11 and 12 show the resulting inferred extent of subsurface vacuum at depths of 5 ft and 10 ft bgs, respectively. Also shown on Figures 11 and 12 are the applied vacuum and air flow rate at each extraction well.

To estimate the VOC mass removed by the system, process vapor samples were collected from the influent point of the GAC treatment train a total of six times in 2019. Monitoring for VOC breakthrough of the lead and lag GAC units was also conducted. Breakthrough of the GAC vessels was not observed in 2019. During shutdown activities, the GAC vessels were capped and kept within the shipping container to be used in 2020.

The plot in Exhibit 4.3 below shows PCE mass removal rates and cumulative mass removal during the 2015 through 2019 operating periods. A total of approximately 41 pounds of PCE were removed from May through October 2019, bringing the total PCE mass removed since the May 2015 system startup to approximately 490 pounds.

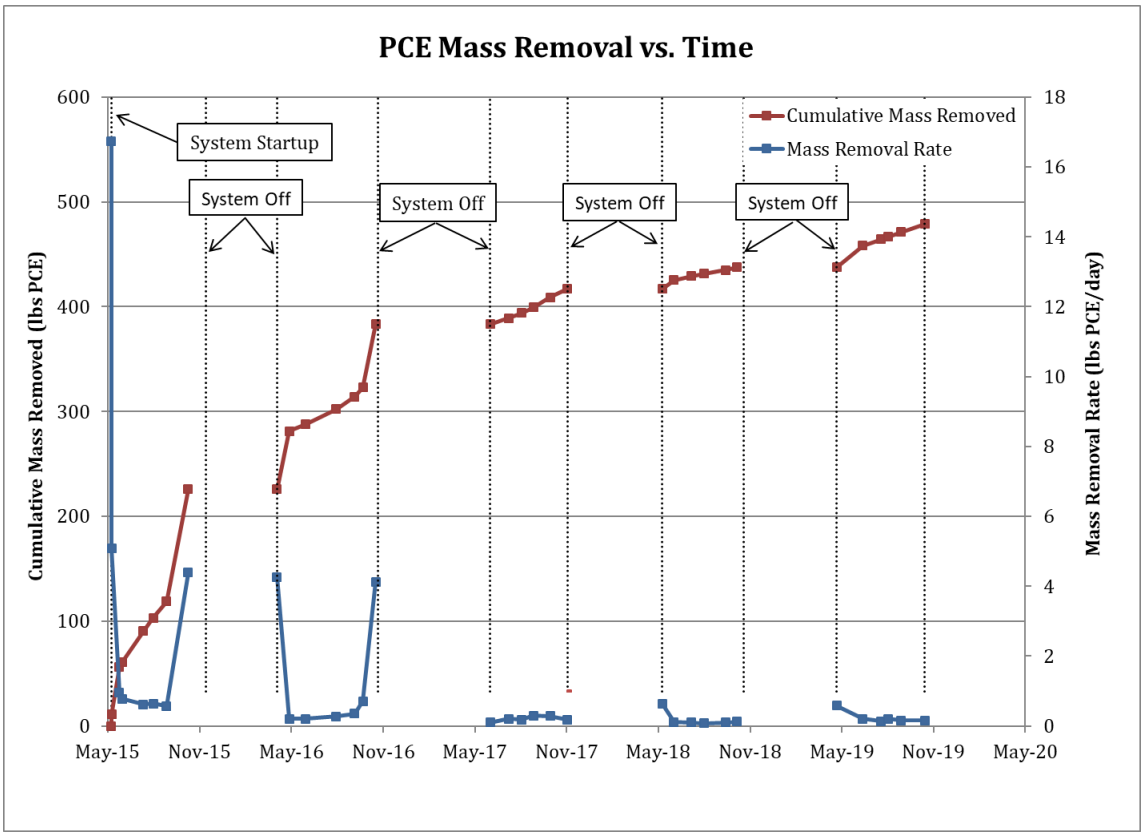

Exhibit 4.3 – VE-3 PCE Mass Removal vs. Time

The system is equipped with an alarm that provides notification if the system shuts down. There were no significant shutdown periods in 2019. Routine short-term (less than a day) shutdowns were associated with managing condensate accumulation in the knockout tank.

Overall, the SVE system met its design objectives of reducing PCE source mass from the unsaturated subsurface. Given the reasonably successful performance of the system in

removing mass, the resumption of system operations is planned for 2020. Future operations will be re-evaluated after that time.

4.5 B330C Interim SSD System

The B330C interim SSD system (VE-4) was put into operation on March 22, 2016 as documented in a July 2016 report submitted to the Departments.[22]

The SSD system is designed for temporary operation until a permanent SSD system is put into operation. To ensure its effectiveness, IBM conducts periodic monitoring of operations and performance. Operations monitoring includes periodic review of system components, the results of which are recorded on a system log sheet. Performance monitoring involves sampling of extracted and treated vapor to track VOC mass removal and the need for change-outs of the GAC treatment units.

Our review of the 2019 operations log sheets indicated that the system operated consistently without any significant shutdowns. Cross-slab differential pressure readings were recorded on December 18, 2019. These readings, along with the applied vacuums and flows at the operating extraction ports, and the inferred extent of subslab depressurization, are shown on Figure 13. The influence of the new permanent SSD system, located in the southern portion of B330C, is also depicted on Figure 13 given that the two systems were operating at the time. The permanent SSD system is described in Section 4.7. Based on our review of the operations log sheets and the differential pressure measurements, it is our opinion that the VE-4 SSD system operated in accordance with its design objectives.

To estimate the PCE mass removed by the system, influent vapor samples were collected approximately every month. The plot in Exhibit 4.4 below shows PCE mass removal rates and cumulative mass removal since startup. Approximately 56 pounds of PCE were removed in 2019, bringing the total PCE mass removed since the March 2016 system startup to approximately 380 pounds.

[22] Sanborn, Head Engineering, P.C., *Subslab Depressurization System, Completion and Startup Report (Phase I), Building 330C, Former IBM East Fishkill Facility, Hopewell Junction, New York, July 2016.*

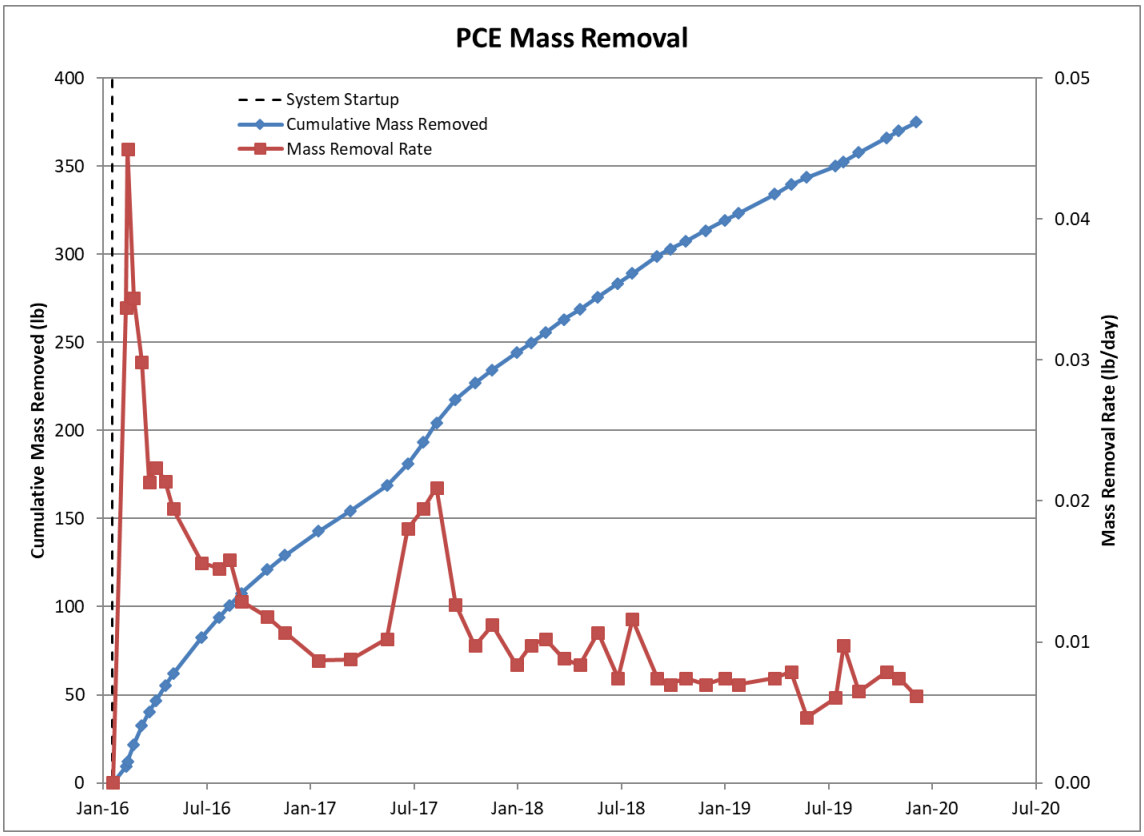

Exhibit 4.4 – VE-4 PCE Mass Removal vs. Time

The system is equipped with an alarm that provides notification if the system shuts down. There were no significant shutdown periods in 2019, as was confirmed by our review of the 2019 operations log sheets.

Based on our review of the operations log sheets and the differential pressure measurements, it is our opinion that the interim SSD system operated in accordance with its design objectives. IBM intends to continue operation of the interim SSD system in its current configuration as a means of reducing VOC vapor entry into the building until a permanent SSD system is constructed. The first phase of a permanent system was constructed in 2019, as described in Section 4.7.

4.6 B330D Interim SSD Systems

The B330D interim SSD systems (VE-5 and VE-6) were put into operation in February 2017 as documented in a May 2017 report submitted to the Departments.[23]

The SSD system installed in the central portion of the building (VE-5) began extracting subslab vapor on February 15, 2017, while the system installed in the southeastern portion of the building (VE-6) began extracting subslab vapor on February 21, 2017.

[23] *Report of Interim Measures and Indoor Air Quality Testing – Building 330D, Former IBM East Fishkill Facility, Hopewell Junction, New York*, Sanborn, Head Engineering, P.C., May 2017.

The SSD systems are designed for temporary operation until the permanent SSD system is put into operation. To ensure their effectiveness, IBM conducts periodic monitoring of operations and performance. Operations monitoring includes periodic review of system components, the results of which are recorded on a system log sheet. Performance monitoring involves sampling of extracted and treated vapor to track VOC mass removal and the need for change-outs of the GAC treatment units.

Our review of the 2019 operations log sheets indicated that the systems operated consistently without any significant shutdowns. Cross-slab differential pressure readings were recorded on December 18, 2019. These readings, along with the applied vacuums and flows at the operating extraction ports, and the inferred extent of subslab depressurization (interim and permanent systems together), are shown on Figure 8.

To estimate the PCE mass removed by the two interim systems, influent vapor samples were collected approximately every month. The plots in Exhibits 4.5 and 4.6 below show total PCE mass removal rates and cumulative mass removals since startup in February 2017. Approximately 120 and 20 pounds of PCE were removed by VE-5 and VE-6, respectively, in 2019, bringing the total PCE mass removed since the March 2017 system startups to approximately 720 and 650 pounds.

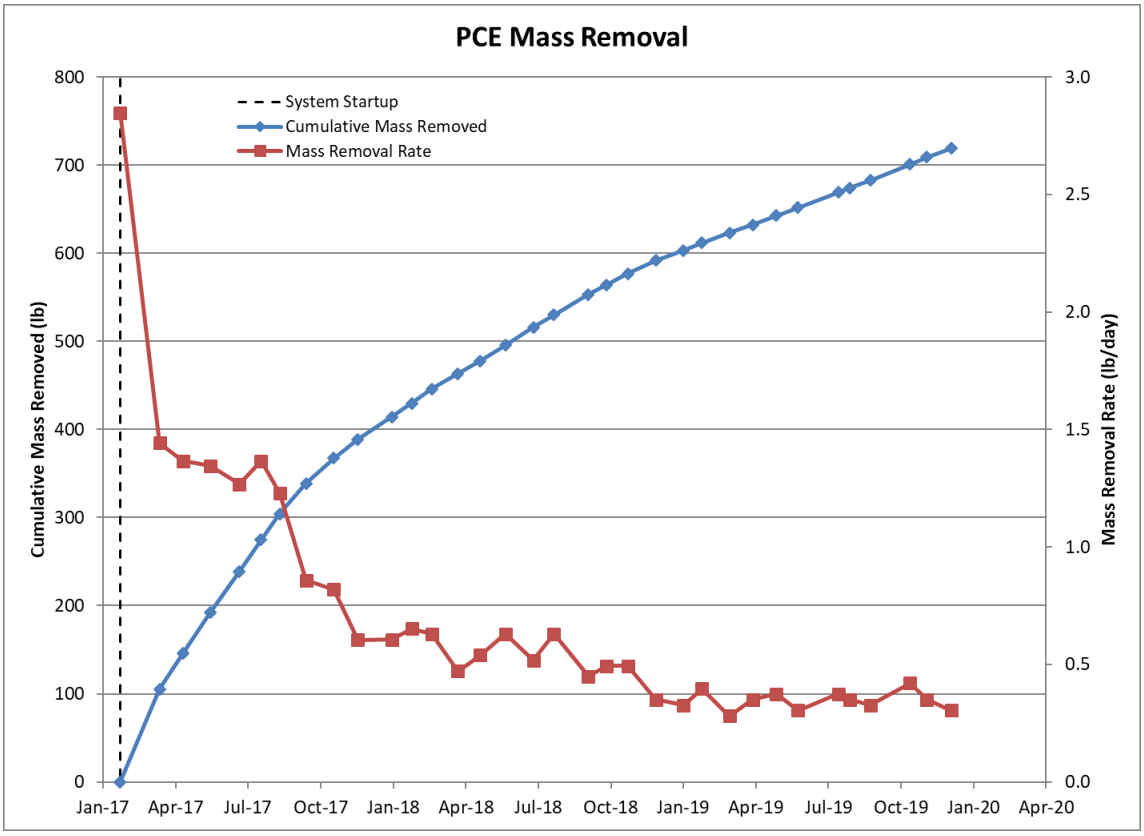

Exhibit 4.5 – VE-5 PCE Mass Removal vs. Time

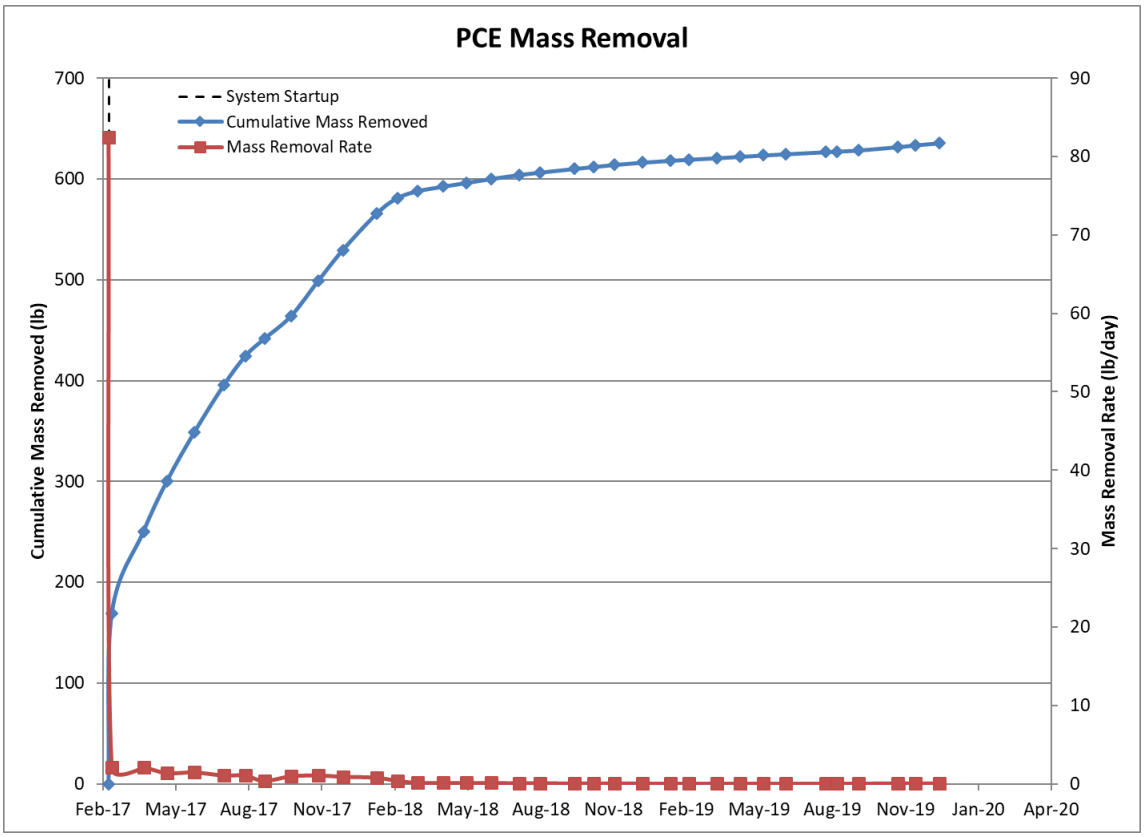

Exhibit 4.6 – VE-6 PCE Mass Removal vs. Time

The systems are equipped with alarms that provide notification if the systems shut down. There were no significant shutdown periods in 2019, as was confirmed by our review of the 2019 operations log sheets. Routine short-term (less than a day) shutdowns were associated with managing water accumulation in the knockout tank.

Based on our review of the operations log sheets and the cross-slab differential pressure measurements, it is our opinion that the interim SSD systems are operating in accordance with their design objectives. IBM intends to continue operation and maintenance of the interim SSD systems in their current configuration as a means of reducing VOC vapor entry into the building until the permanent SSD system is constructed.

4.7 B330C SSD System

The permanent SSD system in B330C will be constructed in two phases to accommodate ongoing building renovations by iPark. The first phase of the permanent SSD system (VE-7) was constructed in March and April 2019 and put into operation on April 30, 2019, as documented in an October 2019 report submitted to the Departments.[24] The layout of the SSD system is shown on Figure 13 and covers the Country Produce and Cozzini tenant spaces.

[24] Sanborn, Head Engineering, P.C., *Report of Interim Measures and Indoor Air Quality Testing, Building 330C, Former IBM East Fishkill Facility, Hopewell Junction, New York, July 2016.*

4.7.1 IAQ Sampling and Results

On July 25, 2019, approximately three months following startup of the SSD system, Walden conducted IAQ testing in the Country Produce tenant space on behalf of iPark.

As described in Walden's report,[25] indoor air samples were collected at 12 locations while the SSD system was operating and the HVAC was operating under occupied conditions. PCE was detected in each indoor air sample at concentrations ranging from 1.5 to 3.1 µg/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 µg/m^3. A sample location figure and data summary table from Walden's report are included in Appendix B for reference.

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.

4.7.2 Operations Maintenance and Performance Monitoring

The SSD system is designed for continuous operation and is equipped with sensors, alarms (e.g., low vacuum, power outage), and an autodialer that automatically communicates such alarms to the appropriate personnel. To ensure its ongoing effectiveness, IBM conducts periodic monitoring of operations and performance. Operations monitoring includes periodic review of system components, the results of which are recorded on a system log sheet. Performance monitoring involves sampling of extracted and treated vapor to track VOC mass removal and the need for change-outs of the GAC treatment units. Monitoring of vacuum field conditions (cross-slab differential pressure) was also conducted to verify adequate subslab depressurization.

Our review of the 2019 operations log sheets indicated that the system operated consistently without any significant shutdowns. Cross-slab differential pressure readings within B330C were recorded on December 18, 2019. These readings, along with the applied vacuums and flows at each of the operating extraction ports, and the inferred extent of subslab depressurization (interim and permanent systems together), are shown on Figure 13. Based on our review of the operations log sheets and the cross-slab differential pressure measurements, it is our opinion that the SSD system operated in accordance with its design objectives.

System influent vapor samples were collected monthly and analyzed for VOCs. Approximately 40 pounds of PCE were removed from the subsurface since the system start-up in April 2019. A plot of mass removal rate and cumulative mass removed since system start-up is shown on Exhibit 4.7 below.

[25] Walden Environmental Engineering, PLLC, *Building 775 (Former 330C) – Country Produce Space Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* August 2019.

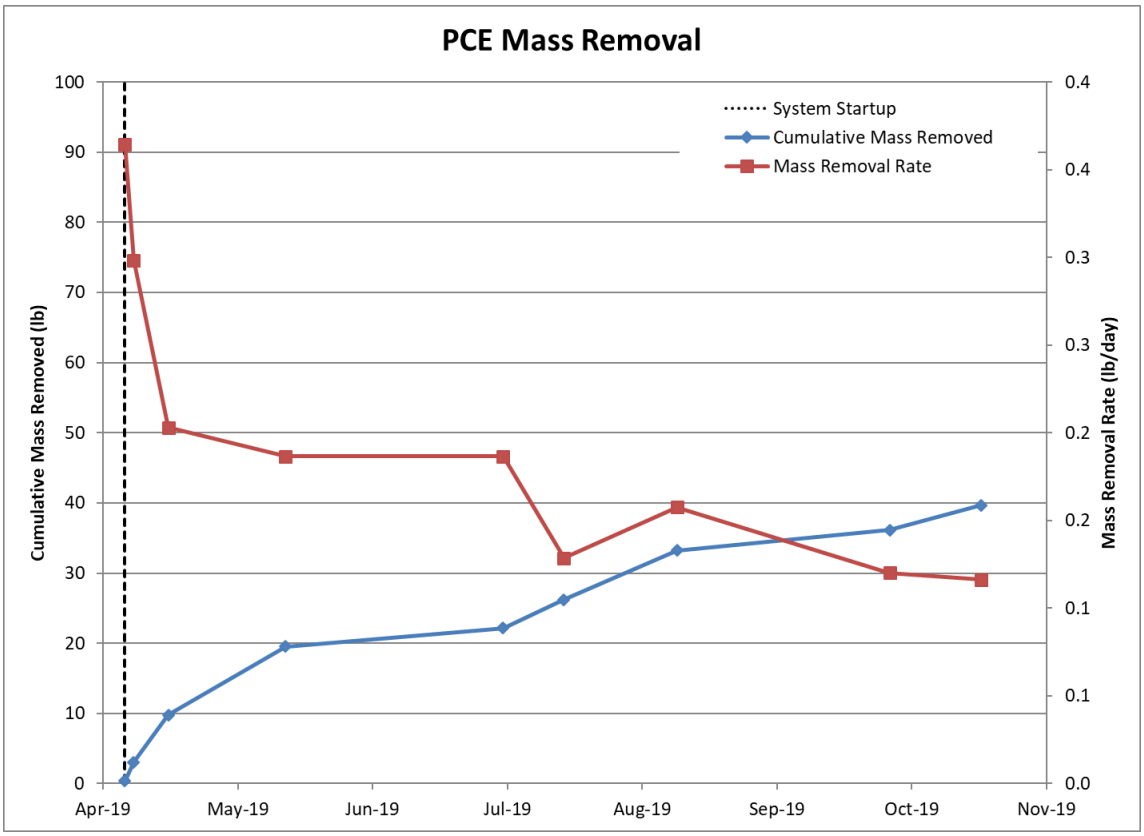

Exhibit 4.7 – VE-7 PCE Mass Removal vs. Time

The system is equipped with alarms that provide notification if the systems shut down. There were no significant shutdown periods in 2019, as was confirmed by our review of the 2019 operations log sheets.

Based on our review of the operations log sheets, the cross-slab differential pressure measurements, and IAQ sampling results, it is our opinion that the SSD system is operating in accordance with the design objectives.

5.0 UPCOMING ACTIVITIES

For buildings that were the focus of the VI RFI Work Plan, IBM will coordinate and communicate with GF and iPark to monitor and maintain the HVAC operating conditions necessary for VI mitigation in routinely occupied portions of the buildings. It is GF's and iPark's responsibility to communicate planned changes to occupancy or HVAC conditions to IBM, so that IBM can assess whether additional IAQ testing is warranted at that time.

IBM is moving forward with the construction and installation of a second SSD system located in the southern portion of B310, which is anticipated to be completed in second quarter of 2020.

IBM is moving forward with the construction and installation of the second phase of the permanent SSD system in B330C, which is anticipated to be completed in the second quarter of 2020. In addition, iPark submitted a design report to the Departments for an SSD system

in the Sloop commercial tenant space of B330C,[26] and construction of that system is expected to occur in 2020.

IBM is moving forward with the design and construction of a permanent SSD system for B330D. It is anticipated that the central (including VE-5) extraction ports will be connected to the existing VE-1 system in the third quarter of 2020. The permanent SSD system for the southern (including VE-6) portion of the building is anticipated to be completed later in 2020 or 2021.

iPark is planning to construct SSD systems in B338 and B339 for commercial tenants in 2020, in accordance with design reports submitted to the Departments.[27,28]

\\conserv1\shdata\2900s\2999.06\Source Files\202005 2019 Annual Report\20200518-VIAnnualRpt-2019.docx

[26] GZA GeoEvironmental of New York, *Full Scale Sub-Slab Depressurization (SSD) System Design Report, Sloop Brewery, Former IBM East Fishkill Facility, Hopewell Junction, New York, August 2019.*

[27] Walden Environmental Engineering, PLLC, *Building 730 (Formerly B338), Vapor Mitigation Plan, iPark 84, Former IBM East Fishkill Facility, February 2020.*

[28] Walden Environmental Engineering, PLLC, *Building 339 Vapor Mitigation System, Basis of Design, iPark 84, Former IBM East Fishkill Facility, November 2019 - Revised.*

TABLES

Table 1
VI RFI Work Plan Building Status
Vapor Intrusion Assessment - 2019 Annual Report
Former IBM East Fishkill Facility
Hopewell Junction, New York

Building	Building Current Owner	2019 Activities Completed	Regulatory Status
300	Global Foundries	None	No further assessment - March 13, 2013 Department letter
308	National Resources (iPark East Fishkill I LLC)	Continued operation of SSD system in linkway between Buildings 308 and 310. Door closed from linkway to B308.	Departments concur in September 9, 2016 letter that the linkway SSDS is meeting its design objectives.
309	Global Foundries	None	Updated indoor air sampling recommended by Departments when TCE is no longer used or stored in building - July 26, 2018 Department letter. No further assessment - March 13, 2013 Department letter (based on TCE use/storage)
310	National Resources (iPark East Fishkill I LLC)	Continued operation of SSD system; Continued operation of exterior SVE system in Area A (May through October 2019). SSD pilot testing performed in southern portion of building, including Model Shop. SSD pilot testing and indoor air screening performed in northwestern portion of building.	Departments approved conceptual design for southern SSDS in December 20, 2019 letter.
316	Global Foundries	None	No further assessment - March 13, 2013 Department letter
320B	Global Foundries	IAQ sampling performed in February and June 2019. IAQ Reports submitted to Departments on May 16, 2019 and August 12, 2019.	Updated indoor air sampling requested by Departments in 2018-2019 heating season (July 26, 2018 Department letter). IAQ sampling subsequently completed and associated reports submitted in 2019.
322	Global Foundries	None - Building undergoing partial demolition (completed mid-2019)	January 2016 IAQ report approved - June 21, 2018 Department letter No further assessment - March 13, 2013 Department letter (based on unoccupied status)
323/323A	Global Foundries	IAQ sampling performed February 2019. IAQ Report submitted to Departments on May 16, 2019.	Indoor air monitoring program recommended by Departments (July 26, 2018 Department letter). IAQ sampling subsequently completed and associated report submitted in 2019. No further assessment - March 13, 2013 Department letter
330C	National Resources (iPark East Fishkill LLC)	Continued operation of interim SSD system; Completed Phase I construction of permanent SSD system. SSDS Start-Up report submitted on October 31, 2019. SSD pilot testing completed for SSD system in Sloop tenant space. SSD System Design Report Addendum submitted on November 19, 2019 (iPark). IAQ sampling performed in Country Produce space in July 2019. IAQ Report submitted to Departments on August 22, 2019. (iPark)	Departments requested a revised SSD System Design report to include additional post-mitigation indoor air sampling in Sloop - February 7, 2020 Department letter. No additional indoor air sampling necessary for the Country Produce space to be occupied - August 28, 2019 Department letter.
330D	National Resources (iPark East Fishkill LLC)	Expansion and continued operation of SSD system in northern area; continued operation of two interim SSD systems. IAQ sampling performed in Crepini space in August and December 2019. IAQ Reports submitted to Departments September 2019 and January 2020. (iPark)	B330D North SSDS startup report approved by Departments - January 22, 2020 letter. No further assessment in Crepini space - January 22, 2020 Department letter.
334	National Resources (iPark East Fishkill LLC)	None	No further assessment - March 13, 2013 Department letter
338	National Resources (iPark East Fishkill LLC)	Vapor intrusion investigation performed in June 2019. Summary report submitted to Departments in September 2019. (iPark)	Departments request soil vapor intrusion investigation once renovations are complete and prior to building occupancy - September 12, 2019 Department letter. No further assessment - March 13, 2013 Department letter (based on HVAC conditions in-place at the time)
339	National Resources (iPark East Fishkill LLC)	Vapor intrusion investigation performed in December 2019. Summary report submitted to Departments on December 6, 2019. (iPark)	B339 tenant space can be occupied - December 13, 2019 Department letter
386	Global Foundries	IAQ sampling performed February 2019. IAQ Report submitted to Departments on May 16, 2019.	No additional actions needed to address exposures at this time - July 29, 2019 Department letter No further assessment - March 13, 2013 Department letter

Notes
1. 2019 activities listed above were conducted by IBM unless otherwise indicated in the description (i.e., "(iPark)").
2. 'Departments' collectively refers to the New York State Department of Environmental Conservation and Department of Health.
Abbreviations:
SSD = Subslab depressurization
SVE = Soil vapor extraction
HVAC = Heating, ventilating, and air conditioning
IAQ = Indoor air quality

Table 2
Summary of 8-Hour Indoor Air Analytical Results - B320B
Vapor Intrusion Assessment - 2019 Annual Report
Former IBM East Fishkill Facility
Hopewell Junction, New York

Analyte	Field Sample Name	AA0712			AA0712			IA0700			IA0701			IA0702			IA0704			IA0705			IA0705			IA0705 Dup			IA0708			IA0709			IA0710			IA0710 Dup			IA0738			Field Blank			Field Blank		
	Collection Date	2/27/2019			6/5/2019			2/27/2019			2/27/2019			2/27/2019			2/27/2019			2/27/2019			6/5/2019			6/5/2019			2/27/2019			2/27/2019			2/27/2019			2/27/2019			6/5/2019			2/27/2019			6/5/2019		
	Units	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias
Acetone	µg/m3	5.4			18			11			8.8			14			24			13			15			13			7.2			8.6			9.2			13			14			2.5	U		5.2	U	
Benzene	µg/m3	0.58			0.52	U		0.58			0.51			0.58			0.58			0.52			0.54	U		0.52	U		5.9			0.54	U		0.56			0.58			0.51	U		0.68	U		0.69	U	
Carbon tetrachloride	µg/m3	0.48			0.49			0.48			0.43			0.46			0.45			0.44			0.45			0.47			0.46			0.43			0.47			0.45			0.42			0.27	U		0.27	U	
CFC113 (Ethane, 1,1,2-trichloro-1,2,2-trifluoro-)	µg/m3	1.2	U		1.2	U		5.6			2.4			1.4			4.4			9.9			1.3	U		1.2	U		4.6			6.8			1.2	U		1.2	U		1.2	U		1.6	U		1.7	U	
Chlorobenzene (Monochlorobenzene)	µg/m3	0.70	U		0.76	U		0.74	U		0.74	U		0.79	U		0.76	U		0.74	U		0.77	U		0.76	U		0.74	U		0.77	U		0.73	U		0.74	U		0.74	U		0.98	U		1.0	U	
Dichlorobenzene (1,2-)	µg/m3	0.91	U		0.99	U		0.97	U		0.97	U		1.0	U		0.99	U		0.97	U		1.0	U		0.99	U		0.97	U		1.0	U		0.95	U		0.97	U		0.97	U		1.3	U		1.3	U	
Dichlorobenzene (1,3-)	µg/m3	0.91	U		0.99	U		0.97	U		0.97	U		1.0	U		0.99	U		0.97	U		1.0	U		0.99	U		0.97	U		1.0	U		0.95	U		0.97	U		0.97	U		1.3	U		1.3	U	
Dichlorobenzene (1,4-)	µg/m3	0.91	U		0.99	U		0.97	U		0.97	U		1.0	U		0.99	U		0.97	U		1.0	U		0.99	U		0.97	U		1.0	U		0.95	U		0.97	U		0.97	U		1.3	U		1.3	U	
Dichlorodifluoromethane (CFC12)	µg/m3	3.8	U		4.0	U		4.0	U		4.0	U		4.2	U		4.0	U		4.0	U		4.2	U		4.0	U		4.0	U		4.2	U		3.9	U		4.0	U		4.0	U		5.2	U		5.4	U	
Dichloroethene (1,1-)	µg/m3	0.06	U		0.065	U		0.064	U		0.064	U		0.068	U		0.065	U		0.064	U		0.067	U		0.065	U		0.064	U		0.067	U		0.063	U		0.064	U		0.064	U		0.084	U		0.086	U	
Dichloroethene (cis-1,2-)	µg/m3	0.12	U		0.13	U		0.13	U		0.13	U		0.14	U		0.13	U		1.7			0.13	U		0.13	U		0.13	U		0.18			0.12	U		0.13	U		0.13	U		0.17	U		0.17	U	
Ethylbenzene	µg/m3	0.66	U		0.71	U		0.70	U		0.70	U		0.74	U		0.71	U		0.70	U		0.73	U		0.71	U		7.6			0.73	U		0.69	U		0.70	U		0.70	U		0.92	U		0.94	U	
Methylene Chloride (Dichloromethane)	µg/m3	1.0	U		1.1	U		1.1	U		1.1	U		1.2	U		1.1	U		1.1	U		1.2	U		1.1	U		1.1	U		1.2	U		1.1	U		1.1	U		1.1	U		1.5	U		1.5	U	
Tetrachloroethene (PCE)	µg/m3	1.0	U		1.1	U		1.1	U		3.8			1.2	U		1.1	U		37			1.1	U		1.1	U		1.1	U		3.4			1.1	U		1.1	U		1.1	U		1.4	U		1.5	U	
Toluene	µg/m3	0.57	U		0.79	EB	H	1.0			0.61	U		0.64	U		0.62	U		0.61	U		0.63	U		0.62	U		25			0.63	U		0.60	U		0.61	U		0.58	JEB	I	0.80	U		3.7		
Trichlorobenzene (1,2,4-)	µg/m3	5.6	UJ	I	6.1	U		6.0	UJ	I	6.0	UJ	I	6.3	UJ	I	6.1	UJ	I	6.0	UJ	I	6.2	U		6.1	U		6.0	UJ	I	6.2	UJ	I	5.9	UJ	I	6.0	UJ	I	6.0	U		7.9	UJ	I	8.0	U	
Trichloroethane (1,1,1-)	µg/m3	0.83	U		0.89	U		0.88	U		0.88	U		0.93	U		0.89	U		0.88	U		0.92	U		0.89	U		0.88	U		0.92	U		0.86	U		0.88	U		0.88	U		1.2	U		1.2	U	
Trichloroethene (TCE)	µg/m3	0.16	U		0.18	U		0.17	U		0.18			0.18	U		0.18	U		2.1			0.18	U		0.18	U		0.17	U		0.70			0.17	U		0.17	U		0.17	U		0.23	U		0.23	U	
Trichlorofluoromethane (CFC11)	µg/m3	1.5			1.4			2.0			3.4			2.2			1.5			1.6			1.9			1.8			2.0			1.7			1.3			1.4			1.9			1.2	U		1.2	U	
Vinyl chloride	µg/m3	0.039	U		0.042	U		0.041	U		0.041	U		0.044	U		0.042	U		0.041	U		0.043	U		0.042	U		0.20			0.16			0.31			0.31			0.041	U		0.054	U		0.055	U	
Xylene (m,p-)	µg/m3	0.66	U		0.71	U		0.70	U		0.70	U		0.74	U		0.71	U		0.70	U		0.73	U		0.71	U		27			0.73	U		0.69	U		0.70	U		0.70	U		0.92	U		0.94	U	
Xylene (o-)	µg/m3	0.66	U		0.71	U		0.70	U		0.70	U		0.74	U		0.71	U		0.70	U		0.73	U		0.71	U		9.7			0.73	U		0.69	U		0.70	U		0.70	U		0.92	U		0.94	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 using 6-liter, stainless steel, pre-evacuated SUMMA® canisters. 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. 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.

3. Results are displayed with two significant figures.

4. A data usability summary report (DUSR) 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 DUSR report for further details.
"U" indicates the analyte is non-detect at or above the indicated sample specific practical quantification limit (PQL).
"J" indicates the result is estimated.
"EB" indicates the analyte was also present in a field equipment blank.
"H" indicates a high bias.
"I" indicates an indeterminate bias.

5. Samples collected during the most recent sampling event in June 2019 are shaded.

Table 3
Summary of 8-Hour Indoor Air Analytical Results - B323
Vapor Intrusion Assessment - 2019 Annual Report
Former IBM East Fishkill Facility
Hopewell Junction, New York

Analyte	Field Sample Name	AA0819			IA0802			IA0803			IA0804			IA0805			IA0806			IA0807			IA0808			IA0809			IA0810			IA0811			IA0812			IA0813			IA0813 Dup			Field Blank		
	Collection Date	2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019		
	Units	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias
Acetone	µg/m3	10			16			20			13			25			34			6.9			18			23			3.6			13			16			6.2			6.8			2.4	U	
Benzene	µg/m3	0.48	U		0.53	U		0.58			0.53	U		0.52	U		0.52	U		0.50	U		0.53	U		0.53	U		0.50	U		0.58	U		0.55	U		0.51	U		0.50	U		0.66	U	
Carbon tetrachloride	µg/m3	0.50			0.43			0.44			0.46			0.48			0.52			0.54			0.40			0.51			0.52			0.44			0.69			0.43			0.51			0.26	U	
CFC113 (Ethane, 1,1,2-trichloro-1,2,2-trifluoro-)	µg/m3	1.2	U		1.3	U		1.2	U		1.3	U		1.2	U		1.2	U		1.2	U		1.3	U		1.3	U		1.2	U		1.4	U		1.3	U		1.2	U		1.2	U		1.6	U	
Chlorobenzene (Monochlorobenzene)	µg/m3	0.70	U		0.76	U		0.74	U		0.76	U		0.75	U		0.75	U		0.73	U		0.77	U		0.76	U		0.72	U		0.83	U		0.80	U		0.73	U		0.73	U		0.95	U	
Dichlorobenzene (1,2-)	µg/m3	0.91	U		1.0	U		0.97	U		0.99	U		0.98	U		0.98	U		0.95	U		1.0	U		1.0	U		0.94	U		1.1	U		1.0	U		0.96	U		0.95	U		1.2	U	
Dichlorobenzene (1,3-)	µg/m3	0.91	U		1.0	U		0.97	U		0.99	U		0.98	U		0.98	U		0.95	U		1.0	U		1.0	U		0.94	U		1.1	U		1.0	U		0.96	U		0.95	U		1.2	U	
Dichlorobenzene (1,4-)	µg/m3	0.91	U		1.0	U		0.97	U		0.99	U		0.98	U		0.98	U		0.95	U		1.0	U		1.0	U		0.94	U		1.1	U		1.0	U		0.96	U		0.95	U		1.2	U	
Dichlorodifluoromethane (CFC12)	µg/m3	3.8	U		4.1	U		4.0	U		4.1	U		4.0	U		4.0	U		3.9	U		4.1	U		4.1	U		3.9	U		4.4	U		4.3	U		3.9	U		3.9	U		5.1	U	
Dichloroethene (1,1-)	µg/m3	0.06	U		0.066	U		0.064	U		0.065	U		0.065	U		0.065	U		0.063	U		0.066	U		0.066	U		0.062	U		0.071	U		0.068	U		0.063	U		0.063	U		0.082	U	
Dichloroethene (cis-1,2-)	µg/m3	0.12	U		0.13	U		0.13	U		0.13	U		0.13	U		0.13	U		0.12	U		0.13	U		0.13	U		0.12	U		0.14	U		0.14	U		0.13	U		0.12	U		0.16	U	
Ethylbenzene	µg/m3	0.66	U		0.72	U		0.70	U		0.72	U		0.71	U		0.71	U		0.69	U		0.72	U		0.72	U		0.68	U		0.78	U		0.75	U		0.69	U		0.69	U		0.89	U	
Methylene Chloride (Dichloromethane)	µg/m3	1.0	U		1.2	U		1.1	U		1.1	U		1.1	U		1.1	U		1.1	U		1.2	U		1.2	U		1.1	U		1.2	U		1.2	U		1.1	U		1.1	U		1.4	U	
Tetrachloroethene (PCE)	µg/m3	1.0	U		1.1	U		1.1	U		1.1	U		1.1	U		1.1	U		1.1	U		4.1			1.1	U		1.1	U		1.2	U		1.2	U		1.1	U		1.5			1.4	U	
Toluene	µg/m3	0.57	U		0.62	U		0.76			0.62	U		0.61	U		0.61	U		0.60	U		0.63	U		0.62	U		0.59	U		0.68	U		0.65	U		0.60	U		0.60	U		0.78	U	
Trichlorobenzene (1,2,4-)	µg/m3	5.6	U		6.2	U		6.0	U		6.1	U		6.0	U		6.0	U		5.9	U		6.2	U		6.2	U		5.8	U		6.7	U		6.4	U		5.9	U		5.9	U		7.6	UJ	I
Trichloroethane (1,1,1-)	µg/m3	0.83	U		0.90	U		0.88	U		0.90	U		0.89	U		0.89	U		0.86	U		0.91	U		0.90	U		0.86	U		0.98	U		0.94	U		0.87	U		0.86	U		1.1	U	
Trichloroethene (TCE)	µg/m3	0.16	U		0.18	U		0.17	U		0.18	U		0.19			0.18	U		0.17	U		0.18	U		0.18	U		0.17	U		0.19	U		0.18	U		0.17	U		0.17	U		0.22	U	
Trichlorofluoromethane (CFC11)	µg/m3	1.3			1.6			1.7			1.2			1.0			1.2			1.1			1.2			1.2			1.1			1.1			1.2			1.2			1.2			1.2	U	
Vinyl chloride	µg/m3	0.039	U		0.042	U		0.041	U		0.042	U		0.042	U		0.10			0.19			0.043	U		0.26			0.04	U		0.046	U		0.044	U		0.041	U		0.04	U		0.053	U	
Xylene (m,p-)	µg/m3	0.66	U		0.72	U		1.1			0.72	U		0.71	U		0.71	U		0.69	U		0.72	U		0.72	U		0.68	U		0.78	U		0.75	U		0.69	U		0.69	U		0.89	U	
Xylene (o-)	µg/m3	0.66	U		0.72	U		0.70	U		0.72	U		0.71	U		0.71	U		0.69	U		0.72	U		0.72	U		0.68	U		0.78	U		0.75	U		0.69	U		0.69	U		0.89	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 using 6-liter, stainless steel, pre-evacuated SUMMA® canisters. 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. The "AA" designation indicates that the sample consists of ambient air collected from outside the building. The "Field Blank" designation represents a field blank sample, where laboratory-supplied nitrogen was transferred from one SUMMA® canister into another.

3. Results are displayed with two significant figures.

4. A data usability summary report (DUSR) 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 DUSR report for further details.
"U" indicates the analyte is non-detect at or above the indicated sample specific practical quantification limit (PQL).
"J" indicates the result is estimated.
"I" indicates an indeterminate bias.

Table 4
Summary of 8-Hour Indoor Air Analytical Results - B386
Vapor Intrusion Assessment - 2019 Annual Report
Former IBM East Fishkill Facility
Hopewell Junction, New York

Analyte	Field Sample Name	AA0304			IA0300			IA0301			IA0302			IA0303			Field Blank		
	Collection Date	2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019			2/26/2019		
	Units	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias	Result	Qual.	Bias
Acetone	µg/m3	16			13			19			15			16			2.4	U	
Benzene	µg/m3	0.48	U		0.51	U		0.55	U		0.51	U		0.50	U		0.66	U	
Carbon tetrachloride	µg/m3	0.50			0.48			0.43			0.50			0.50			0.26	U	
CFC113 (Ethane, 1,1,2-trichloro-1,2,2-trifluoro-)	µg/m3	1.1	U		1.2	U		1.3	U		1.2	U		1.2	U		1.6	U	
Chlorobenzene (Monochlorobenzene)	µg/m3	0.68	U		0.74	U		0.79	U		0.74	U		0.73	U		0.95	U	
Dichlorobenzene (1,2-)	µg/m3	0.90	U		0.97	U		1.0	U		0.97	U		0.95	U		1.2	U	
Dichlorobenzene (1,3-)	µg/m3	0.90	U		0.97	U		1.0	U		0.97	U		0.95	U		1.2	U	
Dichlorobenzene (1,4-)	µg/m3	0.90	U		0.97	U		1.0	U		0.97	U		0.95	U		1.2	U	
Dichlorodifluoromethane (CFC12)	µg/m3	3.7	U		4.0	U		4.2	U		4.0	U		3.9	U		5.1	U	
Dichloroethene (1,1-)	µg/m3	0.059	U		0.064	U		0.068	U		0.064	U		0.063	U		0.082	U	
Dichloroethene (cis-1,2-)	µg/m3	0.12	U		0.13	U		0.14	U		0.13	U		0.12	U		0.16	U	
Ethylbenzene	µg/m3	0.65	U		0.70	U		0.74	U		0.70	U		0.69	U		0.89	U	
Methylene Chloride (Dichloromethane)	µg/m3	1.0	U		1.1	U		1.2	U		1.1	U		1.1	U		1.4	U	
Tetrachloroethene (PCE)	µg/m3	1.0	U		1.1	U		1.2	U		1.1	U		1.1	U		1.4	U	
Toluene	µg/m3	0.56	U		1.2			0.64	U		0.61	U		0.60	U		0.78	U	
Trichlorobenzene (1,2,4-)	µg/m3	5.5	UJ	I	6.0	UJ	I	6.3	UJ	I	6.0	UJ	I	5.9	UJ	I	7.6	UJ	I
Trichloroethane (1,1,1-)	µg/m3	0.81	U		0.88	U		0.93	U		0.88	U		0.86	U		1.1	U	
Trichloroethene (TCE)	µg/m3	0.16	U		0.17	U		0.18	U		0.17	U		0.17	U		0.22	U	
Trichlorofluoromethane (CFC11)	µg/m3	1.4			2.4			2.3			2.4			2.3			1.2	U	
Vinyl chloride	µg/m3	0.038	U		0.041	U		0.044	U		0.041	U		0.04	U		0.053	U	
Xylene (m,p-)	µg/m3	0.65	U		0.70	U		0.74	U		0.70	U		0.69	U		0.89	U	
Xylene (o-)	µg/m3	0.65	U		0.70	U		0.74	U		0.70	U		0.69	U		0.89	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 using 6-liter, stainless steel, pre-evacuated SUMMA® canisters. 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. The "AA" designation indicates that the sample consists of ambient air collected from outside the building. The "Field Blank" designation represents a field blank sample, where laboratory-supplied nitrogen was transferred from one SUMMA® canister into another.

3. Results are displayed with two significant figures.

4. A data usability summary report (DUSR) 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 DUSR report for further details.
"U" indicates the analyte is non-detect at or above the indicated sample specific practical quantification limit (PQL).
"J" indicates the result is estimated.
"I" indicates an indeterminate bias.

FIGURES

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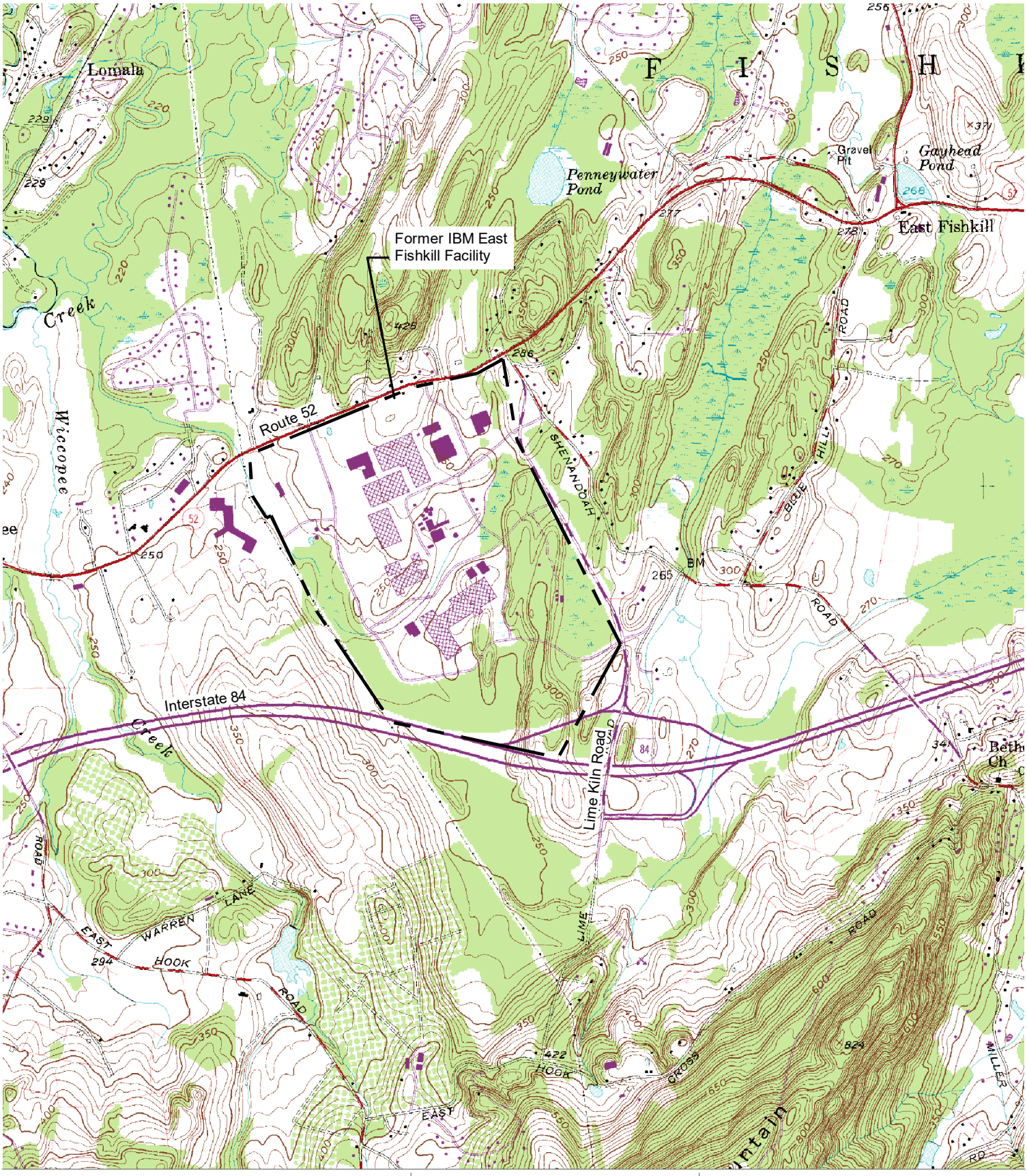

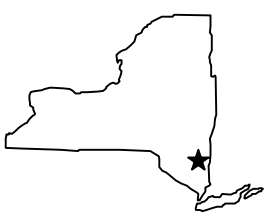

Notes:
Base map taken from 7.5 minute USGS Quadrangle Maps: Hopewell Junction, New York, Dated 1957, Photorevised in 1981.

Drawn By: E. Wright
Designed By: J. Flood
Reviewed By: J. Sanborn/ D. Shea
Project No: 2999.06
Date: May 2020

1,000' 0 2,000' Feet

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Figure 1

Site Location Plan

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

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Figure 2

Building Location Plan

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: J. Flood
Reviewed By: J. Sanborn / D. Shea
Project No: 2999.06
Date: May 2020

Figure Narrative

This figure shows the buildings at the former IBM East Fishkill facility.

Legend

— - - — Property Line

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

B320B Indicates building number

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)

N W E S

200' 100' 0 200' 400' Feet

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File:P:\2900s\2999.06\Graphics Files\CAD\Annual Rpt 2019\AnnRpt2019_LocationPlan.dwg Plot Date: 4-24-20

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Last Edited By: ewright

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Figure 3

B330C Occupancy Summary Figure (2019)

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	E. Wright
Designed By:	J. Sanborn
Reviewed By:	D. Shea
Project No:	2999.0
Date:	May 2020

Figure Narrative

This figure shows the occupied areas and existing and proposed tenant spaces of B330C based on an occupancy figure provided to IBM by iPark dated August 26, 2019.

Global Foundries

IBM

eMagin

Sloop Brewing

eMagin

B330C

eMagin Future Expansion Area

Country Produce

Global Foundries

MoreGood Future Expansion Areas

MoreGood

Country Produce Future Expansion Area

Cozzini Brothers

B335

B338

Legend

- Cozzini Brothers
- IBM
- Country Produce
- Global Foundries
- MoreGood
- Sloop Brewing
- eMagin
- Ronny Brook (proposed)
- Unoccupied

30 15 0 30 60 Feet

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Last Edited By: ewright

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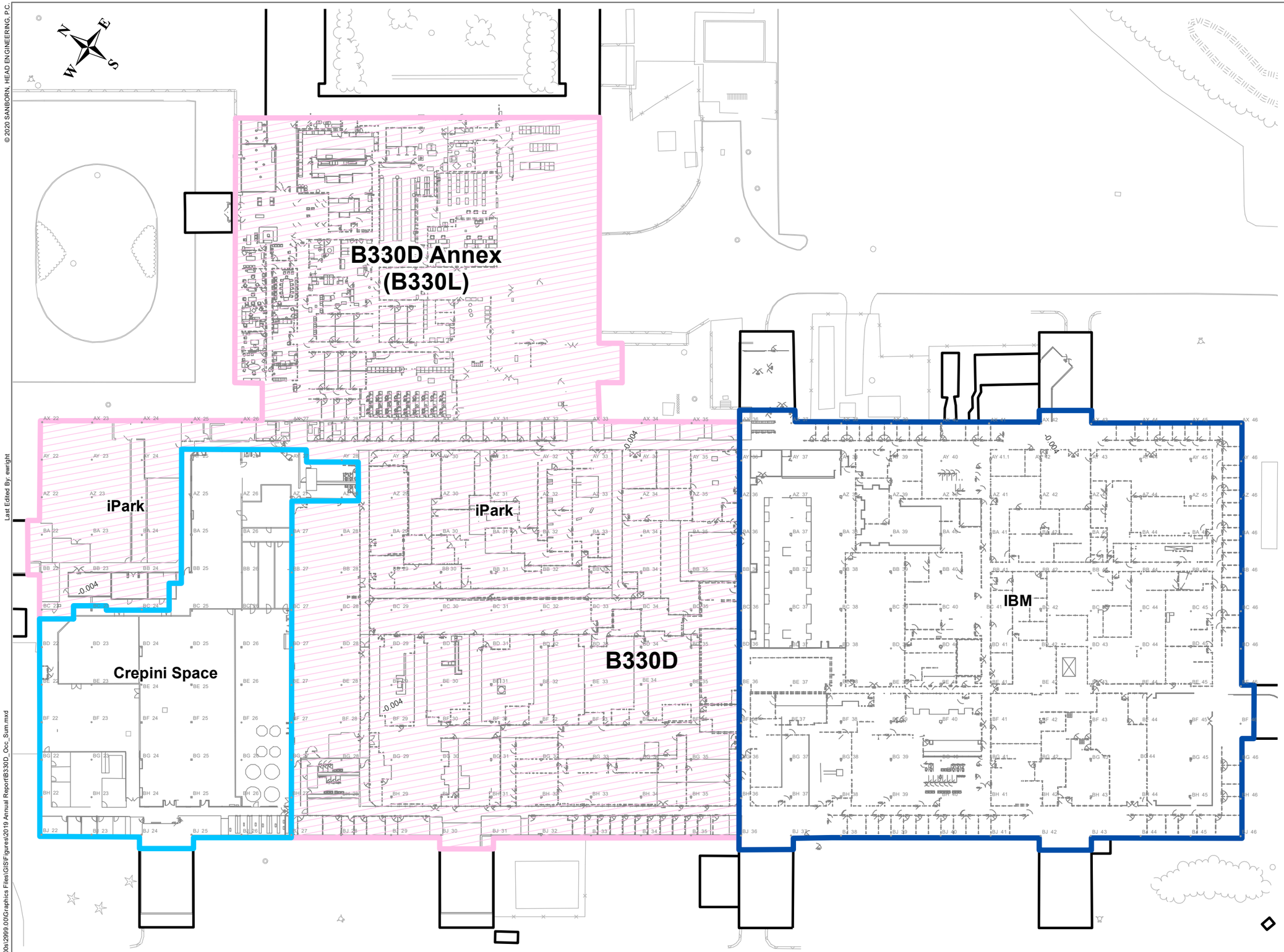

Figure 4

B330D Occupancy Summary Figure (2019)

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	E. Wright
Designed By:	J. Corsello
Reviewed By:	D. Shea
Project No:	2999.06
Date:	May 2020

Figure Narrative

This figure shows the occupied areas and tenant spaces of B330D in 2019 based on information provided by iPark.

Legend

- Crepini Tenant Space
- IBM Tenant Space
- iPark
- Unoccupied

30 15 0 30 60 Feet

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Last Edited By: ewright

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N
W E
S

IA0701
PCE: <1.1
TCE: <0.17
DCE: <0.64
VC: <0.041

IA0701
PCE: **3.8**
TCE: **0.18**
DCE: <0.13
VC: <0.041

IA0701

Clean Room

IA0702
PCE: <1.2
TCE: <0.18
DCE: <0.68
VC: <0.044

IA0702
PCE: <1.2
TCE: <0.18
DCE: <0.14
VC: <0.044

IA0702

IA0700
PCE: <1.1
TCE: <0.17
DCE: <0.64
VC: <0.041

IA0700
PCE: <1.1
TCE: <0.17
DCE: <0.13
VC: <0.041

IA0700

Contractor Storage

IA0704
PCE: **1.4**
TCE: **1.0**
DCE: <0.65
VC: <0.042

IA0704
PCE: <1.1
TCE: <0.18
DCE: <0.13
VC: <0.042

IA0704

Area Under Construction

IA0738

IA0738
PCE: <1.1
TCE: <0.17
DCE: <0.13
VC: <0.041

MQA Lab

IA0705
PCE: <1.1
TCE: <0.17
DCE: <0.64
VC: <0.041

IA0705

IA0705
PCE: **37**
TCE: **2.1**
DCE: **1.7**
VC: <0.041

IA0705
PCE: <1.1
TCE: <0.18
DCE: <0.13
VC: <0.042

IA0708
PCE: <0.96
TCE: <0.15
DCE: <0.56
VC: <0.036

IA0708

IA0708
PCE: <1.1
TCE: <0.17
DCE: <0.13
VC: **0.2**

C4 Clean Room

Former Manufacturing Area (Vacant)

Contractor Staging/Storage Area (Not Routinely Occupied)

IA0710

AA0712

IA0709

Break Room

IA0710
PCE: <1.1
TCE: <0.18
DCE: <0.67
VC: **1.6**

IA0710
PCE: <1.2
TCE: <0.18
DCE: <0.68
VC: **1.1**

IA0710
PCE: <1.1 / <1.1
TCE: <0.17 / <0.17
DCE: <0.63 / <0.64
VC: **0.68** / **0.55**

IA0710
PCE: <1.1 / <1.1
TCE: <0.17 / <0.17
DCE: <0.12 / <0.13
VC: **0.31** / **0.31**

AA0712
PCE: <2.7
TCE: <0.42
DCE: <0.16
VC: <0.10

AA0712
PCE: <1.0
TCE: <0.16
DCE: <0.12
VC: <0.039

AA0712
PCE: <1.1
TCE: <0.18
DCE: <0.13
VC: <0.042

IA0709
PCE: <1.1
TCE: <0.18
DCE: <0.67
VC: **0.31**

IA0709
PCE: <1.1
TCE: <0.17
DCE: <0.64
VC: **0.31**

IA0709
PCE: **3.4**
TCE: **0.7**
DCE: **0.18**
VC: **0.16**

Figure 5

Summary of 8-Hour Indoor Air Sampling Results

Building 320B

Vapor Intrusion Assessment
2019 Annual Report

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:	May 2020

Figure Narrative

This figure shows the results for a select set of compounds for indoor air samples collected in February 2019 and the two locations sampled in June 2019 (IA0705 and IA0738). The results of historical sampling events are also shown for comparison at each location where a 2019 sample was collected.

The samples were collected as 8-hour time weighted average samples using 6-L SUMMA canisters. Results are shown in micrograms per cubic meter (µg/m³).

Legend

- IA0702 — Indoor air location
- AA0712 — Ambient air location at outside air intake of air handling unit MAU-4
- HVAC Zone and designation

March 16, 2010 Results

IA0700
PCE: <1.1
TCE: <0.17
DCE: <0.64
VC: <0.041

- Location designation
- Tetrachloroethene
- Trichloroethene
- cis-1,2-Dichloroethene
- Vinyl chloride

<1.1 / 1.5 — Indicates duplicate value
0.16 — Indicates detected value

April 19, 2012 Results

IA0709

November 25, 2013 Results

IA0700

February 27, 2019 Results

IA0700

June 5, 2019 Results

IA0705

30 15 0 30 60 Feet

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Last Edited By: ewright

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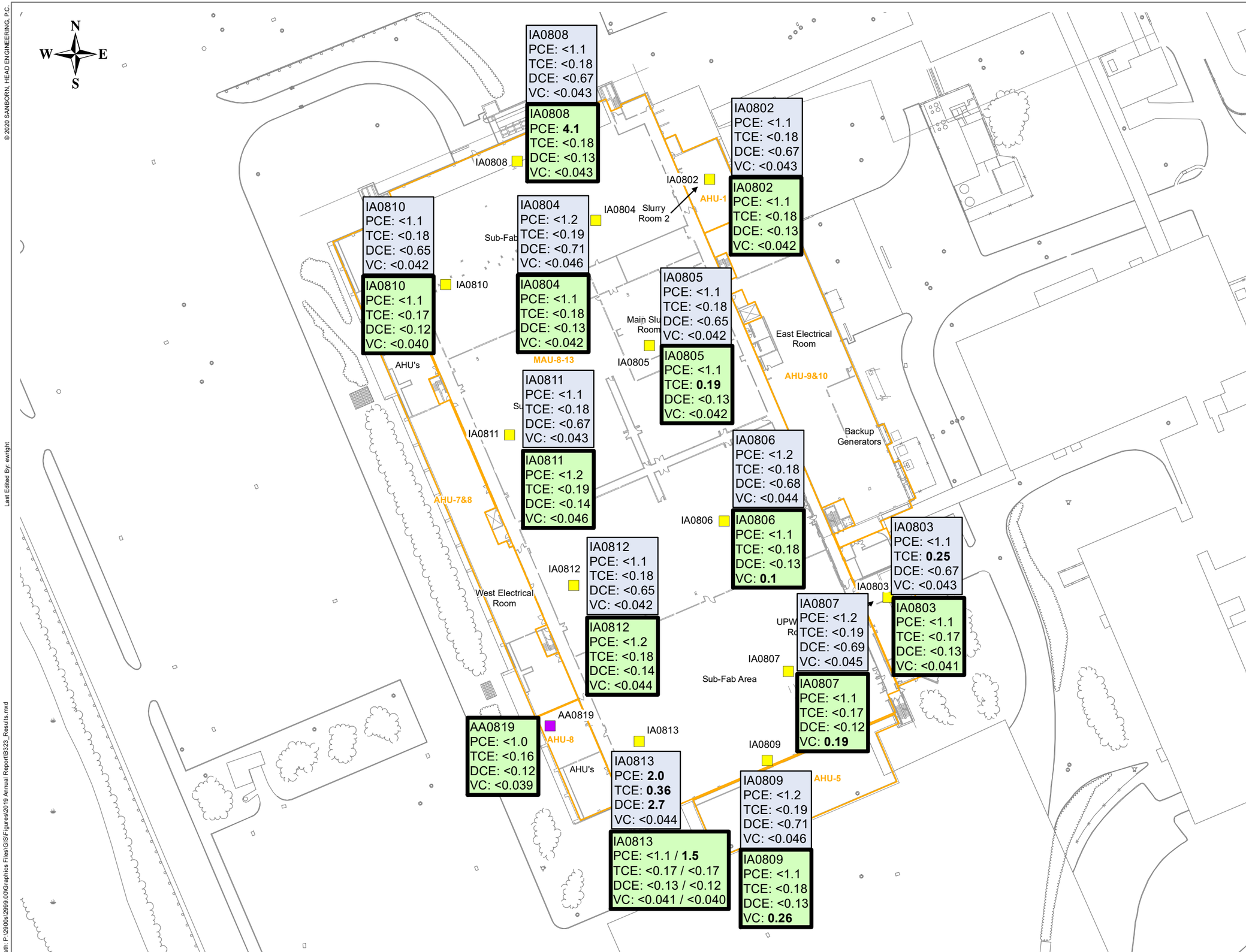

Figure 6

Summary of 8-Hour Indoor Air Sampling Results

Building 323

Vapor Intrusion Assessment
2019 Annual Report

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:	May 2020

Figure Narrative

This figure shows the results for a select set of compounds for indoor air samples collected in February 2019. The results of historical sampling events are also shown for comparison at each location where a 2019 sample was collected.

The samples were collected as 8-hour time weighted average samples using 6-L SUMMA canisters. Results are shown in micrograms per cubic meter (µg/m³).

Legend

IA0805 — Indoor air location

AA0819 — Ambient air location at the outside air intake to MAU-9

HVAC Zone and designation

July 8, 2009 Results

IA0803	Location designation
PCE: <1.1	Tetrachloroethene
TCE: **0.25**	Trichloroethene
DCE: <0.67	cis-1,2-Dichloroethene
VC: <0.043	Vinyl chloride

<1.1 / 1.5 — Indicates duplicate value

0.25 — Indicates detected value

February 26, 2019 Results

IA0803

40 20 0 40 80 Feet

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Last Edited By: ewright

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Figure 7

Summary of 8-Hour Indoor Air Sampling Results

Building 386

Vapor Intrusion Assessment
2019 Annual Report

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:	May 2020

Figure Narrative

This figure shows the results for a select set of compounds for indoor air samples collected in February 2019. The results of historical sampling events are also shown for comparison at each location where a 2019 sample was collected.

The samples were collected as 8-hour time weighted average samples using 6-L SUMMA canisters. Results are shown in micrograms per cubic meter (µg/m³).

Legend

- IA0300 — Indoor air location
- AA0304 — Ambient air location collected at AHU-1 intake
- HVAC Zone and designation

July 8, 2009 Data Results

IA0300	Location designation
PCE: <1.1	Tetrachloroethene
TCE: <0.17	Trichloroethene
DCE: <0.64	cis-1,2-Dichloroethene
VC: <0.041	Vinyl chloride

February 26, 2019 Data Results

IA0300

N W E S

10 5 0 10 20 Feet

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Last Edited By: hpothier

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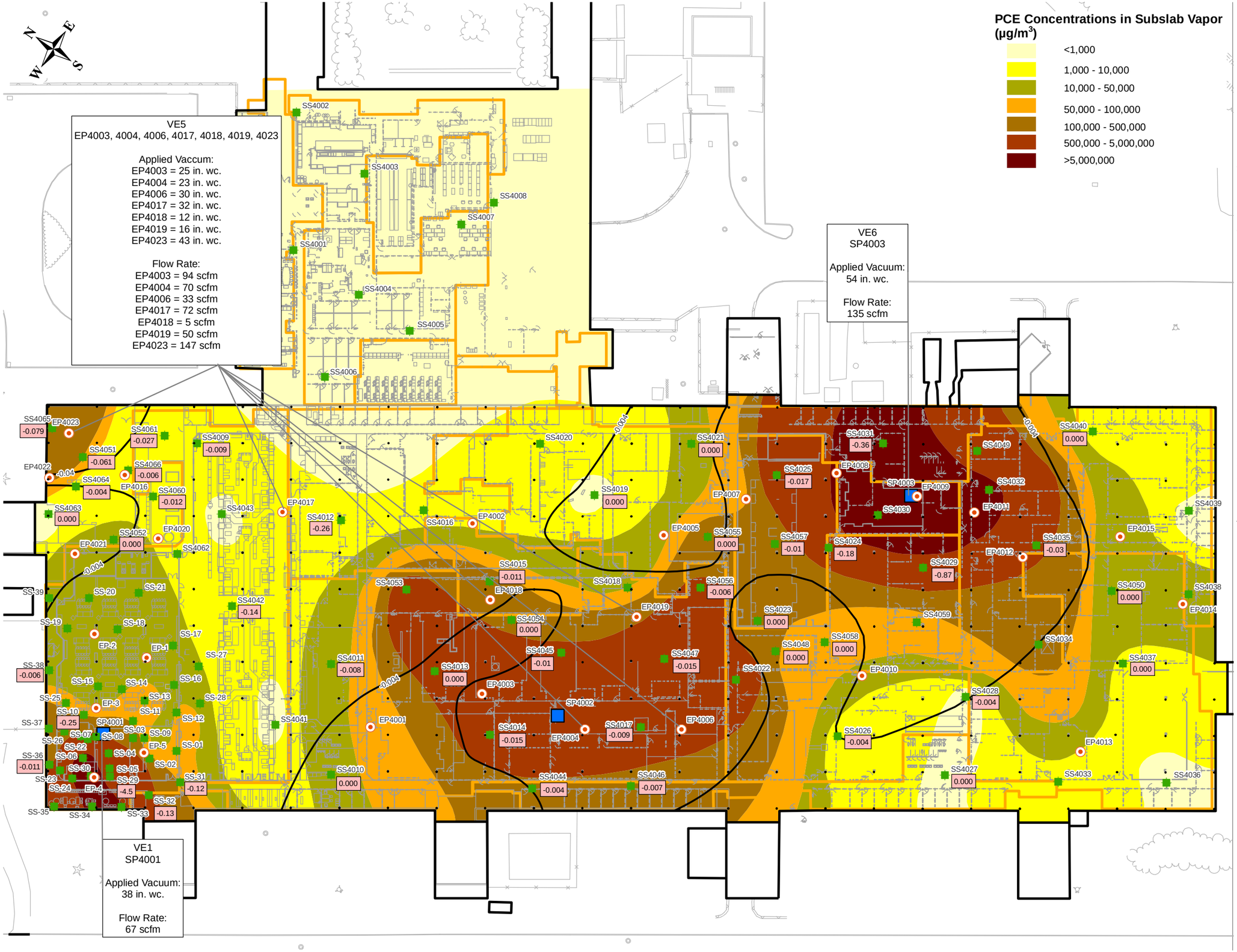

Figure 8

Extent of Subslab Depressurization

Building 330D

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	H. Pothier
Designed By:	J. Flood
Reviewed By:	J. Sanborn
Project No:	2999.06
Date:	May 2020

Figure Narrative

This figure shows measurements of differential pressure between indoor air and subslab vapor in units of inches of water column (in.wc) and the measurements recorded at each extraction port. Readings for VE5 and VE6 were recorded on December 18, 2019. Readings for VE1 were recorded on January 11, 2020. Negative values indicate subslab pressures less than indoor air pressure, or under vacuum, at the time of recording.

The differential pressure contours overlay the inferred subslab vapor tetrachloroethene (PCE) concentration isopleths. Subslab vapor samples were collected in 2016.

The -0.004 in wc contour represents the inferred apparent extent of subslab vacuum response with VE1, VE5, and VE6 operating together. Actual vacuum conditions are likely more complex than shown. Other interpretations are possible.

Legend

- Subslab Vapor Monitoring Port
- Subslab Vapor Extraction Port
- Subslab Vapor Suction Pit
- -0.004 — Differential pressure contour (inches of water column). Dashed where inferred.
- **SP4003** / in. wc / scfm — Extraction Port; Applied Vacuum (extraction port) inches of water column (in. wc); Flow Rate (std. cu. ft. per min.)
- -0.004 — Observed pressure differential between the subslab and room (in. wc). Negative values indicate subslab pressure is less than indoor air pressure.
- HVAC Zone

30 15 0 30 60 Feet

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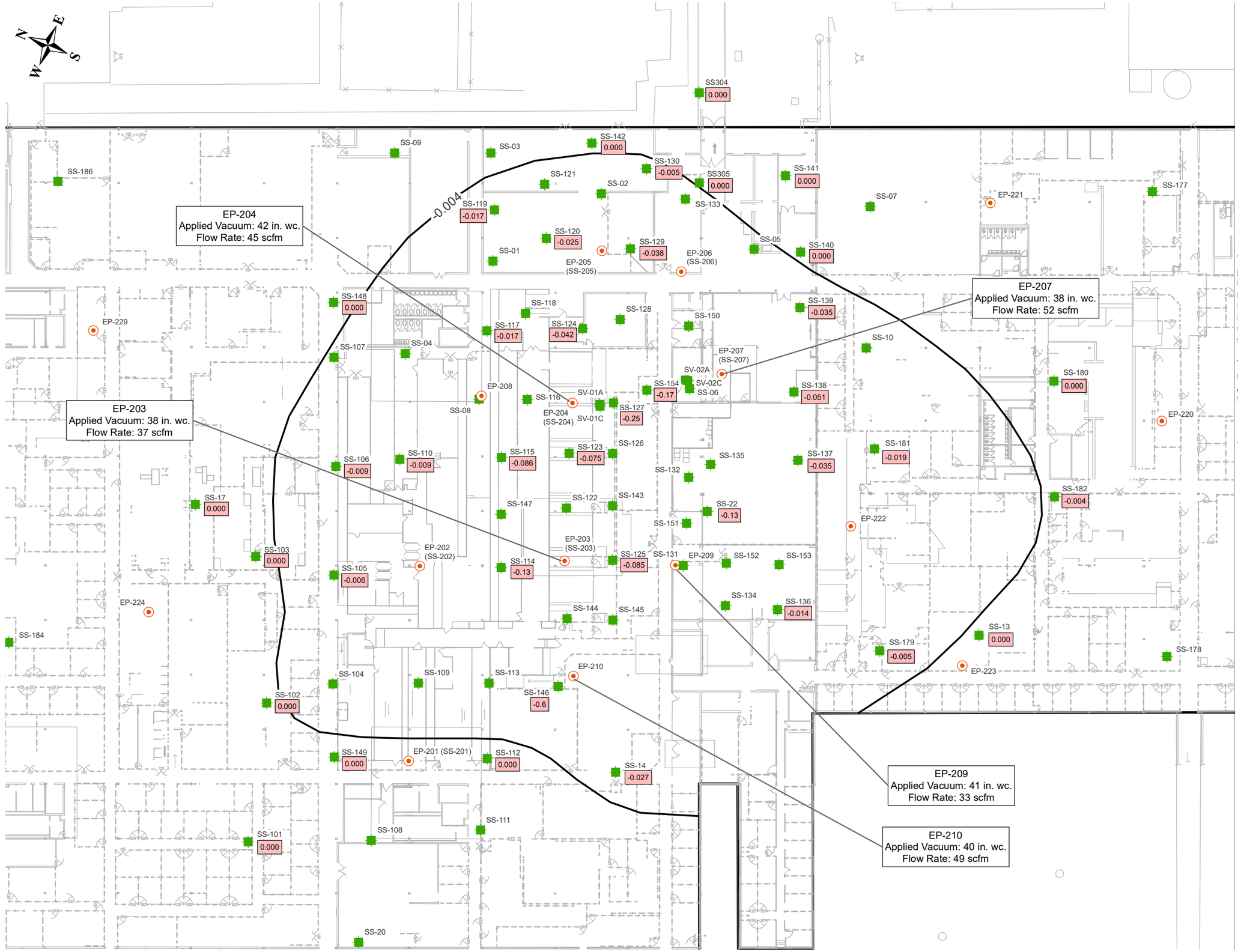

Figure 9

Extent of Subslab Depressurization

Building 310

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	H. Pothier
Designed By:	J. Flood
Reviewed By:	J. Sanborn / D. Shea
Project No:	2999.06
Date:	May 2020

Figure Narrative

This figure shows measurements of differential pressure between indoor air and subslab vapor in units of inches of water column (in. wc) and the measurements recorded at each extraction port on December 16, 2019 and December 18, 2019. Negative values indicate subslab pressures less than indoor air pressure, or under vacuum, at the time of recording.

The subslab pressure response footprint represents inferred apparent vacuum conditions. Actual vacuum conditions are likely more complex than shown. Other interpretations are possible.

Legend

- Subslab Vapor Monitoring Port
- Subslab Vapor Extraction Port
- -0.004 — Differential pressure contour (inches of water column). Dashed where inferred.
- **EP-207** / in. wc / scfm — Extraction Port; Applied Vacuum (extraction port) inches of water column (in. wc); Flow Rate (std. cu. ft. per min.)
- -0.004 — Observed pressure differential between the subslab and room (in. wc). Negative values indicate subslab pressure is less than indoor air pressure.

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Figure 10

Extent of Subslab Depressurization

B310/B308 Linkway

Vapor Intrusion Assessment
2019 Annual Report
Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: J. Flood
Reviewed By: J. Sanborn
Project No: 2999.06
Date: May 2020

Figure Narrative

This figure shows the applied vacuum to the extraction ports and observed subslab pressure response. Note that the fan connected to EP-213 (Fan #3) was not running at the time that the differential pressure measurements were collected due to equipment malfunction.

Note

Magnehelic gauges on extraction ports have a range of 0 to 10 inches water column (in. wc.). >10 in. wc. indicates that the vacuum was observed to be greater than the range of the instrument.

Legend

- SS300 — Subslab vapor monitoring port
- EP-211 — Subslab vapor extraction port
- -0.048 — Observed pressure differential between the subslab and room (in. wc). Negative values indicate subslab pressure is less than indoor air pressure.
- **EP-214** in. wc — Extraction port Applied vacuum

B310

B308

B384

LINKWAY

LINKWAY TO B308

SS305 0.000

SS304 0.000

SS303 0.000

SS302 -0.76

SS301 -0.048

SS300 -0.028

EP-213

EP-214

EP-211

EP-212

EP-213 0 in. wc

EP-214 >10 in. wc

EP-211 >10 in. wc

EP-212 Not Connected

COMPACTOR ROOM

TOXIC GAS ROOM

LOADING DOCK

HYD

N

10' 5' 0 10' 20' Feet

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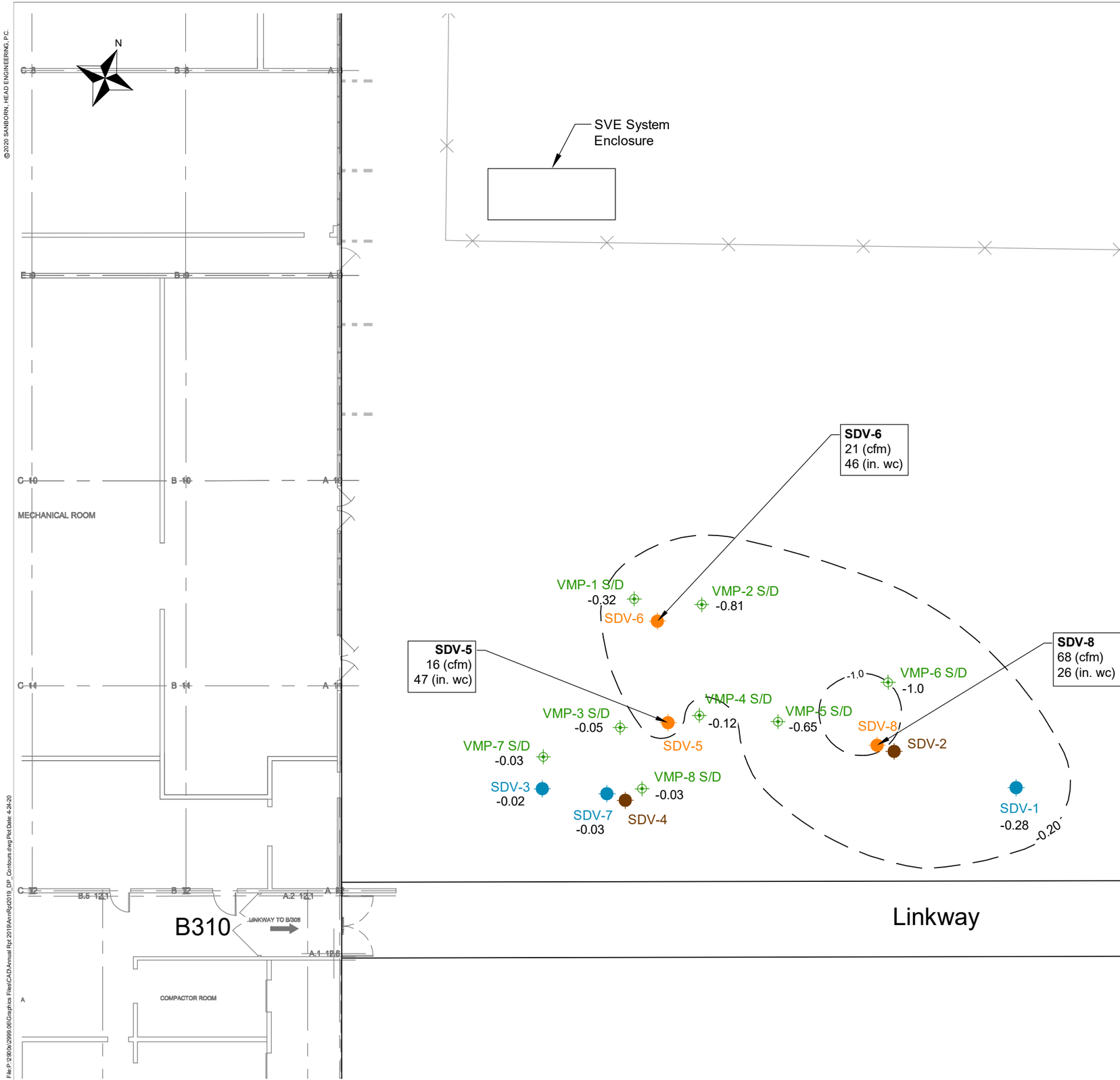

Figure 11

Extent of Subsurface Depressurization (5 Ft Depth) Area A SVE System

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: J. Flood
Reviewed By: J. Sanborn / D. Shea
Project No: 2999.06
Date: May 2020

Figure Narrative

This figure shows measurements of differential pressure between ambient air and subsurface soil vapor in units of inches of water column (in. wc), and the measurements recorded at each extraction well. Measurements were collected from a depth of 5 feet just prior to system shut down on October 21, 2019. Negative values indicate subsurface pressures less than ambient air pressure, or under vacuum, at the time of recording.

The contours represent the inferred apparent vacuum conditions observed on October 21, 2019. Actual vacuum conditions are likely more complex than shown. Other interpretations are possible.

Legend

- SDV-2 — Small diameter vapor well (2-in.) not connected to the pilot SVE system
- SDV-5 — Small diameter vapor well connected to the pilot SVE system currently in operation (screened 7.5 to 10 ft bgs)
- SDV-3 — Small diameter vapor well connected to the pilot SVE system currently not in operation (screened 7.5 to 10 ft bgs)
- VMP-1 S/D — Multi-level vapor monitoring point (S = 5 ft bgs, D = 10 ft bgs)
- -0.32 — Differential pressure measurement (in. wc)
- SDV-5 16 (cfm) 47 (in. wc) — Extraction port Flow rate (cu. ft. per min.) Vacuum (extraction port)
- -1.0 — Differential pressure contour (inches of water column). Dashed where inferred.

8' 4' 0 8' 16' Feet

SANBORN HEAD ENGINEERING

File:P:\2900s\2999.06\Graphics Files\CAD\Annual Rpt 2019\AnnRpt2019_DP_Contours.dwg Plot Date: 4-24-20

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File:P:\2900s\2999.06\Graphics Files\CAD\Annual Rpt 2019\AnnRpt2019_DP_Contours.dwg Plot Date: 4-24-20

Figure 12

Extent of Subsurface Depressurization (10 Ft Depth) Area A SVE System

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By: E. Wright
Designed By: J. Flood
Reviewed By: J. Sanborn / D. Shea
Project No: 2999.06
Date: May 2020

Figure Narrative

This figure shows measurements of differential pressure between ambient air and subsurface soil vapor in units of inches of water column (in. wc), and the measurements recorded at each extraction well. Measurements were collected from a depth of 10 feet just prior to system shut down on October 21, 2019. Negative values indicate subsurface pressures less than ambient air pressure, or under vacuum, at the time of recording.

The contours represent the inferred apparent vacuum conditions observed on October 21, 2019. Actual vacuum conditions are likely more complex than shown. Other interpretations are possible.

Legend

- SDV-2 — Small diameter vapor well (2-in.) not connected to the pilot SVE system
- SDV-5 — Small diameter vapor well connected to the pilot SVE system currently in operation (screened 7.5 to 10 ft bgs)
- SDV-3 — Small diameter vapor well connected to the pilot SVE system currently not in operation (screened 7.5 to 10 ft bgs)
- VMP-1 S/D — Multi-level vapor monitoring point (S = 5 ft bgs, D = 10 ft bgs)
- -0.65 — Differential pressure measurement (in. wc)
- SDV-5 / 16 (cfm) / 47 (in. wc) — Extraction port; Flow rate (cu. ft. per min.); Vacuum (extraction port)
- -1.0 ——— Differential pressure contour (inches of water column). Dashed where inferred.

8' 4' 0 8' 16' Feet

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Figure 13

Extent of Subslab Depressurization

Building 330C

Vapor Intrusion Assessment
2019 Annual Report

Former IBM East Fishkill Facility
Hopewell Junction, New York

Drawn By:	E. Wright
Designed By:	J. Flood
Reviewed By:	J. Sanborn
Project No:	2999.06
Date:	May 2020

Figure Narrative

This figure shows measurements of differential pressure between indoor air and subslab vapor in units of inches of water column (in. wc), and the measurements recorded at each extraction point on December 18, 2019. Negative values indicate subslab pressures less than indoor air pressure, or under vacuum, at the time of recording.

The -0.004 in wc contour represents the inferred apparent extent of subslab vacuum response. Actual vacuum conditions are likely more complex than shown. Other interpretations are possible.

Legend

- Subslab Vapor Monitoring Port
- Subslab Vapor Extraction Port
- Subslab Vapor Suction Pit
- -0.004 — Differential pressure contour (inches of water column). Dashed where inferred.
- EP3012 / in. wc / scfm — Extraction Port; Applied Vacuum (extraction port) inches of water column (in. wc); Flow Rate (std. cu. ft. per min.)
- -0.006 — Observed pressure differential between the subslab and room (in. wc). Negative values indicate subslab pressure is less than indoor air pressure.
- SSDS piping connected to system VE-7 installed by IBM in 2019 (Phase I)

SANBORN HEAD ENGINEERING

APPENDIX A

LIMITATIONS

APPENDIX A
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.

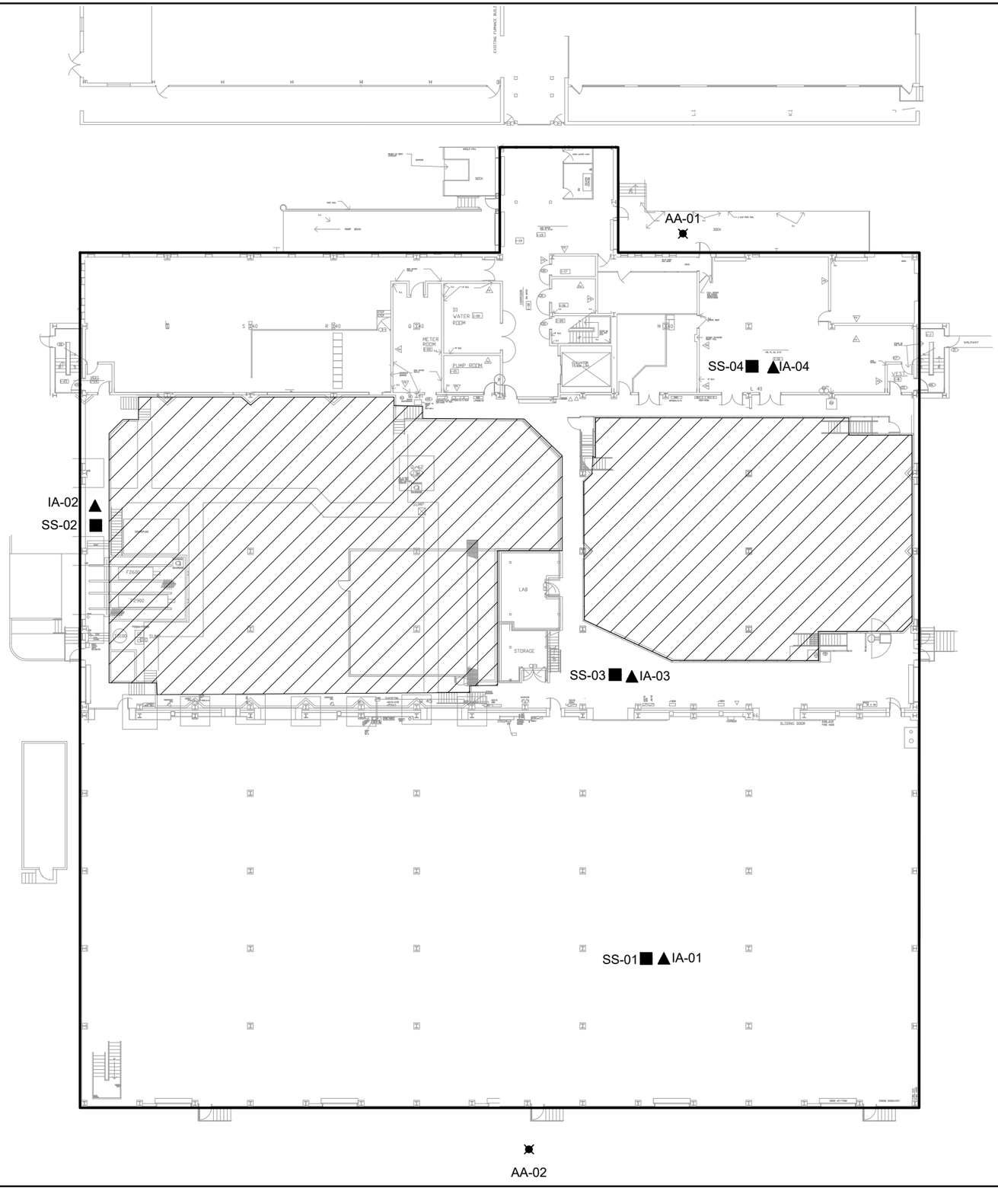
2. Quantitative laboratory testing was performed by others as part of the investigation as noted within the report. Where such analyses have been conducted by an outside laboratory, unless otherwise stated in the report, SHPC has relied upon the data provided, and has not conducted an independent evaluation 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.

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.

APPENDIX B

EXCERPTS FROM iPARK REPORTS



Excerpt from: GZA GeoEnviromental of New York, *Building 338 Sub-Slab Vapor Investigation, Former IBM Facility, Hopewell Junction, NY,* September 2019.

N

LEGEND:

- BUILDING 338 FOOTPRINT
- APPROXIMATE AREA OF RAISED SLAB
- ■ SUB-SLAB SAMPLE LOCATION
- ▲ INDOOR AIR SAMPLE LOCATION
- ✱ AMBIENT AIR SAMPLE LOCATION

0 200' 400' 800'

SCALE IN FEET

NO.	ISSUE/DESCRIPTION	BY	DATE

UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS, WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.

SOIL VAPOR INTRUSION ASSESSMENT REPORT - BUILDING 338

SAMPLE LOCATION MAP

PREPARED BY:	PREPARED FOR:		
GZA GeoEnvironmental, Inc. Engineers and Scientists www.gza.com	I.PARK84, LLC. GREENWICH, CT		
PROJ MGR: BP	REVIEWED BY: BR	CHECKED BY: BP	FIGURE 1
DESIGNED BY: BR	DRAWN BY: MT	SCALE: 1" = 400'	
DATE: JULY, 2019	PROJECT NO. 12.0076252.10	REVISION NO.	SHEET NO.

©2019 – GZA GeoEnvironmental, Inc. GZA–\\GZAHAM1\JOBS\76200'S\12.0076252.00\FIGURES\CAD\76252.00.004.DWG FIG 3 AS BUILT JULY 17, 2019 BENJAMIN ROMAGNOLI

Excerpt from: GZA GeoEnvironmental of New York, *Building 338 Sub-Slab Vapor Investigation, Former IBM Facility, Hopewell Junction, NY,* September 2019.

TABLE 1
ANALYTICAL RESULTS
Building 338 Sub-slab Vapor Investigation
2070 Route 52
Hopewell Junction, New York 12533

SAMPLE ID:	NYSDOH AGV[1]	Fuel Oil 2003 Upper Indoor[2]	BASE Data 90th[3]	2005 95th Percentile Indoor[4]	SS-04			IA-04			SS-03			IA-03			SS-02			IA-02		
LAB ID:					L1926771-01			L1926771-08			L1926771-03			L1926771-07			L1926771-02			L1926771-06		
COLLECTION DATE:					6/18/2019			6/18/2019			6/18/2019			6/18/2019			6/18/2019			6/18/2019		
SAMPLE MATRIX:					SOIL_VAPOR			AIR			SOIL_VAPOR			AIR			SOIL_VAPOR			AIR		
					Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANICS IN AIR																						
Dichlorodifluoromethane		10	16.5		9.25		1.98	5.04		0.989	6.13		0.989	4.92		0.989	4190		0.989	5.09		0.989
Chloromethane		4.2	3.7		1.66		0.826	1.51		0.413	2.46		0.413	1.42		0.413	ND		0.413	1.48		0.413
Freon-114		0.4			ND		2.8	ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vinyl chloride		0.4	1.9		ND		1.02	-	-	-	ND		0.511	-	-	-	ND		0.511	-	-	-
1,3-Butadiene			3		51.3		0.885	ND		0.442	ND		0.442	ND		0.442	ND		0.442	ND		0.442
Bromomethane		0.5	1.7		ND		1.55	ND		0.777	ND		0.777	ND		0.777	ND		0.777	ND		0.777
Chloroethane		0.4	1.1		ND		1.06	ND		0.528	ND		0.528	ND		0.528	ND		0.528	ND		0.528
Ethanol		1300	210		31.1		18.8	ND		9.42	38.3		9.42	ND		9.42	23.9		9.42	12		9.42
Vinyl bromide					ND		1.75	ND		0.874	ND		0.874	ND		0.874	ND		0.874	ND		0.874
Acetone		115	98.9	45.8	71.5		4.75	9.38		2.38	116		2.38	11.6		2.38	30.6		2.38	15.5		2.38
Trichlorofluoromethane		12	18.1		10.2		2.25	11.7		1.12	10.5		1.12	10.5		1.12	9.44		1.12	**12**		**1.12**
Isopropanol			250		ND		2.46	1.57		1.23	2.75		1.23	1.42		1.23	2.17		1.23	2.15		1.23
1,1-Dichloroethene		0.4	1.4		ND		1.59	-	-	-	ND		0.793	-	-	-	ND		0.793	-	-	-
Tertiary butyl Alcohol					5.18		3.03	ND		1.52	6.03		1.52	ND		1.52	2.6		1.52	ND		1.52
Methylene chloride	60	16	10	7.5	ND		3.47	ND		1.74	ND		1.74	ND		1.74	ND		1.74	ND		1.74
3-Chloropropene					ND		1.25	ND		0.626	ND		0.626	ND		0.626	ND		0.626	ND		0.626
Carbon disulfide			4.2		8.19		1.25	ND		0.623	9.93		0.623	ND		0.623	4.11		0.623	ND		0.623
Freon-113			3.5		ND		3.07	ND		1.53	ND		1.53	ND		1.53	ND		1.53	ND		1.53
trans-1,2-Dichloroethene					ND		1.59	2.85		0.793	1.53		0.793	2.7		0.793	1.97		0.793	2.67		0.793
1,1-Dichloroethane		0.4	0.7		ND		1.62	ND		0.809	ND		0.809	ND		0.809	ND		0.809	ND		0.809
Methyl tert butyl ether		14	11.5	36	ND		1.44	ND		0.721	ND		0.721	ND		0.721	ND		0.721	ND		0.721
2-Butanone			12		14.4		2.95	ND		1.47	21.6		1.47	ND		1.47	6.08		1.47	1.72		1.47
cis-1,2-Dichloroethene		0.4	1.9		ND		1.59	-	-	-	ND		0.793	-	-	-	ND		0.793	-	-	-
Ethyl Acetate			5.4		ND		3.6	ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chloroform		1.2	1.1	6.34	6.06		1.95	ND		0.977	36.9		0.977	ND		0.977	17.9		0.977	ND		0.977
Tetrahydrofuran		0.8			19.5		2.95	**1.7**		**1.47**	19.1		1.47	ND		1.47	7.37		1.47	ND		1.47
1,2-Dichloroethane		0.4	0.9		ND		1.62	ND		0.809	ND		0.809	ND		0.809	ND		0.809	ND		0.809
n-Hexane		14	10.2		ND		1.41	ND		0.705	2.21		0.705	ND		0.705	1.07		0.705	ND		0.705
1,1,1-Trichloroethane		2.5	20.6		ND		2.18	-	-	-	ND		1.09	-	-	-	ND		1.09	-	-	-
Benzene		13	9.4	10	1.66		1.28	ND		0.639	1.5		0.639	ND		0.639	0.834		0.639	ND		0.639
Carbon tetrachloride		1.3	1.3	1.1	ND		2.52	-	-	-	ND		1.26	-	-	-	ND		1.26	-	-	-
Cyclohexane		6.3			ND		1.38	ND		0.688	1.03		0.688	ND		0.688	ND		0.688	ND		0.688
1,2-Dichloropropane		0.4	1.6		ND		1.85	ND		0.924	ND		0.924	ND		0.924	ND		0.924	ND		0.924
Bromodichloromethane					ND		2.68	ND		1.34	1.63		1.34	ND		1.34	2.72		1.34	ND		1.34
1,4-Dioxane					ND		1.44	ND		0.721	ND		0.721	ND		0.721	ND		0.721	ND		0.721
Trichloroethene	2	0.5	4.2	1.36	2.26		2.15	-	-	-	ND		1.07	-	-	-	ND		1.07	-	-	-
2,2,4-Trimethylpentane		5			ND		1.87	ND		0.934	ND		0.934	ND		0.934	ND		0.934	ND		0.934
Heptane					ND		1.64	ND		0.82	2.16		0.82	ND		0.82	ND		0.82	ND		0.82
cis-1,3-Dichloropropene		0.4	2.3		ND		1.82	ND		0.908	ND		0.908	ND		0.908	ND		0.908	ND		0.908
4-Methyl-2-pentanone		1.9	6		ND		4.1	ND		2.05	ND		2.05	ND		2.05	2.72		2.05	ND		2.05
trans-1,3-Dichloropropene			1.3		ND		1.82	ND		0.908	ND		0.908	ND		0.908	ND		0.908	ND		0.908
1,1,2-Trichloroethane		0.4	1.5		ND		2.18	ND		1.09	ND		1.09	ND		1.09	ND		1.09	ND		1.09
Toluene		57	43	39.8	5.09		1.51	1.77		0.754	5.13		0.754	1.04		0.754	4.33		0.754	1.39		0.754
2-Hexanone					ND		1.64	ND		0.82	ND		0.82	ND		0.82	1.27		0.82	ND		0.82
Dibromochloromethane					ND		3.41	ND		1.7	ND		1.7	ND		1.7	ND		1.7	ND		1.7
1,2-Dibromoethane		0.4	1.5		ND		3.07	ND		1.54	ND		1.54	ND		1.54	ND		1.54	ND		1.54
Tetrachloroethene	30	2.5	15.9	6.01	1010		2.71	-	-	-	213		1.36	-	-	-	204		1.36	-	-	-

Excerpt from: GZA GeoEnviromental of New York, *Building 338 Sub-Slab Vapor Investigation, Former IBM Facility, Hopewell Junction, NY,* September 2019.

TABLE 1
ANALYTICAL RESULTS
Building 338 Sub-slab Vapor Investigation
2070 Route 52
Hopewell Junction, New York 12533

SAMPLE ID:	NYSDOH AGV[1]	Fuel Oil 2003 Upper Indoor[2]	BASE Data 90th[3]	2005 95th Percentile Indoor[4]	SS-04			IA-04			SS-03			IA-03			SS-02			IA-02		
LAB ID:					L1926771-01			L1926771-08			L1926771-03			L1926771-07			L1926771-02			L1926771-06		
COLLECTION DATE:					6/18/2019			6/18/2019			6/18/2019			6/18/2019			6/18/2019			6/18/2019		
SAMPLE MATRIX:					SOIL_VAPOR			AIR			SOIL_VAPOR			AIR			SOIL_VAPOR			AIR		
					Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
Chlorobenzene		0.4	0.9		ND		1.84	ND		0.921	ND		0.921	ND		0.921	ND		0.921	ND		0.921
Ethylbenzene		6.4	5.7	7.62	10.9		1.74	ND		0.869	2.68		0.869	ND		0.869	2.32		0.869	ND		0.869
p/m-Xylene		11	22.2	22.2	8.34		3.47	ND		1.74	5.47		1.74	ND		1.74	6.91		1.74	ND		1.74
Bromoform					ND		4.14	ND		2.07	ND		2.07	ND		2.07	ND		2.07	ND		2.07
Styrene		1.4	1.9	5.13	ND		1.7	ND		0.852	ND		0.852	ND		0.852	ND		0.852	ND		0.852
1,1,2,2-Tetrachloroethane		0.4			ND		2.75	ND		1.37	ND		1.37	ND		1.37	ND		1.37	ND		1.37
o-Xylene		7.1	7.9	7.24	3.9		1.74	ND		0.869	2.51		0.869	ND		0.869	2.69		0.869	ND		0.869
4-Ethyltoluene			3.6		2.6		1.97	ND		0.983	2		0.983	ND		0.983	2.38		0.983	ND		0.983
1,3,5-Trimethylbenzene		3.9	3.7		3.17		1.97	ND		0.983	2.69		0.983	ND		0.983	2.76		0.983	ND		0.983
1,2,4-Trimethylbenzene		9.8	9.5		17		1.97	ND		0.983	13.4		0.983	ND		0.983	16.5		0.983	ND		0.983
Benzyl chloride			6.8		ND		2.07	ND		1.04	ND		1.04	ND		1.04	ND		1.04	ND		1.04
1,3-Dichlorobenzene		0.5	2.4		ND		2.4	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,4-Dichlorobenzene		1.2	5.5	344	ND		2.4	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,2-Dichlorobenzene		0.5	1.2		ND		2.4	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene		0.5	6.8		ND		2.97	ND		1.48	ND		1.48	ND		1.48	ND		1.48	ND		1.48
Hexachlorobutadiene		0.5	6.8		ND		4.27	ND		2.13	ND		2.13	ND		2.13	ND		2.13	ND		2.13
VOLATILE ORGANICS IN AIR BY SIM																						
Vinyl chloride		0.4	1.9		*		*	ND		0.051	*		*	ND		0.051	*		*	ND		0.051
1,1-Dichloroethene		0.4	1.4		*		*	ND		0.079	*		*	ND		0.079	*		*	ND		0.079
cis-1,2-Dichloroethene		0.4	1.9		*		*	ND		0.079	*		*	ND		0.079	*		*	ND		0.079
1,1,1-Trichloroethane		2.5	20.6		*		*	ND		0.109	*		*	ND		0.109	*		*	ND		0.109
Carbon tetrachloride		1.3	1.3	1.1	*		*	0.503		0.126	*		*	0.604		0.126	*		*	0.503		0.126
Trichloroethene	2	0.5	4.2	1.36	*		*	ND		0.107	*		*	ND		0.107	*		*	ND		0.107
Tetrachloroethene	30	2.5	15.9	6.01	*		*	0.305		0.136	*		*	0.332		0.136	*		*	0.278		0.136

Notes:

1 - NYSDOH Air Guidance Value (indoor air samples only)

2 - Table C-1 2003 Upper Fence Study of Volatile Organic Chemicals in air of Fuel Oil Heated Homes for Indoor Air (indoor air samples only)

3 - Table C-2 2001 USEPA BASE 90th Percentile for Indoor Air (indoor air sample only)

4 - Table C-5 2005 Health Effects Institute 95th Percentile for Indoor Air (indoor air samples only)

4 This value exceeds NYSDOH AGV

6 This value exceeds one or more of the Indoor Air Background Values

2 This detection limit exceeds the applicable criteria

\- Compound analyzed by SIM, See "Volatile Organics in Air by SIM" Compound List

* Compound not analyzed by SIM, See "Volatile Organics in Air" Compound List

Q - Laboratory data qualifier

ND - The compound was not detected above the method detection limit

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

RL - Reporting limit

Excerpt from: GZA GeoEnvironmental of New York, *Building 338 Sub-Slab Vapor Investigation, Former IBM Facility, Hopewell Junction, NY,* September 2019.

TABLE 1
ANALYTICAL RESULTS
Building 338 Sub-slab Vapor Investigation
2070 Route 52
Hopewell Junction, New York 12533

SAMPLE ID:	NYSDOH AGV[1]	Fuel Oil 2003 Upper Indoor[2]	BASE Data 90th[3]	2005 95th Percentile Indoor[4]	SS-01			IA-01			AA-01			AA-02			DUP-061819		
LAB ID:					L1926771-04			L1926771-05			L1926771-09			L1926771-10			L1926771-11		
COLLECTION DATE:					6/18/2019			6/18/2019			6/18/2019			6/18/2019			6/18/2019		
SAMPLE MATRIX:					SOIL_VAPOR			AIR			AIR			AIR			AIR		
					Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANICS IN AIR																			
Dichlorodifluoromethane		10	16.5		72.7		0.989	3.79		0.989	2.76		0.989	2.71		0.989	3		0.989
Chloromethane		4.2	3.7		6.03		0.413	2.13		0.413	1.54		0.413	1.85		0.413	1.5		0.413
Freon-114		0.4			ND		1.4	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vinyl chloride		0.4	1.9		ND		0.511	-	-	-	-	-	-	-	-	-	-	-	-
1,3-Butadiene			3		4.76		0.442	ND		0.442	ND		0.442	ND		0.442	ND		0.442
Bromomethane		0.5	1.7		ND		0.777	ND		0.777	ND		0.777	ND		0.777	ND		0.777
Chloroethane		0.4	1.1		0.752		0.528	ND		0.528	ND		0.528	ND		0.528	ND		0.528
Ethanol		1300	210		11.1		9.42	86.9		9.42	ND		9.42	ND		9.42	ND		9.42
Vinyl bromide					ND		0.874	ND		0.874	ND		0.874	ND		0.874	ND		0.874
Acetone		115	98.9	45.8	43.2		2.38	36.8		2.38	8.22		2.38	25.7		2.38	10		2.38
Trichlorofluoromethane		12	18.1		10.5		1.12	**16.8**		**1.12**	1.43		1.12	1.45		1.12	1.54		1.12
Isopropanol			250		1.99		1.23	6.71		1.23	ND		1.23	3.07		1.23	ND		1.23
1,1-Dichloroethene		0.4	1.4		ND		0.793	-	-	-	-	-	-	-	-	-	-	-	-
Tertiary butyl Alcohol					5.12		1.52	ND		1.52	ND		1.52	ND		1.52	ND		1.52
Methylene chloride	60	16	10	7.5	ND		1.74	8.62		1.74	ND		1.74	ND		1.74	ND		1.74
3-Chloropropene					ND		0.626	ND		0.626	ND		0.626	ND		0.626	ND		0.626
Carbon disulfide			4.2		22.8		0.623	0.878		0.623	ND		0.623	ND		0.623	ND		0.623
Freon-113			3.5		3.34		1.53	ND		1.53	ND		1.53	ND		1.53	ND		1.53
trans-1,2-Dichloroethene					1.09		0.793	1.15		0.793	ND		0.793	ND		0.793	ND		0.793
1,1-Dichloroethane		0.4	0.7		ND		0.809	ND		0.809	ND		0.809	ND		0.809	ND		0.809
Methyl tert butyl ether		14	11.5	36	ND		0.721	ND		0.721	ND		0.721	ND		0.721	ND		0.721
2-Butanone			12		96.1		1.47	6.58		1.47	ND		1.47	2.42		1.47	ND		1.47
cis-1,2-Dichloroethene		0.4	1.9		ND		0.793	-	-	-	-	-	-	-	-	-	-	-	-
Ethyl Acetate			5.4		ND		1.8	ND		1.8	ND		1.8	ND		1.8	ND		1.8
Chloroform		1.2	1.1	6.34	130		0.977	ND		0.977	ND		0.977	ND		0.977	ND		0.977
Tetrahydrofuran		0.8			128		1.47	**79**		**1.47**	2.72		1.47	ND		1.47	ND		1.47
1,2-Dichloroethane		0.4	0.9		ND		0.809	ND		0.809	ND		0.809	ND		0.809	ND		0.809
n-Hexane		14	10.2		4.86		0.705	**20.4**		**0.705**	ND		0.705	ND		0.705	ND		0.705
1,1,1-Trichloroethane		2.5	20.6		ND		1.09	-	-	-	-	-	-	-	-	-	-	-	-
Benzene		13	9.4	10	2.39		0.639	2.26		0.639	ND		0.639	ND		0.639	ND		0.639
Carbon tetrachloride		1.3	1.3	1.1	ND		1.26	-	-	-	-	-	-	-	-	-	-	-	-
Cyclohexane		6.3			1.42		0.688	1.45		0.688	ND		0.688	ND		0.688	ND		0.688
1,2-Dichloropropane		0.4	1.6		ND		0.924	ND		0.924	ND		0.924	ND		0.924	ND		0.924
Bromodichloromethane					6.24		1.34	ND		1.34	ND		1.34	ND		1.34	ND		1.34
1,4-Dioxane					ND		0.721	ND		0.721	ND		0.721	ND		0.721	ND		0.721
Trichloroethene	2	0.5	4.2	1.36	ND		1.07	-	-	-	-	-	-	-	-	-	-	-	-
2,2,4-Trimethylpentane		5			2.96		0.934	2.06		0.934	ND		0.934	ND		0.934	ND		0.934
Heptane					4.34		0.82	2.66		0.82	ND		0.82	ND		0.82	ND		0.82
cis-1,3-Dichloropropene		0.4	2.3		ND		0.908	ND		0.908	ND		0.908	ND		0.908	ND		0.908
4-Methyl-2-pentanone		1.9	6		3.28		2.05	ND		2.05	ND		2.05	ND		2.05	ND		2.05
trans-1,3-Dichloropropene			1.3		ND		0.908	ND		0.908	ND		0.908	ND		0.908	ND		0.908
1,1,2-Trichloroethane		0.4	1.5		ND		1.09	ND		1.09	ND		1.09	ND		1.09	ND		1.09
Toluene		57	43	39.8	6.1		0.754	11		0.754	1.54		0.754	1.22		0.754	1.32		0.754
2-Hexanone					ND		0.82	ND		0.82	ND		0.82	ND		0.82	ND		0.82
Dibromochloromethane					1.94		1.7	ND		1.7	ND		1.7	ND		1.7	ND		1.7
1,2-Dibromoethane		0.4	1.5		ND		1.54	ND		1.54	ND		1.54	ND		1.54	ND		1.54
Tetrachloroethene	30	2.5	15.9	6.01	104		1.36	-	-	-	-	-	-	-	-	-	-	-	-

Excerpt from: GZA GeoEnviromental of New York, *Building 338 Sub-Slab Vapor Investigation, Former IBM Facility, Hopewell Junction, NY,* September 2019.

TABLE 1
ANALYTICAL RESULTS
Building 338 Sub-slab Vapor Investigation
2070 Route 52
Hopewell Junction, New York 12533

SAMPLE ID:	NYSDOH AGV[1]	Fuel Oil 2003 Upper Indoor[2]	BASE Data 90th[3]	2005 95th Percentile Indoor[4]	SS-01			IA-01			AA-01			AA-02			DUP-061819		
LAB ID:					L1926771-04			L1926771-05			L1926771-09			L1926771-10			L1926771-11		
COLLECTION DATE:					6/18/2019			6/18/2019			6/18/2019			6/18/2019			6/18/2019		
SAMPLE MATRIX:					SOIL_VAPOR			AIR			AIR			AIR			AIR		
					Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
Chlorobenzene		0.4	0.9		ND		0.921	ND		0.921	ND		0.921	ND		0.921	ND		0.921
Ethylbenzene		6.4	5.7	7.62	6.12		0.869	1.08		0.869	ND		0.869	ND		0.869	ND		0.869
p/m-Xylene		11	22.2	22.2	9.21		1.74	3.58		1.74	ND		1.74	ND		1.74	ND		1.74
Bromoform					ND		2.07	ND		2.07	ND		2.07	ND		2.07	ND		2.07
Styrene		1.4	1.9	5.13	ND		0.852	ND		0.852	ND		0.852	ND		0.852	ND		0.852
1,1,2,2-Tetrachloroethane		0.4			ND		1.37	ND		1.37	ND		1.37	ND		1.37	ND		1.37
o-Xylene		7.1	7.9	7.24	3.55		0.869	1.39		0.869	ND		0.869	ND		0.869	ND		0.869
4-Ethyltoluene			3.6		2.2		0.983	ND		0.983	ND		0.983	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene		3.9	3.7		2.66		0.983	ND		0.983	ND		0.983	ND		0.983	ND		0.983
1,2,4-Trimethylbenzene		9.8	9.5		13.9		0.983	1.82		0.983	ND		0.983	ND		0.983	ND		0.983
Benzyl chloride			6.8		ND		1.04	ND		1.04	ND		1.04	ND		1.04	ND		1.04
1,3-Dichlorobenzene		0.5	2.4		ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,4-Dichlorobenzene		1.2	5.5	344	ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,2-Dichlorobenzene		0.5	1.2		ND		1.2	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene		0.5	6.8		ND		1.48	ND		1.48	ND		1.48	ND		1.48	ND		1.48
Hexachlorobutadiene		0.5	6.8		ND		2.13	ND		2.13	ND		2.13	ND		2.13	ND		2.13
VOLATILE ORGANICS IN AIR BY SIM																			
Vinyl chloride		0.4	1.9		*		*	ND		0.051	ND		0.051	ND		0.051	ND		0.051
1,1-Dichloroethene		0.4	1.4		*		*	ND		0.079	ND		0.079	ND		0.079	ND		0.079
cis-1,2-Dichloroethene		0.4	1.9		*		*	0.19		0.079	ND		0.079	ND		0.079	ND		0.079
1,1,1-Trichloroethane		2.5	20.6		*		*	ND		0.109	ND		0.109	ND		0.109	ND		0.109
Carbon tetrachloride		1.3	1.3	1.1	*		*	0.503		0.126	0.484		0.126	0.491		0.126	0.51		0.126
Trichloroethene	2	0.5	4.2	1.36	*		*	0.279		0.107	ND		0.107	ND		0.107	ND		0.107
Tetrachloroethene	30	2.5	15.9	6.01	*		*	0.305		0.136	0.278		0.136	0.298		0.136	0.305		0.136

Notes:

1 - NYSDOH Air Guidance Value (indoor air samples only)

2 - Table C-1 2003 Upper Fence Study of Volatile Organic Chemicals in air of Fuel Oil Heated Homes for Indoor Air (indoor air samples only)

3 - Table C-2 2001 USEPA BASE 90th Percentile for Indoor Air (indoor air sample only)

4 - Table C-5 2005 Health Effects Institute 95th Percentile for Indoor Air (indoor air samples only)

4 This value exceeds NYSDOH AGV

6 This value exceeds one or more of the Indoor Air Background Values

2 This detection limit exceeds the applicable criteria

\- Compound analyzed by SIM, See "Volatile Organics in Air by SIM" Compound List

* Compound not analyzed by SIM, See "Volatile Organics in Air" Compound List

Q - Laboratory data qualifier

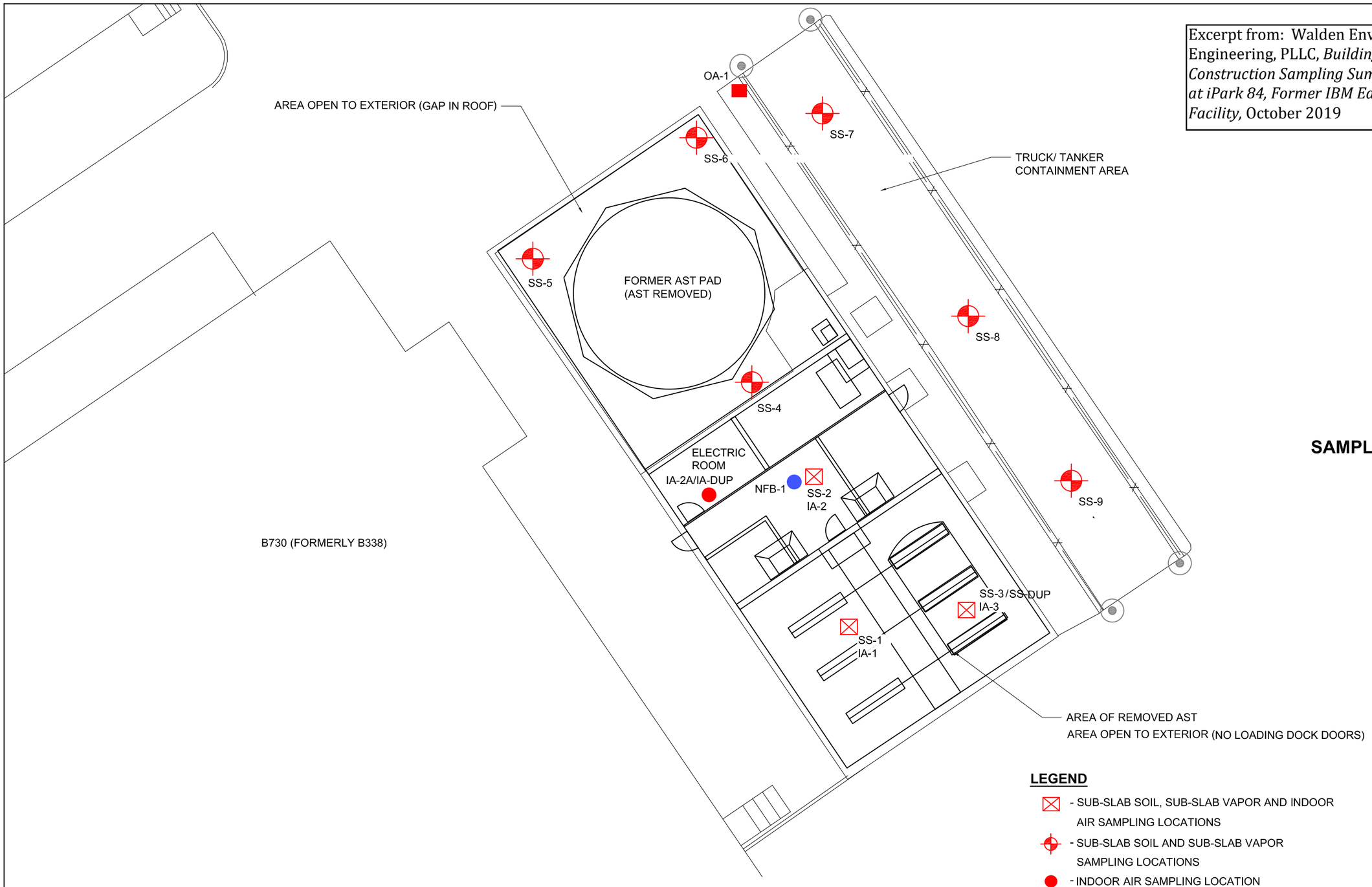
ND - The compound was not detected above the method detection limit

J - Data indicates the presence of a compound that meets the identification criteria. The result is less than the quantitation limit but greater than MDL. The concentration given is an approximate value.

RL - Reporting limit

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019

N



BUILDING 339
SAMPLING LOCATIONS

SCALE: 1/16" = 1'-0"

LEGEND

- ⊠ - SUB-SLAB SOIL, SUB-SLAB VAPOR AND INDOOR AIR SAMPLING LOCATIONS
- ⊕ - SUB-SLAB SOIL AND SUB-SLAB VAPOR SAMPLING LOCATIONS
- ● - INDOOR AIR SAMPLING LOCATION
- ■ - OUTDOOR AIR SAMPLING LOCATION
- ● - NITROGEN FIELD BLANK

0 ½ 1 2 3

1/16

SCALE: 1/16"=1'

Walden Environmental Engineering

WALDEN ENVIRONMENTAL ENGINEERING, PLLC
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REVISION		
No.	DATE	COMMENTS

FOR: BUILDING 339
iPark 84 Campus
2070 State Route 52
Hopewell Junction, NY 12533

DRAWING TITLE: SITE MAP WITH SAMPLING LOCATIONS
BUILDING 339 - PRE-CONSTRUCTION SAMPLING SUMMARY REPORT

FIGURE NO: 2

ISSUED

REVISION NO: 0

DESIGNED BY: NMB / GW | DRAWN BY: EJK | JOB NO: IPARK118.34 | DATE: 9/6/19 | 11x17 | SHEET NO: 2 OF 2

APPROVED BY: JMH | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark\0118\iPark0118.34 - Bldg 339 Plug0

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019

iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 2
SUMMARY OF SUB-SLAB, INDOOR AND OUTDOOR AIR SAMPLING RESULTS
SEPTEMBER 30, 2019

					Southern AST Area									
					Sub-slab Vapor Concentration		Indoor Air Concentration		Sub-slab Vapor Concentration				Indoor Air Concentration	
Analyte	**CAS #**	**NYSDOH Air Guideline Value**	**USEPA BASE Indoor Air 90th Percentile Concentration**	**USEPA BASE Outdoor Air 90th Percentile Concentration**	**SS-1**	**Q**	**IA-1**	**Q**	**SS-3***	**Q**	**SS-DUP**	**Q**	**IA-3**	**Q**
Acetone	67-64-1		98.9	43.7	**144**		**3.56**		**909**		**1,120**		**3.8**	
1,1,1-Trichloroethane	71-55-6		20.6	2.6	**1.22**		< 1.09	U	< 266	U	< 1.09	U	< 1.09	U
1,1-Dichloroethene	75-35-4		< 1.4	< 1.4	< 0.40	U	< 0.40	U	< 96.7	U	< 0.40	U	< 0.40	U
1,2,4-Trichlorobenzene	120-82-1		< 6.8	< 6.4	< 1.85	U	< 1.85	U	< 452	U	< 1.85	U	< 1.85	U
1,2-Dichlorobenzene	95-50-1		< 1.2	< 1.2	< 0.90	U	< 0.90	U	< 220	U	< 0.90	U	< 0.90	U
1,3-Dichlorobenzene	541-73-1		< 2.4	< 2.2	< 0.90	U	< 0.90	U	< 220	U	< 0.90	U	< 0.90	U
1,4-Dichlorobenzene	106-46-7		5.5	1.2	< 0.90	U	< 0.90	U	< 220	U	< 0.90	U	< 0.90	U
Benzene	71-43-2		9.4	6.6	**4.41**		**0.18**		< 39.0	U	**4.76**		**0.18**	
Carbon Tetrachloride	56-23-5		< 1.3	0.7	< 0.13	U	**0.4**		< 30.7	U	**0.35**		**0.43**	
Chlorobenzene	108-90-7		< 0.9	< 0.8	< 0.92	U	< 0.92	U	< 225	U	< 0.92	U	< 0.92	U
Cis-1,2-Dichloroethene	156-59-2		< 1.9	< 1.8	< 0.79	U	< 0.79	U	< 193	U	< 0.79	U	< 0.79	U
Dichlorodifluoromethane	75-71-8		16.5	8.1	**319**		**2.38**		< 241	U	**2.56**		**2.38**	
Ethylbenzene	100-41-4		5.7	3.5	**12.4**		< 0.65	U	< 159	U	**27.8**		< 0.65	U
m,p-Xylene	179601-23-1		22.2	12.8	**49.9**		< 0.65	U	< 159	U	**76.4**		< 0.65	U
Methylene Chloride	75-09-2	60	10	6.1	< 1.39	U	< 1.39	U	< 339	U	< 1.39	U	< 1.39	U
o-Xylene	95-47-6		7.9	4.6	**21.4**		< 0.65	U	< 159	U	**27.5**		< 0.65	U
Tetrachloroethene	127-18-4	30	15.9	6.5	**72.5**		< 0.68	U	< 165	U	**2.5**		< 0.68	U
Toluene	108-88-3		43	33.7	**21.6**		< 0.75	U	< 184	U	**25**		< 0.75	U
Trichloroethene	79-01-6	2	4.2	1.3	< 0.20	U	< 0.20	U	< 48.5	U	**0.2**		< 0.20	U
Trichlorofluoromethane	75-69-4		18.1	4.3	**12.8**		**1.13**		< 206	U	**1.89**		**1.24**	
Trichlorotrifluoroethane	76-13-1		3.5	1.6	**2.35**		< 1.15	U	< 280	U	< 1.15	U	< 1.15	U
Vinyl Chloride	75-01-4		< 1.9	< 1.8	< 0.05	U	< 0.05	U	< 12.5	U	< 0.05	U	< 0.05	U

Notes:
Concentrations are provided in micrograms per cubic meter ($\mu g/m^3$).
Q - Qualifier
* - SS-3 required a high dilution factor due to the pressure remaining in the Summa Canister at the time of sample completion; the results for the duplicate sample collected at this location are considered representative of the conditions at SS-3.
Highlighted analytes are included in the NYSDOH Decision Matrices.
Bold concentrations indicate results detected above method detection limits (MDLs).
U - The compound was anlayzed for but not detected at or above the MDL. The number immediately preceding the "U" represents the pratical quantitation reporting level corrected for percent solids, weight and/or volume calculations, and dilution factors.

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019

iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 2
SUMMARY OF SUB-SLAB, INDOOR AND OUTDOOR AIR SAMPLING RESULTS
SEPTEMBER 30, 2019

					Central Section								Northern AST Area					
					Sub-slab Vapor Concentration		Indoor Air Concentration		Indoor Air Concentration				Sub-slab Vapor Concentration					
Analyte	**CAS #**	**NYSDOH Air Guideline Value**	**USEPA BASE Indoor Air 90th Percentile Concentration**	**USEPA BASE Outdoor Air 90th Percentile Concentration**	**SS-2**	**Q**	**IA-2**	**Q**	**IA-2A**	**Q**	**IA-DUP**	**Q**	**SS-4**	**Q**	**SS-5**	**Q**	**SS-6**	**Q**
Acetone	67-64-1		98.9	43.7	**560**		**4.82**		**4.44**		**6.27**		**309**		**196**		**513**	
1,1,1-Trichloroethane	71-55-6		20.6	2.6	**14.4**		< 1.09	U	< 1.09	U	< 1.09	U	**2.26**		**3.88**		**1.8**	
1,1-Dichloroethene	75-35-4		< 1.4	< 1.4	< 0.40	U	< 0.40	U	< 0.40	U	< 0.40	U	< 0.40	U	< 0.40	U	< 0.40	U
1,2,4-Trichlorobenzene	120-82-1		< 6.8	< 6.4	< 1.85	U	< 1.85	U	< 1.85	U	< 1.85	U	< 1.85	U	< 1.85	U	< 1.85	U
1,2-Dichlorobenzene	95-50-1		< 1.2	< 1.2	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U
1,3-Dichlorobenzene	541-73-1		< 2.4	< 2.2	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U
1,4-Dichlorobenzene	106-46-7		5.5	1.2	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U
Benzene	71-43-2		9.4	6.6	**3.77**		**0.39**		**0.5**		**0.55**		**3.86**		**4.21**		**7.02**	
Carbon Tetrachloride	56-23-5		< 1.3	0.7	< 0.13	U	**0.41**		**0.4**		**0.44**		< 0.13	U	**0.16**		**0.32**	
Chlorobenzene	108-90-7		< 0.9	< 0.8	< 0.92	U	< 0.92	U	< 0.92	U	< 0.92	U	< 0.92	U	< 0.92	U	< 0.92	U
Cis-1,2-Dichloroethene	156-59-2		< 1.9	< 1.8	< 0.79	U	< 0.79	U	< 0.79	U	< 0.79	U	< 0.79	U	< 0.79	U	< 0.79	U
Dichlorodifluoromethane	75-71-8		16.5	8.1	**8.5**		**2.43**		**2.48**		**2.39**		**20.8**		**63.8**		**16**	
Ethylbenzene	100-41-4		5.7	3.5	**125**		< 0.65	U	< 0.65	U	< 0.65	U	**12.5**		**11.5**		**27.9**	
m,p-Xylene	179601-23-1		22.2	12.8	**332**		**1.28**		**1.48**		**1.54**		**47.7**		**45.1**		**65.1**	
Methylene Chloride	75-09-2	60	10	6.1	< 1.39	U	< 1.39	U	< 1.39	U	< 1.39	U	< 1.39	U	< 1.39	U	< 1.39	U
o-Xylene	95-47-6		7.9	4.6	**129**		< 0.65	U	< 0.65	U	< 0.65	U	**20.1**		**19.1**		**23.4**	
Tetrachloroethene	127-18-4	30	15.9	6.5	< 0.68	U	**1.08**		< 0.68	U	< 0.68	U	**16.9**		**73.9**		**42.5**	
Toluene	108-88-3		43	33.7	**55.4**		**1.82**		**2.39**		**2.47**		**22.2**		**19.8**		**26.4**	
Trichloroethene	79-01-6	2	4.2	1.3	< 0.20	U	< 0.20	U	< 0.20	U	< 0.20	U	< 0.20	U	**0.74**		**2.13**	
Trichlorofluoromethane	75-69-4		18.1	4.3	**2.99**		**1.17**		**1.18**		**1.2**		**5.9**		**7.97**		**3.04**	
Trichlorotrifluoroethane	76-13-1		3.5	1.6	< 1.15	U	< 1.15	U	< 1.15	U	< 1.15	U	< 1.15	U	**1.72**		< 1.15	U
Vinyl Chloride	75-01-4		< 1.9	< 1.8	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U

Notes:
Concentrations are provided in micrograms per cubic meter (µg/m^3).
Q - Qualifier
* - SS-3 required a high dilution factor due to the pressure remaining in the Summa Canister at the time sample collected at this location are considered representative of the conditions at SS-3.
Highlighted analytes are included in the NYSDOH Decision Matrices.
Bold concentrations indicate results detected above method detection limits (MDLs).
U - The compound was anlayzed for but not detected at or above the MDL. The number immediately p reporting level corrected for percent solids, weight and/or volume calculations, and dilution factors.

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iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 2
SUMMARY OF SUB-SLAB, INDOOR AND OUTDOOR AIR SAMPLING RESULTS
SEPTEMBER 30, 2019

					Truck/Tanker Containment Area									
					Sub-slab Vapor Concentration						Outdoor Air Concentration		Nitrogen Field Blank Concentration	
Analyte	**CAS #**	**NYSDOH Air Guideline Value**	**USEPA BASE Indoor Air 90th Percentile Concentration**	**USEPA BASE Outdoor Air 90th Percentile Concentration**	**SS-7**	**Q**	**SS-8**	**Q**	**SS-9**	**Q**	**OA-1**	**Q**	**NFB-1**	**Q**
Acetone	67-64-1		98.9	43.7	**252**		**387**		**96.6**		**4.32**		**4.44**	
1,1,1-Trichloroethane	71-55-6		20.6	2.6	< 1.09	U	< 1.09	U	< 1.09	U	< 1.09	U	< 1.09	U
1,1-Dichloroethene	75-35-4		< 1.4	< 1.4	< 0.40	U	< 0.40	U	< 0.40	U	< 0.40	U	< 0.40	U
1,2,4-Trichlorobenzene	120-82-1		< 6.8	< 6.4	< 1.85	U	< 1.85	U	< 1.85	U	< 1.85	U	< 1.85	U
1,2-Dichlorobenzene	95-50-1		< 1.2	< 1.2	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U
1,3-Dichlorobenzene	541-73-1		< 2.4	< 2.2	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U
1,4-Dichlorobenzene	106-46-7		5.5	1.2	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U	< 0.90	U
Benzene	71-43-2		9.4	6.6	**55.6**		**64.2**		**44.1**		**0.18**		**1.15**	
Carbon Tetrachloride	56-23-5		< 1.3	0.7	**0.37**		**0.38**		**0.37**		**0.42**		**0.24**	
Chlorobenzene	108-90-7		< 0.9	< 0.8	< 0.92	U	< 0.92	U	< 0.92	U	< 0.92	U	< 0.92	U
Cis-1,2-Dichloroethene	156-59-2		< 1.9	< 1.8	< 0.79	U	< 0.79	U	< 0.79	U	< 0.79	U	< 0.79	U
Dichlorodifluoromethane	75-71-8		16.5	8.1	**2.25**		**2.23**		**2.5**		**3.46**		**1.35**	
Ethylbenzene	100-41-4		5.7	3.5	**16**		**9.5**		**12.7**		< 0.65	U	**1.15**	
m,p-Xylene	179601-23-1		22.2	12.8	**57.7**		**41.6**		**51.6**		< 0.65	U	**4.56**	
Methylene Chloride	75-09-2	60	10	6.1	< 1.39	U	< 1.39	U	< 1.39	U	< 1.39	U	< 1.39	U
o-Xylene	95-47-6		7.9	4.6	**22.8**		**18.2**		**23**		< 0.65	U	**1.59**	
Tetrachloroethene	127-18-4	30	15.9	6.5	**1.17**		**2.33**		**1.92**		**0.81**		< 0.68	U
Toluene	108-88-3		43	33.7	**18.4**		**20.2**		**20.2**		< 0.75	U	**7.08**	
Trichloroethene	79-01-6	2	4.2	1.3	< 0.20	U	**0.27**		< 0.20	U	**0.32**		< 0.20	U
Trichlorofluoromethane	75-69-4		18.1	4.3	**1.4**		**1.61**		**2.06**		**1.23**		< 0.84	U
Trichlorotrifluoroethane	76-13-1		3.5	1.6	< 1.15	U	< 1.15	U	< 1.15	U	< 1.15	U	< 1.15	U
Vinyl Chloride	75-01-4		< 1.9	< 1.8	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U	< 0.05	U

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Concentrations are provided in micrograms per cubic meter (µg/m^3).
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iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 3
SUMMARY OF SOIL SAMPLING RESULTS - VOCs ONLY

				Collection Date	10/2/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/1/2019		10/1/2019	
				Sample ID	SS-1 (1'-2')		SS-2 (3'-4')		SS-3 (0'-1')		SS-4 (1'-2')		SS-5 (0'-1')		SS-6 (0'-1')		SS-8 (1'-2')		SS-9 (30"-40")	
				Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
		NYCRR Part 375 SCOs																		
	CAS	**Commercial Use Soil Cleanup Objective**	**Residential Use Soil Cleanup Objective**	**Unrestricted Use Soil Cleanup Objective**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Volatiles By SW8260C																				
1,1,1,2-Tetrachloroethane	630-20-6				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,1,1-Trichloroethane	71-55-6	500,000	100,000	680	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,1,2,2-Tetrachloroethane	79-34-5				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,1,2-Trichloroethane	79-00-5				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,1-Dichloroethane	75-34-3	240,000	19,000	270	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,1-Dichloroethene	75-35-4	500,000	100,000	330	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,1-Dichloropropene	563-58-6				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2,3-Trichlorobenzene	87-61-6				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2,3-Trichloropropane	96-18-4				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2,4-Trichlorobenzene	120-82-1				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2,4-Trimethylbenzene	95-63-6	190,000	47,000	3,600	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2-Dibromo-3-chloropropane	96-12-8				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2-Dibromoethane	106-93-4				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2-Dichlorobenzene	95-50-1	500,000	100,000	1,100	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2-Dichloroethane	107-06-2	30,000	2,300	20	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,2-Dichloropropane	78-87-5				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,3,5-Trimethylbenzene	108-67-8	190,000	47,000	8,400	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,3-Dichlorobenzene	541-73-1	280,000	17,000	2,400	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,3-Dichloropropane	142-28-9				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
1,4-Dichlorobenzene	106-46-7	130,000	9,800	1,800	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
2,2-Dichloropropane	594-20-7				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
2-Chlorotoluene	95-49-8				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
2-Hexanone	591-78-6				< 20	U	< 24	U	< 21	U	< 14	U	< 15	U	< 17	U	< 18	U	< 25	U
2-Isopropyltoluene	527-84-4				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
4-Chlorotoluene	106-43-4				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
4-Methyl-2-pentanone	108-10-1				< 20	U	< 24	U	< 21	U	< 14	U	< 15	U	< 17	U	< 18	U	< 25	U
Acetone	67-64-1	500,000	100,000	50	**78**	**S**	**12**	**JS**	**10**	**JS**	< 14	U	< 15	U	< 17	U	**10**	**JS**	**5.6**	**JS**
Acrylonitrile	107-13-1				< 8.1	U	< 9.7	U	< 8.5	U	< 5.7	U	< 5.8	U	< 6.7	U	< 7.2	U	< 10	U
Benzene	71-43-2	44,000	2,900	60	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Bromobenzene	108-86-1				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Bromochloromethane	74-97-5				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Bromodichloromethane	75-27-4				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Bromoform	75-25-2				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Bromomethane	74-83-9				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Carbon Disulfide	75-15-0				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Carbon tetrachloride	56-23-5	22,000	1,400	760	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Chlorobenzene	108-90-7	500,000	100,000	1,100	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019

iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 3
SUMMARY OF SOIL SAMPLING RESULTS - VOCs ONLY

				Collection Date	10/2/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/1/2019		10/1/2019	
				Sample ID	SS-1 (1'-2')		SS-2 (3'-4')		SS-3 (0'-1')		SS-4 (1'-2')		SS-5 (0'-1')		SS-6 (0'-1')		SS-8 (1'-2')		SS-9 (30"-40")	
				Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
		NYCRR Part 375 SCOs																		
	CAS	**Commercial Use Soil Cleanup Objective**	**Residential Use Soil Cleanup Objective**	**Unrestricted Use Soil Cleanup Objective**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Chloroethane	75-00-3				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Chloroform	67-66-3	350,000	10,000	370	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Chloromethane	74-87-3				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
cis-1,2-Dichloroethene	156-59-2	500,000	59,000	250	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
cis-1,3-Dichloropropene	10061-01-5				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Dibromochloromethane	124-48-1				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Dibromomethane	74-95-3				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Dichlorodifluoromethane	75-71-8				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Ethylbenzene	100-41-4	390,000	30,000	1,000	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Hexachlorobutadiene	87-68-3				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Isopropylbenzene	98-82-8				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
m&p-Xylene	179601-23-1				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	**0.63**	**J**	< 3.4	U	< 3.6	U	< 5.0	U
Methyl Ethyl Ketone	78-93-3	500,000	100,000	120	< 24	U	< 29	U	< 26	U	< 17	U	< 17	U	< 20	U	< 22	U	< 30	U
Methyl t-butyl ether (MTBE)	1634-04-4	500,000	62,000	930	< 8.1	U	< 9.7	U	< 8.5	U	< 5.7	U	< 5.8	U	< 6.7	U	< 7.2	U	< 10	U
Methylene chloride	75-09-2	500,000	51,000	50	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Naphthalene	91-20-3	500,000	100,000	12,000	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
n-Butylbenzene	104-51-8	500,000	100,000	12,000	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
n-Propylbenzene	103-65-1	500,000	100,000	3,900	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
o-Xylene	95-47-6				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
p-Isopropyltoluene	99-87-6				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
sec-Butylbenzene	135-98-8	500,000	100,000	11,000	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Styrene	100-42-5				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
tert-Butylbenzene	98-06-6	500,000	100,000	5,900	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Tetrachloroethene	127-18-4	150,000	5,500	1,300	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	**0.9**	**J**	< 3.4	U	< 3.6	U	< 5.0	U
Tetrahydrofuran (THF)	109-99-9				< 8.1	U	< 9.7	U	< 8.5	U	< 5.7	U	< 5.8	U	< 6.7	U	< 7.2	U	< 10	U
Toluene	108-88-3	500,000	100,000	700	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
trans-1,2-Dichloroethene	156-60-5	500,000	100,000	190	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
trans-1,3-Dichloropropene	10061-02-6				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
trans-1,4-dichloro-2-butene	110-57-6				< 8.1	U	< 9.7	U	< 8.5	U	< 5.7	U	< 5.8	U	< 6.7	U	< 7.2	U	< 10	U
Trichloroethene	79-01-6	200,000	10,000	470	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Trichlorofluoromethane	75-69-4				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Trichlorotrifluoroethane	76-13-1				< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U
Vinyl chloride	75-01-4	13,000	210	20	< 4.1	U	< 4.8	U	< 4.3	U	< 2.9	U	< 2.9	U	< 3.4	U	< 3.6	U	< 5.0	U

Notes:

Concentrations are provided in micrograms per kilogram (µg/Kg).

U - The compound was anlayzed for but not detected at or above the Method Detection Limit (MDL). The number immediately preceding the "U" represents the Practical Quantitation Level (PQL) corrected for percent solids, weight and/or volume calculations, and dilution factors.

Bold results indicate those detected above MDLs.

Highlighted results indicate those detected above Unrestricted Use Soil Cleanup Objectives.

J - The value is estimated. This flag is used (a) on form 1 when the compound is reported above the MDL, but below the PQL, and (b) on the Tentatively Identified Compounds (TIC) form for all compounds identified.

S - This compound is a solvent that is used in the laboratory. Laboratory contamination is suspected if concentration is less than five times the reporting level.

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019

iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 4
SUMMARY OF SOIL SAMPLING RESULTS - SVOCs ONLY

					Collection Date	10/2/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/1/2019		10/1/2019	
					Sample ID	SS-1 (1'-2')		SS-2 (3'-4')		SS-3 (0'-1')		SS-4 (1'-2')		SS-5 (0'-1')		SS-6 (0'-1')		SS-8 (1'-2')		SS-9 (30"-40")	
					Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
		NYCRR Part 375 SCOs																			
	CAS	Commercial Use Soil Cleanup Objective	Residential Use Soil Cleanup Objective	Unrestricted Use Soil Cleanup Objective	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier	Result	Qualifier
Semivolatiles By SW8270D																					
1,2,4,5-Tetrachlorobenzene	95-94-3				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
1,2,4-Trichlorobenzene	120-82-1				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
1,2-Dichlorobenzene	95-50-1	500,000	100,000	1,100	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
1,2-Diphenylhydrazine	122-66-7				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
1,3-Dichlorobenzene	541-73-1	280,000	17,000	2,400	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
1,4-Dichlorobenzene	106-46-7	130,000	9,800	1,800	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2,4,5-Trichlorophenol	95-95-4				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2,4,6-Trichlorophenol	88-06-2				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
2,4-Dichlorophenol	120-83-2				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
2,4-Dimethylphenol	105-67-9				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2,4-Dinitrophenol	51-28-5				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2,4-Dinitrotoluene	121-14-2				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
2,6-Dinitrotoluene	606-20-2				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
2-Chloronaphthalene	91-58-7				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2-Chlorophenol	95-57-8				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2-Methylnaphthalene	91-57-6				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2-Methylphenol (o-cresol)	95-48-7	500,000	100,000	330	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2-Nitroaniline	88-74-4				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
2-Nitrophenol	88-75-5				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
3&4-Methylphenol (m&p-cresol)	n/a				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
3,3'-Dichlorobenzidine	91-94-1				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
3-Nitroaniline	99-09-2				< 340	U	< 360	U	< 370	U	< 360	U	< 360	U	< 360	U	< 360	U	< 340	U
4,6-Dinitro-2-methylphenol	534-52-1				< 200	U	< 220	U	< 220	U	< 220	U	< 210	U	< 210	U	< 210	U	< 200	U
4-Bromophenyl phenyl ether	101-55-3				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
4-Chloro-3-methylphenol	59-50-7				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
4-Chloroaniline	106-47-8				< 270	U	< 290	U	< 300	U	< 290	U	< 290	U	< 290	U	< 290	U	< 270	U
4-Chlorophenyl phenyl ether	7005-72-3				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
4-Nitroaniline	100-01-6				< 340	U	< 360	U	< 370	U	< 360	U	< 360	U	< 360	U	< 360	U	< 340	U
4-Nitrophenol	100-02-7				< 340	U	< 360	U	< 370	U	< 360	U	< 360	U	< 360	U	< 360	U	< 340	U
Acenaphthene	83-32-9	500,000	100,000	20,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Acenaphthylene	208-96-8	500,000	100,000	100,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Acetophenone	98-86-2				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Aniline	62-53-3				< 270	U	< 290	U	< 300	U	< 290	U	< 290	U	< 290	U	< 290	U	< 270	U
Anthracene	120-12-7	500,000	100,000	100,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Benz(a)anthracene	56-55-3	5,600	1,000	1,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Benzidine	92-87-5				< 340	U	< 360	U	< 370	U	< 360	U	< 360	U	< 360	U	< 360	U	< 340	U
Benzo(a)pyrene	50-32-8	1,000	1,000	1,000	< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U

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iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

TABLE 4
SUMMARY OF SOIL SAMPLING RESULTS - SVOCs ONLY

					Collection Date		10/2/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/1/2019		10/1/2019	
					Sample ID		SS-1 (1'-2')		SS-2 (3'-4')		SS-3 (0'-1')		SS-4 (1'-2')		SS-5 (0'-1')		SS-6 (0'-1')		SS-8 (1'-2')		SS-9 (30"-40")	
					Matrix		Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
		NYCRR Part 375 SCOs																				
	CAS	**Commercial Use Soil Cleanup Objective**	**Residential Use Soil Cleanup Objective**	**Unrestricted Use Soil Cleanup Objective**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Benzo(b)fluoranthene	205-99-2	5,600	1,000	1,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Benzo(ghi)perylene	191-24-2	500,000	100,000	100,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Benzo(k)fluoranthene	207-08-9	56,000	1,000	800	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Benzoic acid	65-85-0				< 1,700	U	< 1,800	U	< 1,900	U	< 1,800	U	< 1,800	U	< 1,800	U	< 1,800	U	< 1,800	U	< 1,700	U
Benzyl butyl phthalate	85-68-7				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Bis(2-chloroethoxy)methane	111-91-1				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Bis(2-chloroethyl)ether	111-44-4				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
Bis(2-chloroisopropyl)ether	39638-32-9				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Bis(2-ethylhexyl)phthalate	117-81-7				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Carbazole	86-74-8				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
Chrysene	218-01-9	56,000	1,000	1,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Dibenz(a,h)anthracene	53-70-3	560	330	330	< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
Dibenzofuran	132-64-9	350,000	14,000	7,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Diethyl phthalate	84-66-2				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Dimethylphthalate	131-11-3				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Di-n-butylphthalate	84-74-2				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Di-n-octylphthalate	117-84-0				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Fluoranthene	206-44-0	500,000	100,000	100,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Fluorene	86-73-7	500,000	100,000	30,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Hexachlorobenzene	118-74-1	6,000	330	330	< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
Hexachlorobutadiene	87-68-3				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Hexachlorocyclopentadiene	77-47-4				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Hexachloroethane	67-72-1				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
Indeno(1,2,3-cd)pyrene	193-39-5	5,600	500	500	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Isophorone	78-59-1				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
Naphthalene	91-20-3	500,000	100,000	12,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Nitrobenzene	98-95-3				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
N-Nitrosodimethylamine	62-75-9				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
N-Nitrosodi-n-propylamine	621-64-7				< 170	U	< 180	U	< 190	U	< 180	U	< 180	U	< 180	U	< 180	U	< 180	U	< 170	U
N-Nitrosodiphenylamine	86-30-6				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Pentachloronitrobenzene	82-68-8				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Pentachlorophenol	87-86-5	6,700	2,400	800	< 200	U	< 220	U	< 220	U	< 220	U	< 210	U	< 210	U	< 210	U	< 210	U	< 200	U
Phenanthrene	85-01-8	500,000	100,000	100,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Phenol	108-95-2	500,000	100,000	330	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Pyrene	129-00-0	500,000	100,000	100,000	< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U
Pyridine	110-86-1				< 240	U	< 260	U	< 260	U	< 250	U	< 250	U	< 250	U	< 250	U	< 250	U	< 240	U

Notes:
Concentrations are provided in micrograms per kilogram (µg/kg).

U - The compound was anlayzed for but not detected at or above the Method Detection Limit (MDL). The number immediately preceding the "U" represents the Practical Quantitation Level (PQL) corrected for percent solids, weight and/or volume calculations, and dilution factors.

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339 Pre-Construction Sampling Summary Report at iPark 84, Former IBM East Fishkill Facility,* October 2019

iPARK 84 CAMPUS
BUILDING 339
2070 NY ROUTE 52
HOPEWELL JUNCTION, NY

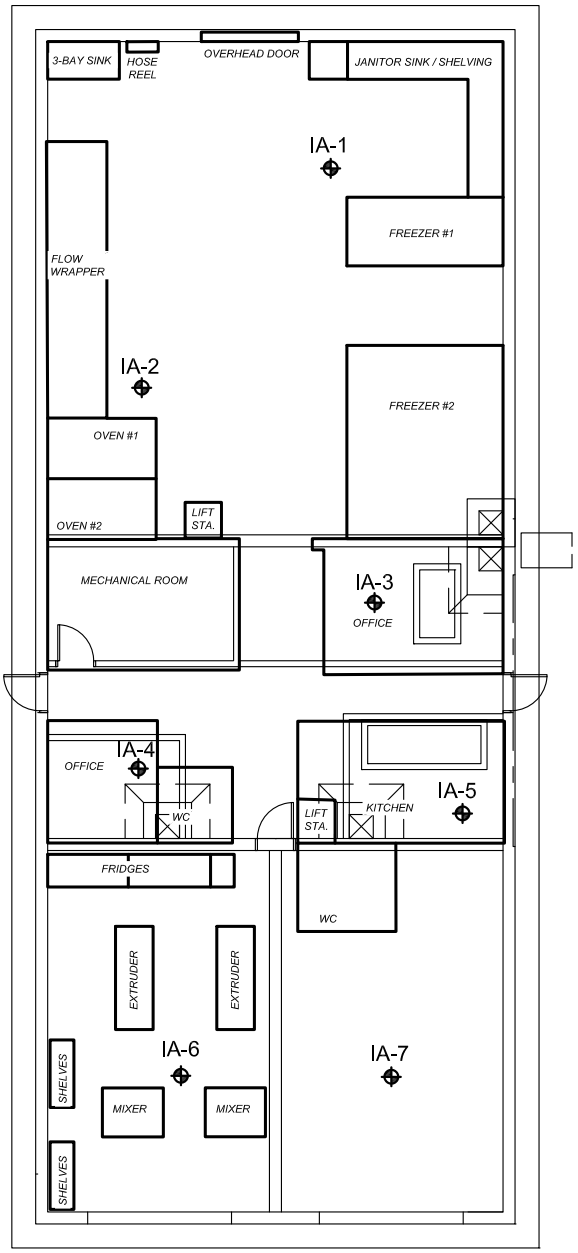
TABLE 5
SUMMARY OF SOIL SAMPLING RESULTS - METALS ONLY

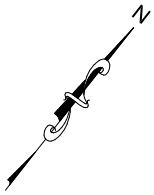
					Collection Date	10/2/2019		10/1/2019		10/3/2019		10/3/2019		10/3/2019		10/3/2019		10/1/2019		10/1/2019	
					Sample ID	SS-1 (1'-2')		SS-2 (3'-4')		SS-3 (0'-1')		SS-4 (1'-2')		SS-5 (0'-1')		SS-6 (0'-1')		SS-8 (1'-2')		SS-9 (30"-40")	
					Matrix	Soil		Soil		Soil		Soil		Soil		Soil		Soil		Soil	
		NYCRR Part 375 SCOs																			
	CAS	**Commercial Use Soil Cleanup Objective**	**Residential Use Soil Cleanup Objective**	**Unrestricted Use Soil Cleanup Objective**		**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**	**Result**	**Qualifier**
Metals, Total																					
Aluminum	7429-90-5					**11,100**		**11,600**		**4,350**		**11,300**		**11,300**		**12,300**		**8,700**		**6,990**	
Antimony	7440-36-0					< 3.5	U	< 3.3	U	< 3.4	U	< 3.6	U	< 3.5	U	< 3.6	U	< 3.6	U	< 3.2	U
Arsenic	7440-38-2	16	16	13		**5.78**		**5.97**		**3.96**		**7.65**		**6.04**		**6.96**		**7.13**		**5.2**	
Barium	7440-39-3	400	350	350		**34.6**		**32.6**		**27.4**		**39.9**		**59.3**		**67.2**		**36.8**		**34.9**	
Beryllium	7440-41-7	590	14	7.2		**0.41**		**0.53**		**0.24**	**J**	**0.44**		**0.41**		**0.46**		**0.39**		**0.33**	
Cadmium	7440-43-9	9.3	2.5	2.5		**0.73**		**0.66**		**0.35**		**0.51**		**0.57**		**0.61**		**0.63**		**0.53**	
Calcium	7440-70-2					**32,200**		**20,000**		**149,000**		**35,800**		**32,600**		**24,900**		**52,700**		**75,900**	
Chromium	7440-47-3			30		**12.8**		**17.2**		**7.91**		**12.8**		**25.3**		**13.5**		**12.7**		**11.3**	
Cobalt	7440-48-4					**10.6**		**10.7**		**8.03**		**11.5**		**11.5**		**10.8**		**9**		**7.66**	
Copper	7440-50-8	270	270	50		**27.9**		**30.5**		**17.9**		**28**		**48.1**		**26.8**		**23.4**		**20.4**	
Iron	7439-89-6					**25,200**		**26,500**		**13,600**		**24,000**		**25,000**		**26,300**		**21,700**		**17,700**	
Lead	7439-92-1	1,000	400	63		**12.9**		**12.2**		**8.5**		**16**		**12.3**		**24.3**		**11**		**9.6**	
Magnesium	7439-95-4					**21,300**		**7,100**		**46,500**		**24,400**		**20,700**		**18,400**		**31,600**		**46,000**	
Manganese	7439-96-5	10,000	2,000	1,600		**672**		**641**		**379**		**675**		**672**		**791**		**691**		**499**	
Mercury	7439-97-6	2.8	0.81	0.18		< 0.07	U	< 0.03	U	< 0.07	U	< 0.07	U	< 0.07	U	< 0.07	U	< 0.03	U	< 0.03	U
Nickel	7440-02-0	310	140	30		**21**		**22.3**		**14.6**		**21.1**		**65.2**		**20.9**		**18.3**		**15.5**	
Potassium	9/7/7440					**1,410**		**1,620**		**2,370**		**2,370**		**1,520**		**1,880**		**1,550**		**1,440**	
Selenium	7782-49-2	1,500	36	3.9		< 1.4	U	< 1.3	U	< 1.4	U	< 1.4	U	< 1.4	U	< 1.4	U	< 1.4	U	< 1.3	U
Silver	7440-22-4	1,500	36	2		< 0.35	U	< 0.33	U	< 0.34	U	< 0.36	U	< 0.35	U	< 0.36	U	< 0.36	U	< 0.32	U
Sodium	7440-23-5					**145**		**303**		**85**		**135**		**203**		**484**		**179**		**162**	
Thallium	7440-28-0					< 1.4	U	< 1.3	U	< 1.4	U	< 1.4	U	< 1.4	U	< 1.4	U	< 1.4	U	< 1.3	U
Vanadium	7440-62-2					**14.8**		**18.4**		**9.31**		**16.2**		**15.6**		**16.5**		**13.7**		**13.4**	
Zinc	7440-66-6	10,000	2,200	109		**97.9**		**66.3**		**22.3**		**52.7**		**69.7**		**67.7**		**48.9**		**36.5**	

Notes:
Concentrations are provided in milligrams per kilogram (mg/kg).
U - The compound was anlayzed for but not detected at or above the Method Detection Limit (MDL). The number immediately preceding the "U" represents the Practical Quantitation Level (PQL) corrected for percent solids, weight and/or volume calculations, and dilution factors.
Bold results indicate those detected above MDLs.
Highlighted results indicate those detected above Unrestricted Use Soil Cleanup Objectives.

NOTES:

1. AMBIENT AIR SAMPLE WAS COLLECTED OUTDOORS ON THE BUILDING ROOF, ADJACENT TO THE HVAC AIR INTAKE.
2. A DUPLICATE SAMPLE WAS COLLECTED AT SAMPLE LOCATION IA-7.

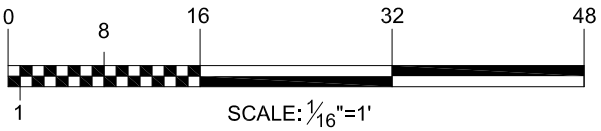




BUILDING 339 INDOOR AIR SAMPLE LOCATIONS

SCALE: 1/16" = 1'-0"

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339, Jane Bakes, Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* December 2019



LEGEND:

⊕ INDOOR AIR SAMPLING LOCATIONS

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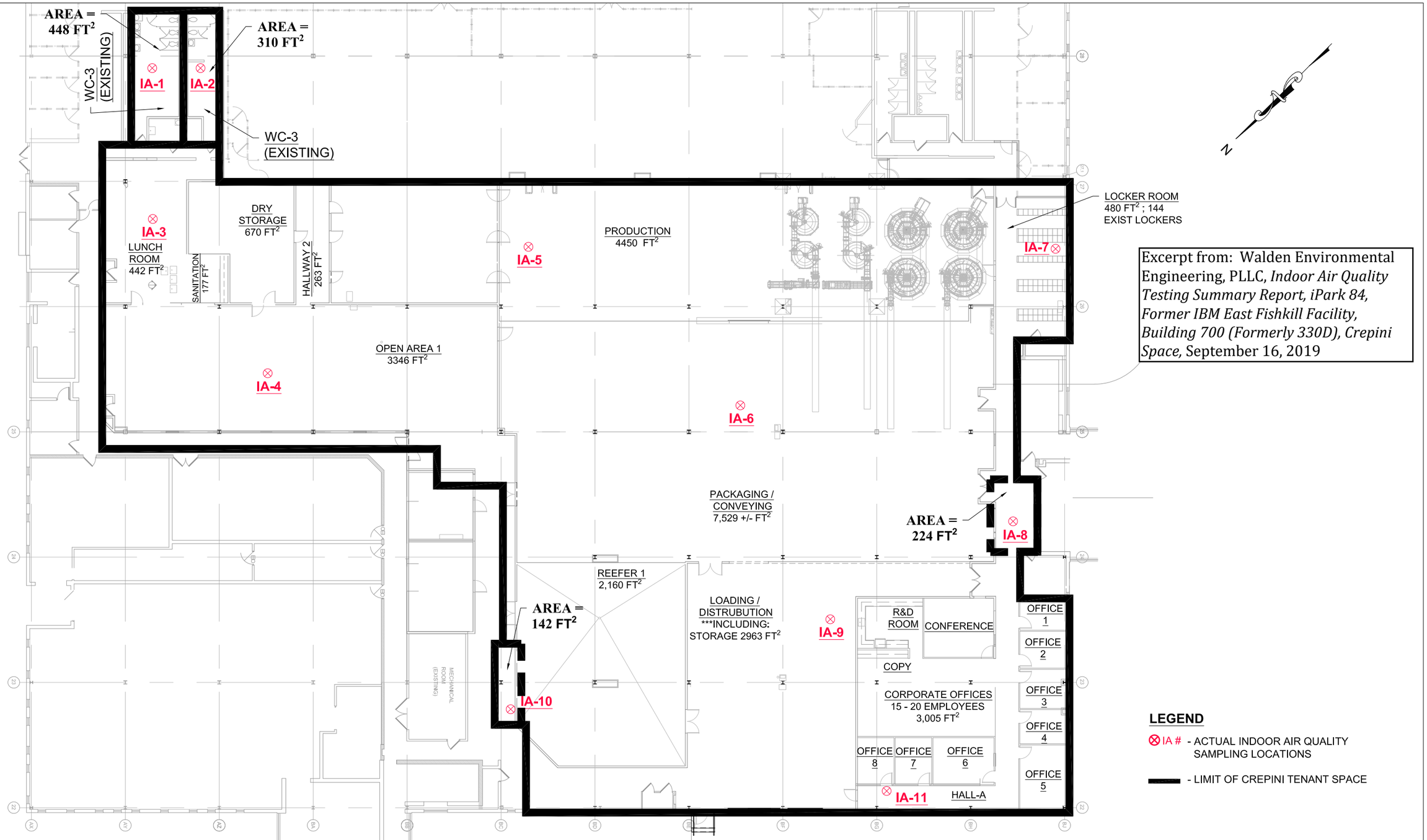
FOR: BUILDING 339, iPARK 84 CAMPUS, 2070 State Route 52, Hopewell Junction, NY 12533		FIGURE TITLE: BUILDING 339: INDOOR AIR SAMPLE LOCATIONS			FIGURE NO: 2
DESIGNED BY: NMB	DRAWN BY: LS / LTG	JOB NO: iPARK0118.34	DATE: 12/5/19	8½x11	SHEET NO: 2 OF 2
APPROVED BY: NMB	SCALE: AS NOTED	CAD FILE NAME: Z:\iPark0118\iPark0118.34 - Bldg 339 Fitup\FOR NMB\iPARK339_SAMPLE LOC FOR REPORT.dwg			

Excerpt from: Walden Environmental Engineering, PLLC, *Building 339, Jane Bakes, Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* December 2019

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

TABLE 2
SUMMARY OF IAQ ANALYSIS
BUILDING 339 - JANE BAKES

	CAS Registry Number	USEPA BASE Database Tables - Typical Background Concentrations for Indoor Air				Collection Date	12/2/2019		12/2/2019		12/2/2019		12/2/2019		12/2/2019		12/2/2019		12/2/2019		12/2/2019		12/2/2019		12/2/2019	
						Sample ID	IA-1		IA-2		IA-3		IA-4		IA-5		IA-6		IA-7		Duplicate		AA		Field Blank	
						Matrix	Air		Air		Air		Air		Air		Air		Air		Air		Air		Air	
		75th Percentile	90th Percentile	95th Percentile	99th Percentile	Location	Northern Section		Northern Section		Western Office		Eastern Office		Middle Section Kitchen		Southern Section		Southern Section		Southern Section		Building Roof		Middle Section-Open Area	
						Units	Result	RL	Result	RL	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	33.0	737.9	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	< 1.09	1.09	< 1.09	1.09
1,1-Dichloroethene	75-35-4	<1.2	<1.4	<1.6	<1.7	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	< 0.40	0.40	< 0.40	0.40
1,2,4-Trichlorobenzene	120-82-1	<1.2	<6.8	<7.2	<8.1	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	< 1.85	1.85	< 1.85	1.85
1,2-Dichlorobenzene	95-50-1	<1.0	<1.2	<1.3	10.5	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	< 0.90	0.90	< 0.90	0.90
1,3-Dichlorobenzene	541-73-1	<1.1	<2.4	<2.5	<2.8	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	< 0.90	0.90	< 0.90	0.90
1,4-Dichlorobenzene	106-46-7	1.4	5.5	12.5	80.5	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	< 0.90	0.90	< 0.90	0.90
Acetone	67-64-1	59.8	98.9	120.2	226.6	ug/m3	9.33	2.37	10.9	2.37	16.3	2.37	18.0	2.37	23.2	2.37	10.7	2.37	16.1	2.37	17.1	2.37	< 2.37	2.37	< 2.37	2.37
Benzene	71-43-2	5.1	9.4	12.5	25.0	ug/m3	0.43	0.16	0.36	0.16	0.43	0.16	0.46	0.16	0.39	0.16	0.52	0.16	0.42	0.16	0.43	0.16	0.49	0.16	0.19	0.16
Carbon Tetrachloride	56-23-5	<1.1	<1.3	0.7	0.9	ug/m3	0.43	0.13	0.46	0.13	0.47	0.13	0.47	0.13	0.46	0.13	0.43	0.13	0.47	0.13	0.48	0.13	0.47	0.13	< 0.13	0.13
Chlorobenzene	108-90-7	<0.8	<0.9	<1.0	1	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	< 0.92	0.92	< 0.92	0.92
Cis-1,2-Dichloroethene	156-59-2	<1.2	<1.9	<2.0	<2.2	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	< 0.79	0.79	< 0.79	0.79
Dichlorodifluoromethane	75-71-8	10.5	16.5	32.9	81.3	ug/m3	2.14	0.99	2.23	0.99	2.44	0.99	2.35	0.99	2.37	0.99	1.51	0.99	2.43	0.99	2.51	0.99	2.18	0.99	< 0.99	0.99
Ethylbenzene	100-41-4	3.4	5.7	7.6	18.5	ug/m3	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	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	67.6	ug/m3	0.85	0.65	0.71	0.65	0.88	0.65	0.78	0.65	0.78	0.65	0.95	0.65	0.70	0.65	0.70	0.65	< 0.65	0.65	1.14	0.65
Methylene Chloride	75-09-2	5.0	10.0	16.0	1155.6	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	< 1.39	1.39	< 1.39	1.39	< 1.39	1.39
o-Xylene	95-47-6	4.4	7.9	11.2	20.1	ug/m3	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	0.65	< 0.65	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	55.6	ug/m3	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	< 0.68	0.68	0.89	0.68
Toluene	108-88-3	25.9	43.0	70.8	348.9	ug/m3	1.24	0.75	1.32	0.75	1.35	0.75	2.92	0.75	1.26	0.75	1.68	0.75	1.33	0.75	1.32	0.75	< 0.75	0.75	1.02	0.75
Trichloroethene	79-01-6	1.2	4.2	6.5	57.0	ug/m3	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20
Trichlorofluoromethane	75-69-4	6.7	18.1	54.0	860.6	ug/m3	1.15	0.84	1.33	0.84	1.45	0.84	1.48	0.84	1.42	0.84	1.16	0.84	1.30	0.84	1.53	0.84	1.41	0.84	< 0.84	0.84
Trichlorotrifluoroethane	76-13-1	<3.0	3.5	9.4	19.7	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	< 1.15	1.15	< 1.15	1.15
Vinyl Chloride	75-01-4	<1.0	<1.9	<2.2	<2.6	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	< 0.05	0.05	< 0.05	0.05



Excerpt from: Walden Environmental Engineering, PLLC, *Indoor Air Quality Testing Summary Report, iPark 84, Former IBM East Fishkill Facility, Building 700 (Formerly 330D), Crepini Space,* September 16, 2019

LEGEND

⊗ IA # - ACTUAL INDOOR AIR QUALITY SAMPLING LOCATIONS

▬ - LIMIT OF CREPINI TENANT SPACE

INDOOR AIR QUALITY SAMPLING: ACTUAL LOCATIONS

N.T.S.

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.

Walden Environmental Engineering

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REVISION		
No.	DATE	COMMENTS

FOR: BUILDING 330D
iPark 84 Campus
2070 Route 52
Hopewell Junction, N.Y. 12533

FIGURE TITLE: CREPINI SPACE INDOOR AIR QUALITY SAMPLING: ACTUAL LOCATIONS

FIGURE NO: 2

ISSUED

REVISION NO: 0

DESIGNED BY: NMB | DRAWN BY: LS / LTG | JOB NO: IPARK118,33 | DATE: 8/28/19 | 11x17 | SHEET NO: 2 OF 2

APPROVED BY: JMH | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark\0118\iPark0118,33 - Crepini\IAQ\Report\Report File.dwg

Excerpt from: Walden Environmental Engineering, PLLC, *Indoor Air Quality Testing Summary Report, iPark 84, Former IBM East Fishkill Facility, Building 700 (Formerly 330D), Crepini Space,* September 16, 2019

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

TABLE 2
SUMMARY OF IAQ ANALYSIS
BUILDING 700 (FORMER 330D) - CREPINI SPACE

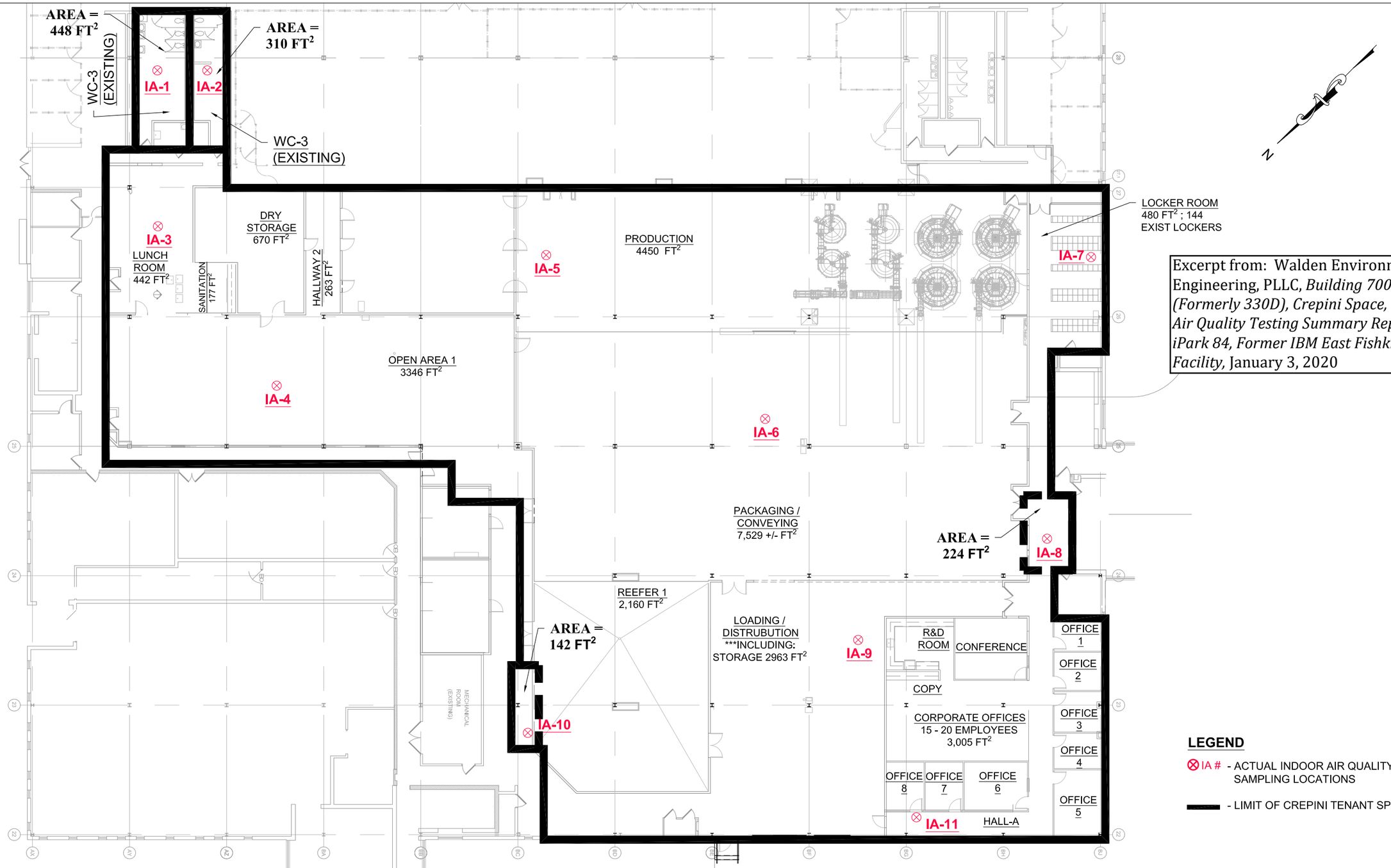
		USEPA BASE Database Tables - Typical Background Concentrations for Indoor Air				Collection Date	8/26/2019		8/26/2019		8/26/2019		8/26/2019		8/26/2019		8/26/2019		8/26/2019	
						Sample ID	IA-1		IA-2		IA-3		DUPLICATE		IA-4		IA-5		IA-6	
						Matrix	Air		Air		Air		Air		Air		Air		Air	
	CAS Registry Number	75th Percentile	90th Percentile	95th Percentile	99th Percentile	Location	Men's Restroom		Women's Restroom		Lunch Room		Lunch Room		Open Area		Production Room		Packaging Room	
						Units	Result	RL	Result	RL		RL	Result	RL	Result	RL	Result	RL	Result	RL
Volatiles (TO15) By TO15																				
1,1,1-Trichloroethane	71-55-6	10.8	20.6	33.0	737.9	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	<1.7	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	<8.1	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	10.5	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
1,3-Dichlorobenzene	541-73-1	<1.1	<2.4	<2.5	<2.8	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	80.5	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	226.6	ug/m3	22.8	2.37	19.6	2.37	40.1	2.37	34.2	2.37	17.9	2.37	23.4	2.37	24.2	2.37
Benzene	71-43-2	5.1	9.4	12.5	25.0	ug/m3	0.28	0.16	0.34	0.16	0.36	0.16	0.34	0.16	0.37	0.16	0.38	0.16	0.37	0.16
Carbon Tetrachloride	56-23-5	<1.1	<1.3	0.7	0.9	ug/m3	0.97	0.13	0.58	0.13	0.5	0.13	0.53	0.13	0.52	0.13	0.5	0.13	0.5	0.13
Chlorobenzene	108-90-7	<0.8	<0.9	<1.0	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	<2.2	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	81.3	ug/m3	2.48	0.99	2.54	0.99	2.31	0.99	2.39	0.99	2.3	0.99	1.33	0.99	1.05	0.99
Ethylbenzene	100-41-4	3.4	5.7	7.6	18.5	ug/m3	0.7	0.65	1.32	0.65	3.32	0.65	3.12	0.65	4.13	0.65	2.07	0.65	3.31	0.65
m,p-Xylene	179601-23-1	12.2	22.2	28.5	67.6	ug/m3	2.89	0.65	5.86	0.65	14.8	0.65	14.2	0.65	18.9	0.65	9.46	0.65	15.1	0.65
Methylene Chloride	75-09-2	5.0	10.0	16.0	1155.6	ug/m3	2.83	1.39	4.76	1.39	27.6	1.39	27.8	1.39	2.43	1.39	< 1.39	1.39	< 1.39	1.39
o-Xylene	95-47-6	4.4	7.9	11.2	20.1	ug/m3	2.03	0.65	4.43	0.65	11.8	0.65	10.7	0.65	14.9	0.65	7.12	0.65	12.6	0.65
Tetrachloroethene	127-18-4	5.9	15.9	25.4	55.6	ug/m3	2.38	0.68	7.32	0.68	2.69	0.68	2.64	0.68	2.85	0.68	3.76	0.68	2.96	0.68
Toluene	108-88-3	25.9	43.0	70.8	348.9	ug/m3	< 0.75	0.75	< 0.75	0.75	1.73	0.75	1.5	0.75	0.82	0.75	< 0.75	0.75	0.89	0.75
Trichloroethene	79-01-6	1.2	4.2	6.5	57.0	ug/m3	< 0.20	0.20	0.45	0.20	< 0.20	0.20	0.32	0.20	< 0.20	0.20	< 0.20	0.20	0.23	0.20
Trichlorofluoromethane	75-69-4	6.7	18.1	54.0	860.6	ug/m3	2.36	0.84	2.49	0.84	2.27	0.84	2.37	0.84	2.26	0.84	2.45	0.84	2.26	0.84
Trichlorotrifluoroethane	76-13-1	<3.0	3.5	9.4	19.7	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	<2.6	ug/m3	<0.05	.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

Excerpt from: Walden Environmental Engineering, PLLC, *Indoor Air Quality Testing Summary Report, iPark 84, Former IBM East Fishkill Facility, Building 700 (Formerly 330D), Crepini Space,* September 16, 2019

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

TABLE 2
SUMMARY OF IAQ ANALYSIS
BUILDING 700 (FORMER 330D) - CREPINI SPACE

		USEPA BASE Database Tables - Typical Background Concentrations for Indoor Air				Collection Date	8/26/2019		8/26/2019		8/26/2019		8/26/2019		8/26/2019		8/26/2019		8/26/2019	
						Sample ID	IA-7		IA-8		IA-9		IA-10		IA-11		AMBIENT AIR		FIELD BLANK	
						Matrix	Air		Air		Air		Air		Air		Air		Air	
	CAS Registry Number	75th Percentile	90th Percentile	95th Percentile	99th Percentile	Location	Locker Room		Entrance		Loading - Distribution Room		Hallway		Corporate Office		Outdoor Air Intake			
						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	33.0	737.9	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	<1.7	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	<8.1	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	10.5	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
1,3-Dichlorobenzene	541-73-1	<1.1	<2.4	<2.5	<2.8	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	80.5	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	226.6	ug/m3	15.5	2.37	16.9	2.37	13.3	2.37	18.1	2.37	26.6	2.37	4.56	2.37	5.93	2.37
Benzene	71-43-2	5.1	9.4	12.5	25.0	ug/m3	0.51	0.16	0.34	0.16	0.34	0.16	0.38	0.16	0.37	0.16	0.18	0.16	0.41	0.16
Carbon Tetrachloride	56-23-5	<1.1	<1.3	0.7	0.9	ug/m3	0.5	0.13	0.55	0.13	0.5	0.13	0.5	0.13	0.55	0.13	0.49	0.13	< 0.13	0.13
Chlorobenzene	108-90-7	<0.8	<0.9	<1.0	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	<2.2	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	81.3	ug/m3	1.91	0.99	1.25	0.99	2.01	0.99	1.69	0.99	2.32	0.99	2.94	0.99	< 0.99	0.99
Ethylbenzene	100-41-4	3.4	5.7	7.6	18.5	ug/m3	< 0.65	0.65	1.12	0.65	1.33	0.65	2.24	0.65	1.22	0.65	< 0.65	0.65	2.36	0.65
m,p-Xylene	179601-23-1	12.2	22.2	28.5	67.6	ug/m3	2.1	0.65	4.86	0.65	5.6	0.65	10.5	0.65	4.73	0.65	< 0.65	0.65	8.29	0.65
Methylene Chloride	75-09-2	5.0	10.0	16.0	1155.6	ug/m3	2.99	1.39	4.41	1.39	< 1.39	1.39	< 1.39	1.39	32.6	1.39	< 1.39	1.39	< 1.39	1.39
o-Xylene	95-47-6	4.4	7.9	11.2	20.1	ug/m3	1.38	0.65	3.39	0.65	3.93	0.65	7.81	0.65	3.19	0.65	< 0.65	0.65	3.82	0.65
Tetrachloroethene	127-18-4	5.9	15.9	25.4	55.6	ug/m3	3.46	0.68	2.58	0.68	1.34	0.68	1.79	0.68	2.54	0.68	< 0.68	0.68	< 0.68	0.68
Toluene	108-88-3	25.9	43.0	70.8	348.9	ug/m3	< 0.75	0.75	0.91	0.75	0.82	0.75	< 0.75	0.75	2.71	0.75	< 0.75	0.75	3.74	0.75
Trichloroethene	79-01-6	1.2	4.2	6.5	57.0	ug/m3	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	< 0.20	0.20	0.56	0.20	< 0.20	0.20	< 0.20	0.20
Trichlorofluoromethane	75-69-4	6.7	18.1	54.0	860.6	ug/m3	2.61	0.84	2.35	0.84	2.18	0.84	1.91	0.84	3.19	0.84	2.34	0.84	< 0.84	0.84
Trichlorotrifluoroethane	76-13-1	<3.0	3.5	9.4	19.7	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	<2.6	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



Excerpt from: Walden Environmental Engineering, PLLC, *Building 700 (Formerly 330D), Crepini Space, Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* January 3, 2020

LEGEND

⊗ IA # - ACTUAL INDOOR AIR QUALITY SAMPLING LOCATIONS

▬ - LIMIT OF CREPINI TENANT SPACE

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.

INDOOR AIR QUALITY SAMPLING: ACTUAL LOCATIONS

N.T.S.

Walden Environmental Engineering

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REVISION		
No.	DATE	COMMENTS

FOR: BUILDING 330D
iPark 84 Campus
2070 Route 52
Hopewell Junction, N.Y. 12533

FIGURE TITLE: CREPINI SPACE INDOOR AIR QUALITY SAMPLING: ACTUAL LOCATIONS

FIGURE NO: 2

ISSUED

REVISION NO: 0

DESIGNED BY: NMB | DRAWN BY: LS / LTG | JOB NO: IPARK118,33 | DATE: 8/28/19 | 11x17 | SHEET NO: 2 OF 2

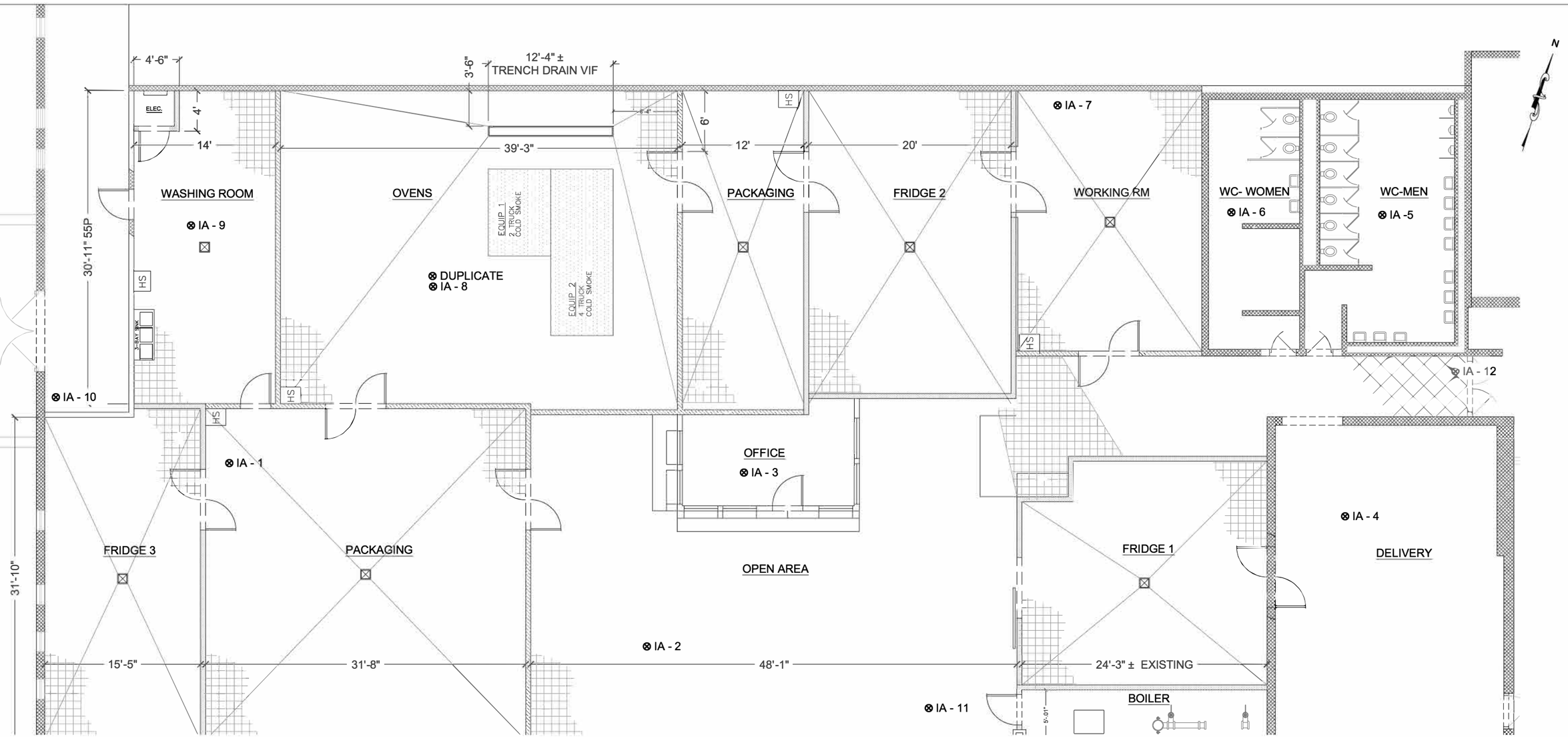
APPROVED BY: JMH | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark\0118\iPark0118,33 - Crepini\IAQ\Report\Report File.dwg

Excerpt from: Walden Environmental Engineering, PLLC, *Building 700 (Formerly 330D), Crepini Space, Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* January 3, 2020

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

TABLE 2
SUMMARY OF IAQ ANALYSIS
BUILDING 700 (FORMER 330D) - CREPINI SPACE
DECEMBER 27, 2019

	CAS Registry Number	USEPA BASE Database Tables - Typical Background Concentrations for Indoor Air				Collection Date Sample ID Matrix Location Units	12/27/2019 IA-3 Air Lunch Room		12/27/2019 IA-11 Air Coporate Office Hallway		12/27/2019 DUP Air Corporate Office Hallway		12/27/2019 AA-1 Air Rooftop		12/27/2019 FB Air Open Area	
		75th Percentile	90th Percentile	95th Percentile	99th Percentile		Result	RL	Result	RL		RL	Result	RL	Result	RL
Volatiles (TO15) By TO15																
1,1,1-Trichloroethane	71-55-6	10.8	20.6	33.0	737.9	ug/m3	< 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	<1.7	ug/m3	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4	< 0.40	0.4
1,2,4-Trichlorobenzene	120-82-1	<1.2	<6.8	<7.2	<8.1	ug/m3	< 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	10.5	ug/m3	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9
1,3-Dichlorobenzene	541-73-1	<1.1	<2.4	<2.5	<2.8	ug/m3	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9
1,4-Dichlorobenzene	106-46-7	1.4	5.5	12.5	80.5	ug/m3	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9	< 0.90	0.9
Acetone	67-64-1	59.8	98.9	120.2	226.6	ug/m3	< 2.37	2.37	19.6	2.37	9.33	2.37	34.2	2.37	8.67	2.37
Benzene	71-43-2	5.1	9.4	12.5	25.0	ug/m3	0.58	0.16	0.34	0.16	0.54	0.16	0.34	0.16	0.75	0.16
Carbon Tetrachloride	56-23-5	<1.1	<1.3	0.7	0.9	ug/m3	0.57	0.13	0.58	0.13	0.52	0.13	0.53	0.13	0.3	0.13
Chlorobenzene	108-90-7	<0.8	<0.9	<1.0	1.0	ug/m3	< 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	<2.2	ug/m3	< 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	81.3	ug/m3	2.51	0.99	2.54	0.99	2.55	0.99	2.39	0.99	1.22	0.99
Ethylbenzene	100-41-4	3.4	5.7	7.6	18.5	ug/m3	0.92	0.65	1.32	0.65	< 0.65	0.65	3.12	0.65	2.41	0.65
m,p-Xylene	179601-23-1	12.2	22.2	28.5	67.6	ug/m3	3.86	0.65	5.86	0.65	< 0.65	0.65	14.2	0.65	8.29	0.65
Methylene Chloride	75-09-2	5.0	10.0	16.0	1155.6	ug/m3	< 1.39	1.39	4.76	1.39	< 1.39	1.39	27.8	1.39	< 1.39	1.39
o-Xylene	95-47-6	4.4	7.9	11.2	20.1	ug/m3	2.9	0.65	4.43	0.65	< 0.65	0.65	10.7	0.65	3.56	0.65
Tetrachloroethene	127-18-4	5.9	15.9	25.4	55.6	ug/m3	1.26	0.68	7.32	0.68	1.1	0.68	2.64	0.68	1.07	0.68
Toluene	108-88-3	25.9	43.0	70.8	348.9	ug/m3	1.11	0.75	< 0.75	0.75	1.95	0.75	1.5	0.75	10.6	0.75
Trichloroethene	79-01-6	1.2	4.2	6.5	57.0	ug/m3	< 0.20	0.2	0.45	0.2	< 0.20	0.2	0.32	0.2	< 0.20	0.2
Trichlorofluoromethane	75-69-4	6.7	18.1	54.0	860.6	ug/m3	6.79	0.84	2.49	0.84	10.3	0.84	2.37	0.84	6.4	0.84
Trichlorotrifluoroethane	76-13-1	<3.0	3.5	9.4	19.7	ug/m3	< 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	<2.6	ug/m3	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05	< 0.05	0.05



0 5 10 20 30

SCALE: 1"=10'

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

Excerpt from: Walden Environmental Engineering, PLLC, *Building 775 (Former 330C) - Country Produce Space Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* August 2019

Walden Environmental Engineering

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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

DRAWING TITLE: COUNTRY PRODUCE SPACE INDOOR AIR QUALITY SAMPLING

FIGURE NO: 2

ISSUED

REVISION NO: 0

DESIGNED BY: NMB | DRAWN BY: LS / LTG | JOB NO: IPARK118.32 | DATE: 8/1/19 | 11x17 | SHEET NO: 1 OF 1

APPROVED BY: JMH | SCALE: AS NOTED | CAD FILE NAME: Z:\iPark\0118\iPark0118.32 - IAQ Sampling Work Plan - Country Produce\Report\Figure 1.dwg

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

Excerpt from: Walden Environmental Engineering, PLLC, *Building 775 (Former 330C) - Country Produce Space Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* August 2019

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

Excerpt from: Walden Environmental Engineering, PLLC, *Building 775 (Former 330C) - Country Produce Space Indoor Air Quality Testing Summary Report at iPark 84, Former IBM East Fishkill Facility,* August 2019

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

APPENDIX C

HVAC CONDITIONS DURING SAMPLING

Table C.1
HVAC Status and Documentation
Vapor Intrusion Assessment - 2019 Annual Report
B320B - February 2019 Sampling
Former IBM EFK Facility

HVAC Unit	Outside Air Damper - Normal Operating Position	Outside Air Damper Minimum Position (% Open)	Notes and Changed Conditions Since 2010
Building 320B			
HVAC-304	Auto - variable	20%	OA damper was closed when checked on 2/26/2019 prior to sampling. Global replaced a part and the damper was opened to 20% and locked in that position prior to sampling.
HVAC-1	Fixed - no variation	NA[2]	
HVAC-2	OFF		
MAU-3	Fixed - no variation	NA[2]	Previously referred to as HVAC-3. Off in 2010.
MAU-4	Fixed - no variation	NA[2]	Previously referred to as HVAC-4.
MAU-5	Fixed - no variation	NA[2]	
MAU-6	Fixed - no variation	NA[2]	
MAU-7	Fixed - no variation	NA[2]	
RCU-101	ON		
RCU-102	ON		
RCU-103	ON		
RCU-104	ON		
RCU-107	ON		Off in 2010
RCU-111	ON		
RCU-113	OFF		On in 2010
RCU-117	ON		
RCU-119	ON		Off in 2010
RCU-124	ON		
RCU-201	ON		Off in 2010
RCU-202	ON		
RCU-204	ON		
RCU-205	OFF		
RCU-206	OFF		
RCU-208	ON		
RCU-209	ON		

Notes:

1. This table summarizes the normal operating configuration for the outside air dampers for each heating, ventilation and air conditioning (HVAC) unit serving the zones that were sampled. Dampers that modulate (HVAC-304) were set and fixed in their minimum position the day prior to and during sampling.

2. These are make-up air units that operate at 100 percent outside air. Damper positions remain contant and were not adjusted during sampling.

3. "RCU" are recirculation units which do not have outside air dampers. The "ON/OFF" designations refer to whether the units were running during the IAQ sampling.

Table C.2
HVAC Status and Documentation
Vapor Intrusion Assessment - 2019 Annual Report
B320B - June 2019 Sampling
Former IBM EFK Facility

HVAC Unit	Outside Air Damper - Normal Operating Position	Outside Air Damper Minimum Position (% Open) - Previous Sampling	Outside Air Damper Minimum Position (% Open) - 2019	Check When Confirmed (On/Off)	Check When Adjusted and Fixed at Minimum Position	Performed By (Name) and Date
Building 320B						
MAU-3	Fixed - no variation	NA[2]		ON		JVF, 6/4/19
MAU-4	Fixed - no variation	NA[2]		ON		JVF, 6/4/19
RCU-108	NA	NA		OFF		JVF, 6/4/19
RCU-202	NA	NA		ON		JVF, 6/4/19

Notes:

1. This table summarizes the normal operating configuration for the outside air dampers for each heating, ventilation and air conditioning (HVAC) unit serving the zones that were sampled on June 5, 2019.

2. Make-up air units (MAUs) operate at 100 percent outside air. Damper positions remain contant and were not adjusted during sampling.

3. "RCU" are recirculation units which do not have outside air dampers. The "ON/OFF" designations refer to whether the units were running during the IAQ sampling.

Table C.3
HVAC Status and Documentation
Vapor Intrusion Assessment - 2019 Annual Report
B323
Former IBM EFK Facility

HVAC Unit	Outside Air Damper - Normal Operating Position	Outside Air Damper Minimum Position (% Open)	Notes
Building 323			
AHU-1	Auto - variable	20%	
AHU-2	Auto - variable	20%	
AHU-4	Auto - variable	20%	
AHU-5	Auto - variable	20%	
AHU-7	Auto - variable	Off	Switches on and off with AHU-8 (covers same area)
AHU-8	Auto - variable	20%	Switches on and off with AHU-7 (covers same area)
AHU-9	Auto - variable	20%	Switches on and off with AHU-10 (covers same area)
AHU-10	Auto - variable	Off	Switches on and off with AHU-9 (covers same area)
MAU-8	Fixed - no variation	NA[2]	
MAU-9	Fixed - no variation	NA[2]	
MAU-10	Fixed - no variation	NA[2]	
MAU-11	Fixed - no variation	NA[2]	
MAU-12	Fixed - no variation	NA[2]	
MAU-13	Fixed - no variation	NA[2]	

Notes:

1. This table summarizes the normal operating configuration for the outside air dampers for each heating, ventilation and air conditioning (HVAC) unit serving the zones that were sampled. Dampers that automatically modulate (i.e., AHUs) were set and fixed in their minimum position the day prior to and during sampling.

2. These are make-up air units that operate at 100 percent outside air. Damper positions remain contant and were not adjusted during sampling.

Table C.4
HVAC Status and Documentation
Vapor Intrusion Assessment - 2019 Annual Report
B386
Former IBM EFK Facility

HVAC Unit	Outside Air Damper - Normal Operating Position	Outside Air Damper Minimum Position (% Open)	Notes
Building 386			
AHU-1	Fixed - do not modulate	20%	OA dampers were closed when checked on 2/21/19. Freeze stat tripped. Global re-opened to 20% prior to sampling.

Notes:

1. This table summarizes the normal operating configuration for the outside air dampers for air handler unit 1 (AHU-1), which serves a zone where indoor air samples were collected. The outside air dampers for AHU-1 are fixed at 20% and do not modulate.

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