8976 Wellington Road
Manassas, VA 20109

January 15, 2019

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

Re: Transmittal of Annual Report – Soil Vapor Monitoring Through August 2018
Comprehensive Operations, Maintenance and Monitoring Program
Order on Consent Index # A7-0502-0104, Site # 704014

Dear Ms. LaClair:

Enclosed with this transmittal letter please find our Annual Soil Vapor Monitoring Data Report, that has been prepared in accordance with the requirements set forth in the referenced Order on Consent.

Should you have any questions concerning this submittal, please contact me at (540) 535-8993.

Sincerely,

Kevin Whalen
Program Manager

cc: J. Kenney, NYSDOH
M. Schuck, NYSDOH
K. Farrar, NYSDEC
M. Marko, NYSDEC Region 7
D. Tuohy, NYSDEC – Albany (transmittal only)
R. Brink, Broome County Health Department
C. Pelto, Huron

SANBORN HEAD
Building Trust. Engineering Success.

20 Foundry Street
Concord, NH 03301

Kevin Whalen
IBM Corporate Environmental Affairs
8976 Wellington Road
Manassas, Virginia 20109

January 15, 2019
File No. 3304.02

Re: Annual Report
Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, and Monitoring Program
Endicott, New York

Dear Mr. Whalen:

We have enclosed our report summarizing soil vapor monitoring conducted in the Village of Endicott and the Town of Union, New York, through August 2018. The monitoring is being conducted as a component of the Comprehensive Operations, Maintenance, and Monitoring Plan (COM&M Plan). The work is part of IBM's required activities under Administrative Order on Consent #A7-0502-0104 (Order) as agreed upon between IBM and the New York State Department of Environmental Conservation (NYSDEC).

We understand that this report will be submitted to NYSDEC as a part of required deliverables under the Order. Thank you for the opportunity to be of service on this project.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

David Shea

David Shea, P.E.
Principal Engineer

Erica M. Bosse, P.G.
Project Manager

EMB/DS: emb

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SANBORN HEAD

Building Trust. Engineering Success.

Annual Report

Soil Vapor Monitoring through August 2018

Comprehensive Operations, Maintenance, and Monitoring Program
Endicott, New York

Prepared for IBM Corporate Environmental Affairs
File No. 3304.02
January 2019

TABLE OF CONTENTS

1.0 INTRODUCTION

This Annual Report for the Endicott Soil Vapor Monitoring Program (Annual Report) summarizes the results of the routine soil vapor monitoring program that has been completed through August 2018 under IBM's Comprehensive Operations, Maintenance and Monitoring Plan (COM&M Plan). The objective of the program is to monitor for changes in the presence of certain volatile organic compounds (VOCs) that was the basis for decisions for installation of engineered ventilation systems to address potential for vapors to enter human occupied structures.

Sanborn Head & Associates, Inc. (Sanborn Head) prepared this report for IBM's submittal to the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH), collectively the "Agencies", as a component of deliverables that IBM agreed to provide under the COM&M Plan. Sanborn Head's services and this report are subject to typical limitations for this type of work as described in the text and Appendix A.

1.1 Background

IBM has installed and is maintaining "ventilation systems" in buildings within certain areas of the Village of Endicott and Town of Union, New York. The limits of properties offered ventilation systems, also known as the geographic limits of ventilation, are shown on Figure 1. These limits were established through work conducted under an Agency approved action plan through a program of concurrent sampling of indoor air, substructure soil vapor, and ambient air at representative properties, also known as the Groundwater Vapor Project (GVP). The findings of sampling in the first four months of 2003 largely established the present limits of ventilation, which was confirmed through sampling conducted during two subsequent heating seasons. The soil vapor monitoring program began in August 2004.

Trichloroethene (TCE) is the primary VOC found in soil vapor within the largest contiguous ventilation area and is the compound that was the basis for the bulk of ventilation decisions. Other compounds, including 1,1,1-trichloroethane (TCA), tetrachloroethene (PCE), and their biochemical breakdown products, were also found in this area, but at lower frequencies of detection and at generally lower concentrations; these other compounds were the basis for a very small proportion of the decisions to mitigate structures.

Since July 2004, IBM substantially expanded extraction and treatment of VOC-containing groundwater, which has altered groundwater levels and flow directions and induced changes in groundwater levels and water quality, especially beneath the largest ventilation area shown on Figure 1. Re-injection of clean water into the subsurface was started in November 2008 and discontinued in November 2017. Additionally, as part of a planned reduction of extraction in areas where it was no longer warranted, IBM discontinued extraction at 5 locations[1] during the first half of 2018, along the western periphery and west-central portion of the main historical plume.

[1] EN-091T, EN-133, EN-194, EN-215T, and EN-451P

1.2 Scope of Work

Since the submittal of the last Annual Report[2], routine sampling was conducted in February and August 2018, in accordance with the approved routine monitoring program. The current sampling scope was approved by the Agencies in 2012, and consists of:

- one comprehensive event per year in August including sampling of all foundation and water table depth implants; and

- one additional event in February focused on five monitoring locations central to the largest ventilation area near points of historical clean water injection. The five locations sampled both in February and August are shown on Figure 1.

Based on discussions with Agencies in April 2018, semi-annual soil vapor reporting was discontinued. As such, the current report includes the sampling results from both February and August monitoring events in 2018.

Sampling was conducted by Groundwater Sciences Corporation (GSC) of Harrisburg, Pennsylvania. The data were tabulated, reviewed, and used to prepare time series graphs depicting groundwater and soil vapor data for TCE as presented in Appendix B.2. A tabular summary of soil vapor data recorded during the last 3 years is provided in Table C.1 and the analytical laboratory data is provided in Appendix C.2.

1.3 Climatic and Groundwater Conditions during the Monitoring Period

The sampling was conducted under a variety of climatic conditions and under conditions of variable groundwater levels. Climatic and groundwater level measurements recorded during the period were reviewed as a context for the findings discussed in Section 2.0.

1.3.1 Climatic Conditions

Figure 2 depicts the deviation from average monthly precipitation for the 12 months preceding the August 2018 sampling as context for the soil vapor monitoring program, recognizing that subsurface vapor transport is influenced by soil moisture conditions, which are in turn influenced by infiltration and precipitation. As shown by the plot, about average to below average precipitation was recorded in 2018 through June. Substantially wetter than average conditions were observed starting in July. Sampling in February and August 2018 was conducted in months with about average and well above average precipitation, respectively. The climatologic data are included as Appendix B.1.

1.3.2 Groundwater Level Conditions

Table 1 provides the construction details for the monitoring installations along with groundwater level conditions at the time of their installation. A comparison of water levels recorded for May 2018 against conditions during installation indicates that water levels generally are lower by over 2 feet on average, but up to as much as 8.4 feet. Consequently,

[2] Sanborn, Head & Associates, Inc. November 3, 2017, Annual Report – Soil Vapor Monitoring through August 2017.

the soil vapor monitoring installations at EN10-11D and EN10-17D, which have generally been saturated in the past several years, were both able to be sampled in August 2018.

1.4 Quality Assurance/Quality Control (QA/QC) for the Monitoring Period

QA/QC measures include field screening of gas samples, and laboratory testing of quality assurance samples, including duplicates, equipment blanks, and laboratory control samples. Data collected during the period were considered usable and generally met the project data quality objectives. A brief analysis of field duplicate relative percent difference (RPD), average reporting limit (RL), and blank detections are presented in the table below.

	February 2018	August 2018
Range of RPD (%)	4.4%	0 to 149%
Location RPD >30%	N/A	EN04-15S (149%)
Average TCE RL	1.0 µg/m^3	1.0 µg/m^3
Equipment Blanks	ND for TCE	ND for TCE

About 63% of the duplicate analytical results exhibited RPD, or precision, within the data quality objectives established for the monitoring program, with higher RPDs observed for low-level detections. The TCE reporting limit met project data quality objectives, and there were no detections of TCE in equipment blanks. The August 2018 equipment blank had a flagged detection of methylene chloride below the reporting limit (1.2 J). Methylene chloride is a common laboratory contaminant.

2.0 DATA AND OBSERVATIONS

A review of the groundwater quality data depicted on the time series plots in Appendix B.2 indicates that at over 80% of the subsurface vapor monitoring locations, TCE source concentrations in groundwater have been substantially diminished since installation. Soil vapor data indicate that TCE concentrations are generally stable or declining at both foundation and water table monitoring depths. Approximately 30% of foundation depth monitoring locations, and 70% of water table depth monitoring locations show overall declining trends.

Overall, the data from sampling of soil vapor monitoring points continue to support the geographic limits of ventilation as conservative and protective, resulting in substantially diminished vapor intrusion potential.

2.1 Graphical Comparison of TCE Vapor Concentrations – 2004 and 2018

Plan view graphics showing TCE soil vapor concentrations are included as Figure 3. Views 3A and 3B were generated based on data recorded during the first three months of sampling after vapor monitoring locations were installed in August 2004. Views 3C and 3D represent data recorded about 14 years later through August 2018.

The images continue to support an overall reduced presence of TCE in vapor both at foundation and water table depth since establishment of the limits of ventilation and the

subsequent progress in groundwater remediation. The 2018 data continue to support that TCE concentrations have been reduced to the point where we believe that vapor intrusion potential has likely been largely diminished over much of the mitigation area.

A comparison of Figure 3 with the same figure included in the 2017 annual report suggests largely similar TCE soil vapor distribution at foundation and water table depth, with overall slightly lower concentrations. The number of water table depth locations with no TCE detected above the reporting limit increased from 2 to 4 from 2017 to 2018. As stated in recent annual reports, we expect diminishing rates of change in TCE soil vapor concentrations, reflecting reduced mass transfer gradients that drive desorption and diffusion of TCE mass from vadose zone soils and pore water.

3.0 CONCLUSIONS

IBM has successfully implemented a program of soil vapor monitoring for over 14 years since establishment of the limits of ventilation. The data continue to support the limits of ventilation as conservative in that the monitoring locations near the ventilation limits have exhibited only trace concentrations, or a stable or declining VOC presence. Overall, the data continue to indicate a diminished VOC presence in soil vapor that we believe is attributable to both natural processes and IBM's remediation efforts.

While we recommend continued soil vapor monitoring in 2019 on the same schedule as 2018, we note that IBM recently conducted ventilation system sampling as an additional measure of remediation progress. We may recommend an alternate scope of soil vapor monitoring following analysis of the forthcoming ventilation system sampling data.

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TABLE

TABLE 1
Summary of Soil Vapor Monitoring Installations
Annual Report - Soil Vapor Monitoring Through August 2018
Endicott, New York

Location Designation[1]	Installation Date	Monitoring Location Type[2]		Subsurface Conditions at Installation				Installation Completion Details	Groundwater Conditions At Installation		
		Remediation Progress Monitoring	Ventilation Perimeter Monitoring	Nearby Monitoring Well[3]	Date Recorded/ Depth to Water Table[4]	Nominal Monitoring Depth (ft. bgs)	Inferred Stratum Screened		Vadose Zone Between Shallow and Deep Screens[6] (ft)	Distance Above Water Table[5] (ft)	Saturated Screened Interval[7] (ft)
EN04-1S	Jul-04		X	EN-094	7/26/04 28.47	8	Fill Over Sand	0-1' Concrete Surface Seal 1-6.8 Bentonite Seal 6.8-8.5' Sand Filter Pack 8-8.5' Screened Interval	13.5	5.5	10.5
EN04-1D	Jul-04					23	Sand	0-1' Concrete Surface Seal 1-22' Bentonite Seal 22-23' Glass Bead Filter Pack 22.5-23' Screened Interval			
EN04-2S	Jul-04	X		EN-450	8/5/04 25.17	8	Fill	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	11	5.2	4.8
EN04-2D	Jul-04					20	Sand & Gravel	0-1' Concrete Surface Seal 1-19' Bentonite Seal 19-20' Glass Bead Filter Pack 19.5-20' Screened Interval			
EN04-3S	Jul-04		X	EN-203	7/26/04 24.86	8	Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	10	5.9	10.1
EN04-3D	Jul-04					19	Sand	0-1' Concrete Surface Seal 1-18' Bentonite Seal 18-19' Glass Bead Filter Pack 18.5-19' Screened Interval			
EN04-4S	Jul-04		X	EN-022	8/5/04 22.98	8	Fill	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	8	6	0
EN04-4D	Jul-04					17	Gravel	0-1' Concrete Surface Seal 1-16' Bentonite Seal 16-17' Glass Bead Filter Pack 16.5-17' Screened Interval			
EN04-5S	Jul-04		X	EN-459A	8/18/04 40.01	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	25	5	10
EN04-5D	Jul-04					34	Sand	0-1' Concrete Surface Seal 1-33' Bentonite Seal 33-34' Glass Bead Filter Pack 33.5-34' Screened Interval			
EN04-6S	Jul-04		X	EN-310	7/29/04 <28	8	Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	18	1	0
EN04-6D	Jul-04					27	Sand & Gravel	0-1' Concrete Surface Seal 1-26' Bentonite Seal 26-27' Glass Bead Filter Pack 26.5-27' Screened Interval			
EN04-7S	Jul-04	X		EN-311	7/28/04 43.7	8	Sand Over Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	25	9.7	1.3
EN04-7D	Jul-04					34	Poorly Sorted Sand	0-1' Concrete Surface Seal 1-33' Bentonite Seal 33-34' Glass Bead Filter Pack 33.5-34' Screened Interval			
EN04-9S	Jul/Aug-02	X		EN-279	11/3/03 26.23	8	Well Sorted Sand	0-2' Concrete Surface Seal 2-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	11	6	2.1
EN04-9D	Jul/Aug-02					20	Well Sorted Sand	0-2' Concrete Surface Seal 2-19' Bentonite Seal 19-20' Glass Bead Filter Pack 19.5-20' Screened Interval			

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		Remediation Progress Monitoring	Ventilation Perimeter Monitoring	Nearby Monitoring Well [3]	Date Recorded/ Depth to Water Table [4]	Nominal Monitoring Depth (ft. bgs)	Inferred Stratum Screened		Vadose Zone Between Shallow and Deep Screens [6] (ft)	Distance Above Water Table [5] (ft)	Saturated Screened Interval [7] (ft)
EN04-10S	Jul/Aug-02	X		EN-077	11/3/04 26.18	8	Gravel	0-2' Concrete Surface Seal 2-6.5' Bentonite Seal 6.5-7.5' Glass Bead Filter Pack 7-7.5' Screened Interval	11.2	6.3	1.3
EN04-10D	Jul/Aug-02					20	Well Sorted Sand	0-2' Concrete Surface Seal 2-18.7' Bentonite Seal 18.7-19.7' Glass Bead Filter Pack 19.2-19.7' Screened Interval			
EN04-11S	Jul-04	X		EN-215A	7/29/04 28.17	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8.5' Sand Filter Pack 8-8.5' Screened Interval	11.5	7.2	7.2
EN04-11D	Jul-04					21	Well Sorted Sand	0-1' Concrete Surface Seal 1-20' Bentonite Seal 20-21' Glass Bead Filter Pack 20.5-21' Screened Interval			
EN10-11D	May-10			EN-215	5/12/10 34	30	Sand & Gravel	0-1' Concrete Surface Seal 1-3' Sand 3-5' Bentonite Chips 5-10' Sand 10-18' Grout 18-25.6' Sand 25.6-29 Powdered Bentonite 29-30' Glass Bead Filter Pack 29.5-30' Screened Interval	22	4	15.2
EN04-12S	Jul-04	X		EN-214A	7/30/04 25.18	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	10	6.2	11.8
EN04-12D	Jul-04					19	Sand & Gravel	0-1' Concrete Surface Seal 1-18' Bentonite Seal 18-19' Glass Bead Filter Pack 18.5-19' Screened Interval			
EN04-13S	Jul-04	X		EN-449	7/29/04 36.05	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	21	6	13.5
EN04-13D	Jul-04					30	Sand & Gravel	0-1' Concrete Surface Seal 1-29' Bentonite Seal 29-30' Glass Bead Filter Pack 29.5-30' Screened Interval			
EN04-14S	Jul-04	X		EN-462	8/5/04 40.09	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	25	5	4
EN04-14D	Jul-04					34	Poorly Sorted Sand	0-1' Concrete Surface Seal 1-33' Bentonite Seal 33-34' Glass Bead Filter Pack 33.5-34' Screened Interval			
EN04-15S	Jul-04		X	EN-162	7/29/04 35.33	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	21	5.3	6.2
EN04-15D	Jul-04					30	Sand & Gravel	0-1' Concrete Surface Seal 1-29' Bentonite Seal 29-30' Glass Bead Filter Pack 29.5-30' Screened Interval			
EN04-16S	Jul-04	X		EN-206	7/27/04 39.54	8	Fill	0-1' Concrete Surface Seal 1-7.3' Bentonite Seal 7.3-8.5' Sand Filter Pack 8-8.5' Screened Interval	24.5	5.5	10.5
EN04-16D	Jul-04					34	Sand & Gravel	0-1' Concrete Surface Seal 1-33' Bentonite Seal 33-34' Glass Bead Filter Pack 33.5-34' Screened Interval			

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		Remediation Progress Monitoring	Ventilation Perimeter Monitoring	Nearby Monitoring Well [3]	Date Recorded/ Depth to Water Table [4]	Nominal Monitoring Depth (ft. bgs)	Inferred Stratum Screened		Vadose Zone Between Shallow and Deep Screens [6] (ft)	Distance Above Water Table [5] (ft)	Saturated Screened Interval [7] (ft)
EN04-17S	Jul-04	X		EN-401	7/29/04 35.5	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	19	7.5	3.5
EN04-17D	Jul-04					28	Sand & Gravel	0-1' Concrete Surface Seal 1-27' Bentonite Seal 27-28' Glass Bead Filter Pack 27.5-28' Screened Interval			
EN10-17D	May-10				5/13/10 38	34	Sand & Gravel	0-1' Concrete Surface Seal 1-3' Sand 3-5' Bentonite Chips 5-10' Sand 10-25' Grout 25-30' Sand 30-33' Powdered Bentonite 33-34' Glass Bead Filter Pack 33.5-34' Screened Interval	26	4	1
EN04-18S	Jul-04		X	EN-217A	7/29/04 36.69	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	22	5.9	5.3
EN04-18D	Jul-04					31	Sand & Gravel	0-1' Concrete Surface Seal 1-30' Bentonite Seal 30-31' Glass Bead Filter Pack 30.5-31' Screened Interval			
EN04-19S	Jul-04	X		EN-426	7/26/04 35.39	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	20.5	5.9	4.6
EN04-19D	Jul-04					29.5	Sand & Gravel	0-1' Concrete Surface Seal 1-28.5' Bentonite Seal 28.5-29.5' Glass Bead Filter Pack 29-29.5' Screened Interval			
EN04-20S	Jul-04		X	EN-207	7/27/04 43.2	8	Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	25.5	7.7	4.3
EN04-20I	Jul-04					24	Gravel	0-1' Concrete Surface Seal 1-23' Bentonite Seal 23-24' Glass Bead Filter Pack 23.5-24' Screened Interval	9.5		
EN04-20D	Jul-04					36	Sand	0-1' Concrete Surface Seal 1-20' Formation Material 20-33.5' Bentonite Seal 33.5-35.5' Glass Bead Filter Pack 35-35.5' Screened Interval			
EN04-21S	Jul-04		X	EN-468	10/14/04 34.43	7.5	Sand & Gravel	0-1' Concrete Surface Seal 1-6.5' Bentonite Seal 6.5-7.5' Glass Bead Filter Pack 7-7.5' Screened Interval	14.5	12	4
EN04-21D	Jul-04					23	Sand & Gravel	0-1' Concrete Surface Seal 1-12' Formation Material 12-22' Bentonite Seal 22-23' Glass Bead Filter Pack 22.5-23' Screened Interval			
EN04-22S	Jul/Aug-02	X		EN-80* and EN-393*	7/27/04 18.75	8	Well Sorted Sand	0-2' Concrete Surface Seal 2-7.1' Bentonite Seal 7.1-7.5' Glass Bead Filter Pack 7.5-8' Screened Interval	7	2.8	6
EN04-22D	Jul/Aug-02					16	Well Sorted Sand	0-2' Concrete Surface Seal 2-15' Bentonite Seal 15-16' Glass Bead Filter Pack 15.5-16' Screened Interval			

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		Remediation Progress Monitoring	Ventilation Perimeter Monitoring	Nearby Monitoring Well [3]	Date Recorded/ Depth to Water Table [4]	Nominal Monitoring Depth (ft. bgs)	Inferred Stratum Screened		Vadose Zone Between Shallow and Deep Screens [6] (ft)	Distance Above Water Table [5] (ft)	Saturated Screened Interval [7] (ft)
EN04-23S	Jul-04		X	EN-174	7/30/04 26.48	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	14	3.5	4.5
EN04-23I	Jul-04					15	Well Sorted Sand	0-1' Concrete Surface Seal 1-14' Bentonite Seal 14-15' Glass Bead Filter Pack 14.5-15' Screened Interval	7		
EN04-23D	Jul-04					23	Well Sorted Sand	0-1' Concrete Surface Seal 1-22' Bentonite Seal 22-23' Glass Bead Filter Pack 22.5-23' Screened Interval			
EN04-24S	Jul-04		X	EN-65	7/29/04 22.89	8	Fill	0-1' Concrete Surface Seal 1-6.5' Bentonite Seal 6.5-8.5' Sand Filter Pack 8-8.5' Screened Interval	9.5	3.9	17.8
EN04-24D	Jul-04					19	Poorly Sorted Sand	0-1' Concrete Surface Seal 1-18' Bentonite Seal 18-19' Glass Bead Filter Pack 18.5-19' Screened Interval			
EN04-25S	Aug-04		X	EN-395	7/29/04 18.88	8	Fill	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	8.5	1.4	5
EN04-25D	Aug-04					17.5	Sand & Gravel	0-1' Concrete Surface Seal 1-16.5' Bentonite Seal 16.5-17.5' Glass Bead Filter Pack 17-17.5' Screened Interval			
EN04-26S	Jul-04	X		EN-304	7/30/04 17.39	8	Sand & Gravel	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	5	3.4	6.6
EN04-26D	Jul-04					14	Sand & Gravel	0-1' Concrete Surface Seal 1-13' Bentonite Seal 13-14' Glass Bead Filter Pack 13.5-14' Screened Interval			
EN04-27S	Jul-04		X	EN-417A	7/29/04 8.91	8	Fill	0-1' Concrete Surface Seal 1-6' Bentonite Seal 6-7' Glass Bead Filter Pack 6.5-7' Screened Interval	-	0.9	14
EN07-28S	Jun-07					7	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval			
EN07-28I	Jun-07		X	EN-387A	6/5/2007 22	10	Sand & Gravel	0-1' Concrete Surface Seal 1-9' Bentonite Seal 9-10' Glass Bead Filter Pack 9.5-10' Screened Interval	11	3	9.5
EN07-28D	Jun-07					19	Well Sorted Sand	0-1' Concrete Surface Seal 1-18' Bentonite Seal 18-19' Glass Bead Filter Pack 18.5-19' Screened Interval			
EN05-29S	4/18/2005	X		EN-437	8/5/04 23.87	7.5	Well Sorted Sand	0-1' Concrete Surface Seal 1-5.5' Bentonite Seal 5.5-7.5' Glass Bead Filter Pack 7-7.5' Screened Interval	11	3.9	11.1
EN05-29I	4/18/2005					12.5	Well Sorted Sand	0-1' Concrete Surface Seal 1-11' Bentonite Seal 11-12.5' Glass Bead Filter Pack 12-12.5' Screened Interval			
EN04-29D	Jul-04					20	Well Sorted Sand	0-1' Concrete Surface Seal 1-19' Bentonite Seal 19-20' Glass Bead Filter Pack 19.5-20' Screened Interval			
EN04-30S	Jul-04	X		EN-438	8/5/04	9	Well sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	11	6	8

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Location Designation [1]	Installation Date	Monitoring Location Type [2]		Subsurface Conditions at Installation				Installation Completion Details	Groundwater Conditions At Installation		
		Remediation Progress Monitoring	Ventilation Perimeter Monitoring	Nearby Monitoring Well [3]	Date Recorded/ Depth to Water Table [4]	Nominal Monitoring Depth (ft. bgs)	Inferred Stratum Screened		Vadose Zone Between Shallow and Deep Screens [6] (ft)	Distance Above Water Table [5] (ft)	Saturated Screened Interval [7] (ft)
EN04-30D	Jul-04	X		EN-458	26.02	20	Well Sorted Sand	0-1' Concrete Surface Seal 1-19' Bentonite Seal 19-20' Glass Bead Filter Pack 19.5-20' Screened Interval	11	6	8
EN04-31S	Aug-04		X	EN-453	8/25/04 19.48	10	Well sorted Sand	0-1' Concrete Surface Seal 1-9' Bentonite Seal 9-10 Glass Bead Filter Pack 9.5-10' Screened Interval	8	0.5	12
EN04-31D	Aug-04					19	Well Sorted Sand	0-1' Concrete Surface Seal 1-18' Bentonite Seal 18-19' Glass Bead Filter Pack 18.5-19' Screened Interval			
EN04-32S	Aug-04		X	EN-457A	8/23/04 21.36	8	Well sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	9	3.4	5
EN04-32D	Aug-04					18	Sand	0-1' Concrete Surface Seal 1-17' Bentonite Seal 17-18' Glass Bead Filter Pack 17.5-18' Screened Interval			
EN05-33S	Apr-05	X		EN-162	4/19/04 34.36	7.5	Well Sorted Sand	0-1' Concrete Surface Seal 1-5.8' Bentonite Seal 5.8-7.5' Glass Bead Filter Pack 7-7.5' Screened Interval	22.5	2.3	6.2
EN05-33I21	Apr-05					21.5	Well Sorted Sand	0-1' Concrete Surface Seal 1-19' Bentonite Seal 19-21.5' Glass Bead Filter Pack 21-21.5' Screened Interval			
EN05-33I29	Apr-05					29	Poorly Sorted Sand and Gravel	0-1' Concrete Surface Seal 1-27.7' Bentonite Seal 27.7-29' Glass Bead Filter Pack 28.5-29' Screened Interval			
EN05-33D	Apr-05					32	Well Sorted Sand	0-1' Concrete Surface Seal 1-30' Bentonite Seal 30-32' Glass Bead Filter Pack 31.5-32' Screened Interval			
EN05-34S	Apr-05	X		EN-304	4/18/2004 16.67	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval	4	3.2	6.6
EN05-34I	Apr-05					11	Well Sorted Sand	0-1' Concrete Surface Seal 1-10' Bentonite Seal 10-11' Glass Bead Filter Pack 10.5-11' Screened Interval			
EN05-34D	Apr-05					13.5	Well Sorted Sand	0-1' Concrete Surface Seal 1-12' Bentonite Seal 12-13.5' Glass Bead Filter Pack 13-13.5' Screened Interval			
EN06-35S	Jan-06		X	EN-460A	8/11/04 40.2	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7.2' Bentonite Seal 7.2-8.5' Glass Bead Filter Pack 7.5-8' Screened Interval	25.3	6.2	10
EN06-35I16	Jan-06					16	Poorly Sorted Sand and Gravel	8.5-14.7' Bentonite Seal 14.7-16.6' Glass Bead Filter Pack 15.5-16' Screened Interval			
EN06-35I24	Jan-06					24	Well Sorted Sand	16.6-22.3' Bentonite Seal 22.3-24.3' Glass Bead Filter Pack 23.5-24' Screened Interval			
EN06-35D	Jan-06					34	Poorly Sorted Sand and Gravel	24.3-33.3' Bentonite Seal 33.3-34.3' Glass Bead Filter Pack 33.8-34.3' Screened Interval			
EN06-36S	Jan-06		X	EN-459A	8/18/04	8	Well Sorted Sand	0-1' Concrete Surface Seal 1-6.9' Bentonite Seal 6.9-8.6' Sand Filter Pack 7.5-8.0' Screened Interval	23.8	7	10
EN06-36I12	Jan-06					12	Poorly Sorted Sand and Gravel	8.6-10.5 Bentonite Seal 10.5-11.5' Glass Bead Filter Pack 11.5-12.' Screened Interval			

TABLE 1
Summary of Soil Vapor Monitoring Installations
Annual Report - Soil Vapor Monitoring Through August 2018
Endicott, New York

Location Designation [1]	Installation Date	Monitoring Location Type [2]		Subsurface Conditions at Installation				Installation Completion Details	Groundwater Conditions At Installation		
		Remediation Progress Monitoring	Ventilation Perimeter Monitoring	Nearby Monitoring Well [3]	Date Recorded/ Depth to Water Table [4]	Nominal Monitoring Depth (ft. bgs)	Inferred Stratum Screened		Vadose Zone Between Shallow and Deep Screens [6] (ft)	Distance Above Water Table [5] (ft)	Saturated Screened Interval [7] (ft)
EN06-36I22	Jan-06		X	EN-459A	40.01	22	Well Sorted Sand	12.5-20.9' Bentonite Seal 20.9-22.5' Glass Bead Filter Pack 21.5-22.' Screened Interval	25.8	7	10
EN06-36D	Jan-06					33	Poorly Sorted Sand and Gravel	22.5-31.8' Bentonite Seal 31.8-34' Glass Bead Filter Pack 32.5-33' Screened Interval			
EN06-37S	Jan-06					8	Well Sorted Sand	0-1' Concrete Surface Seal 1-7' Bentonite Seal 7-8' Glass Bead Filter Pack 7.5-8' Screened Interval			
EN06-37I	Jan-06		X	EN-394	7/27/04 22.3	12	Well Sorted Sand	0-1' Concrete Surface Seal 1-11' Bentonite Seal 11-12' Glass Bead Filter Pack 11.5-12' Screened Interval	12	1.3	3.2
EN06-37D	Jan-06					21	Well Sorted Sand	0-1' Concrete Surface Seal 1-20' Bentonite Seal 20-21' Glass Bead Filter Pack 20.5-21' Screened Interval			

Notes:
1. This table summarizes monitoring depths, subsurface conditions, completion details, and groundwater conditions associated with routine monitoring of soil vapor used as part of IBM's Comprehensive Operations, Maintenance and Monitoring program in Endicott, New York.

2. Remediation Progress Monitoring locations are intended to monitor ongoing groundwater remediation activities within and on the boundary of the area where IBM is currently remediating groundwater. Ventilation Progress Perimeter Monitoring locations are intended to monitor conditions at or near the limits of the Ventilation Area.

3. The "nearby monitoring wells" field identifies the monitoring well used to characterize groundwater quality proximate to the soil vapor monitoring location, typically within 20 feet horizontally. Entries flagged with an asterisk are well locations more remote from the vapor monitoring location.

4. The "depth to water table" field is based on depth to water measurements recorded from top of well casing (TOC) as measured by SHA and GSC personnel between July 26 and August 5, 2004 and by Sanborn Head on April 18 and 19, 2005. Water levels indicated by an asterisk are nominal water levels based on monitoring wells more than approximately 20 feet from the soil vapor monitoring installation.

5. The "Distance Above Water Table" field reflects the approximate vertical distance between the deep soil vapor monitoring screen and the water table at the time of soil vapor monitoring installation. During installation, drilling depths were generally targeted to 5' above the water table based on current available information. The actual separation will vary with fluctuations in water level conditions and may be greater or less.

6. The "Vadose Zone Between Shallow and Deep Screens" field identifies the thickness of unsaturated soils between the soil vapor monitoring screens and represents to the distance between the top of the glass bead filter pack of the deeper monitoring screen and the bottom of the screen of the shallow monitoring interval.

7. The "Saturated Screened Interval" field lists the approximate thickness of upper aquifer that the well is screened across which is based on boring and well completion logs provided by others and the depth to water table recorded around the time of soil vapor monitoring installation. The actual saturated screen interval will vary with fluctuations in groundwater levels.

FIGURES

Notes

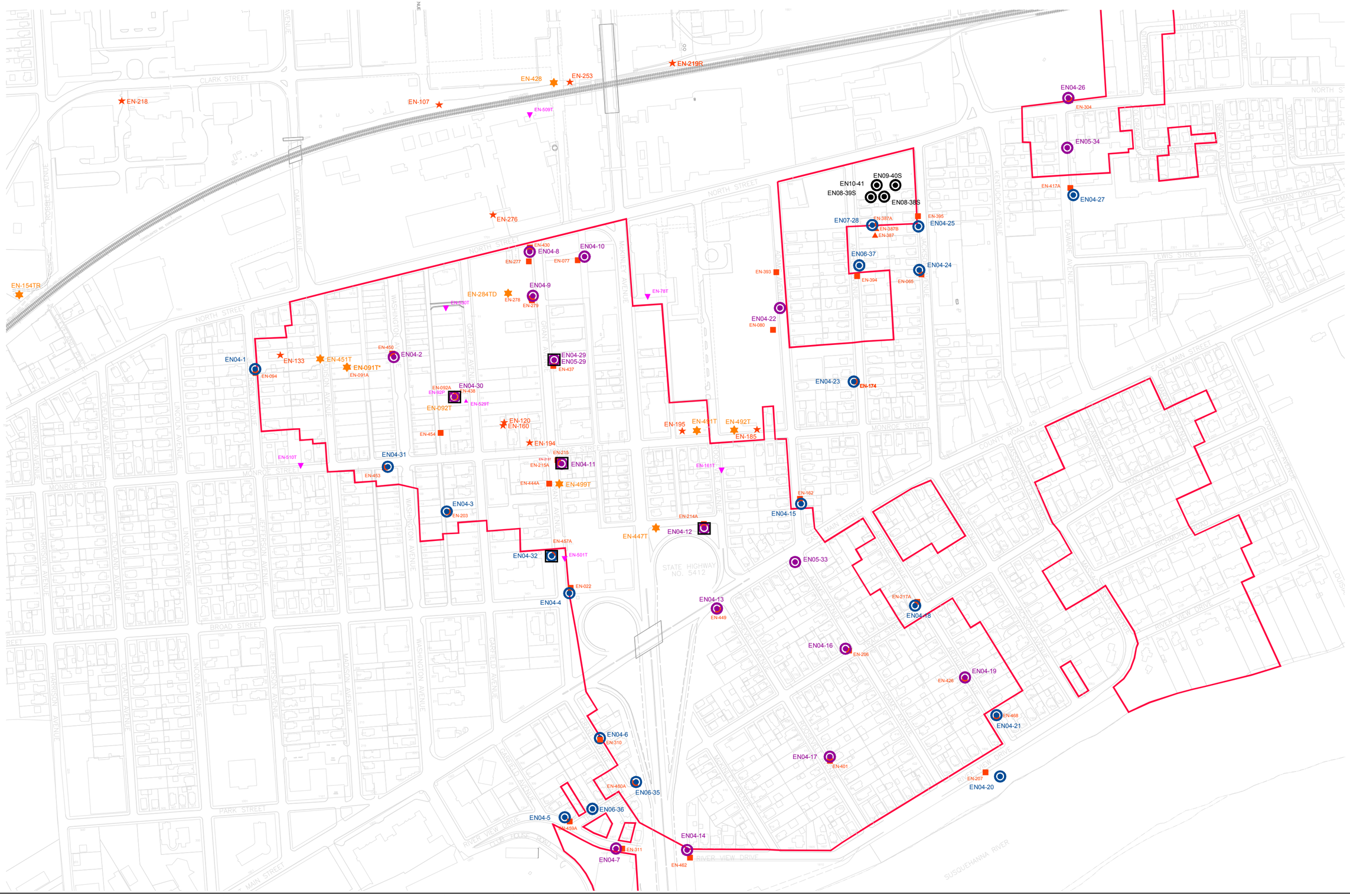
1. This figure is intended to depict soil vapor monitoring locations that have been established and maintained as part of the Comprehensive Operations, Maintenance & Monitoring Program. The soil vapor monitoring locations are based on taped measurements relative to physical features in the field and are accurate only to the degree implied by the method used.

2. The base map information presented below is adapted from four AutoCAD drawings entitled "Endicott2000.dwg", "Union2000.dwg", "Unioneast.dwg", and "Endicottpln.dwg". The drawings were provided by the Broome County mapping division and were received by Sanborn Head on October 10, 2002. The building outlines and other site features are based on an AutoCAD drawing entitled "9_03_base.dwg" provided by Groundwater Sciences Corporation (GSC) of Harrisburg, Pennsylvania to Sanborn Head in September 2003. The locations of groundwater monitoring and recovery wells are based on an AutoCAD drawing by GSC submitted to Sanborn Head on 05/17/2004 entitled "2007N006.dwg". The well locations are reportedly based on field surveys performed in 2003 and 2004. For wells installed in July and August 2004, well locations are based on northing and easting coordinates provided on draft well logs provided to Sanborn Head on 09/21/2004. Well locations installed since that time are based on drawings provided by GSC.

3. The limits of ventilation shown in red encompass properties where IBM has offered to install a ventilation system. The ventilation areas were identified under the review of the New York State Departments of Environmental Conservation and Health based on results of sampling foundation level soil vapor, substructure soil vapor, indoor air, and outdoor air completed between November 2002 and March 2005.

Legend

- Limits of Ventilation
- Mailing address, arrow indicates facing street
- EN04-1 — Soil Vapor Monitoring Location - Perimeter Monitoring
- EN04-1 — Soil Vapor Monitoring Location - Remediation Progress Monitoring
- EN08-1 — Soil Vapor Monitoring Location - OU# 4
- Select Soil Vapor Monitoring Location Sampled in February
- EN-430 — Upper Aquifer Monitoring Well
- EN-428 — Upper Aquifer Interceptor Extraction Well
- EN-510T — Upper Aquifer Injection Well



SANBORN HEAD	GRAPHICAL SCALE 150' 75' 0 150' 300'	

NO.	DATE	DESCRIPTION	BY

Drawn By: E. Wright
Designed By: E. Bosse
Reviewed By: D. Shea
Project Mgr: E. Bosse
Pic: D. Shea
Date: January 2019

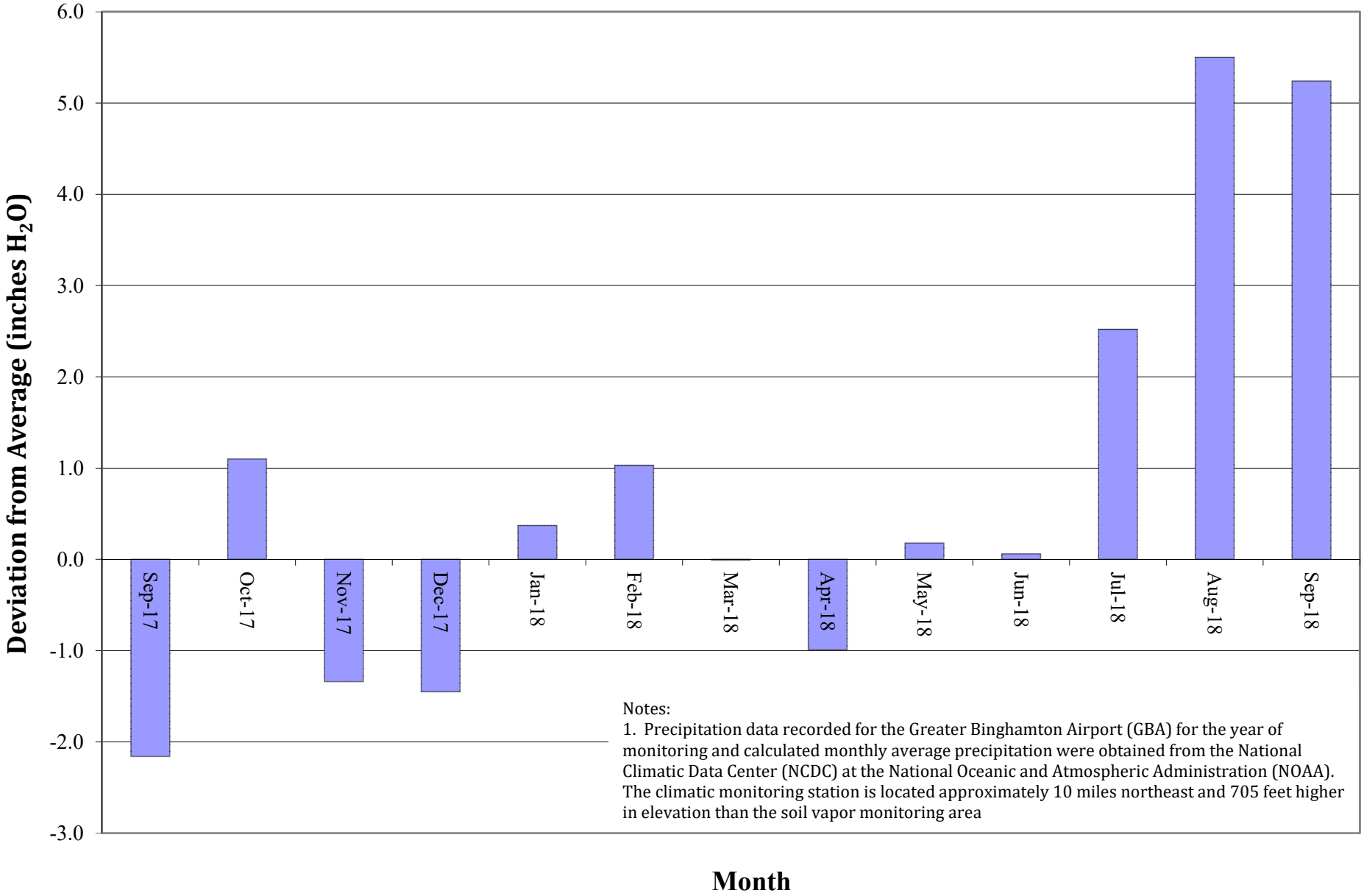
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance & Monitoring Program
Endicott, New York

Soil Vapor Monitoring Location Plan

Project Number: 3304.02

Figure Number: 1

Figure 2
Historical Precipitation Records
Annual Report - Soil Vapor Monitoring through August 2018
Endicott, New York



Notes:
1. Precipitation data recorded for the Greater Binghamton Airport (GBA) for the year of monitoring and calculated monthly average precipitation were obtained from the National Climatic Data Center (NCDC) at the National Oceanic and Atmospheric Administration (NOAA). The climatic monitoring station is located approximately 10 miles northeast and 705 feet higher in elevation than the soil vapor monitoring area

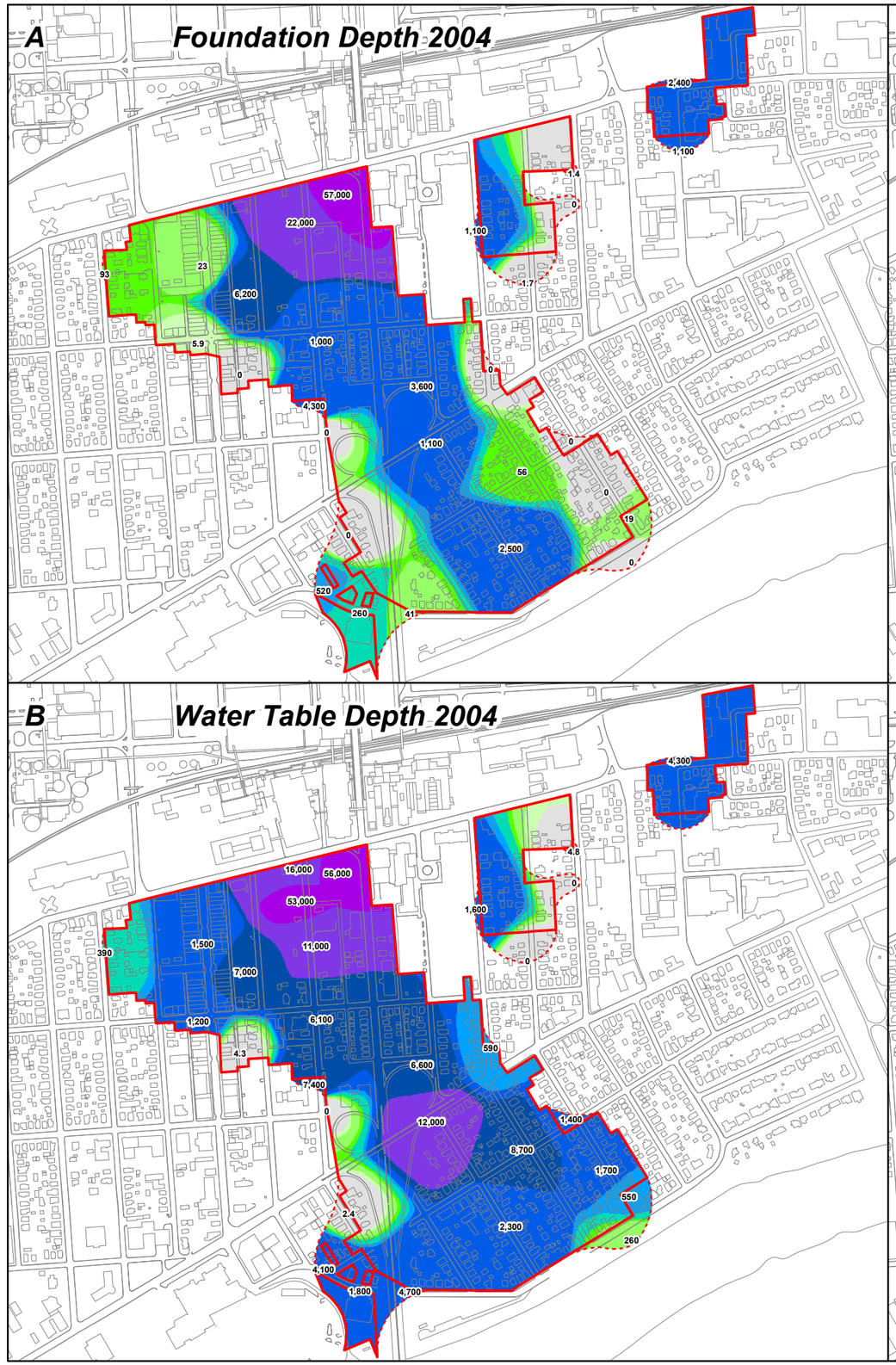


Figure 3

Comparisons of Soil Vapor Concentations Non Heating Seasons

Annual Report - Soil Vapor Monitoring Through August 2018

IBM

Endicott, New York

Drawn By:	H. Pothier
Designed By:	E. Bosse
Reviewed By:	D. Shea
Project No:	3304.02
Date:	January 2019

Figure Narrative

These figures depict TCE concentrations in soil vapor samples at different times and are intended to aid in communicating general temporal trends in the soil vapor concentrations consistent with the available data. The non heating season images display an average of the data recorded between August and October 2004 compared to August 2018.

The images were created using uniform and consistent spatial statistical algorithms and are intended not as absolute indicators of limits of soil vapor concentrations at a given time but a basis of comparison between data from different times.

Legend

150 — Soil Vapor Monitoring Location - TCE concentrations

Limits of Ventilation

Vapor Limit (Estimated)

TCE Concentrations in micrograms per cubic meter (µg/m³)

- 0 - 5
- 5 - 10
- 10 - 50
- 50 - 100
- 100 - 500
- 500 - 1,000
- 1,000 - 5,000
- 5,000 - 10,000
- 10,000 - 50,000
- 50,000 - 100,000

N W E S

400 200 0 400 800 Feet

SANBORN HEAD

Path: P:\4200s\4201.001\Graphics Files\ArcGIS\Figures\20181008_Nonheating 04 vs 18.mxd

APPENDIX A

LIMITATIONS

APPENDIX A
LIMITATIONS

1. The conclusions described in this report are based in part on the data obtained from a finite number of soil vapor, ambient air, soil, and groundwater samples from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.

2. The conclusions contained in this report are based in part upon various types of chemical data as well as historical and hydrogeologic information developed by previous investigators. While Sanborn Head has reviewed that data available to us at the time the report was prepared and information as stated in this report, any of Sanborn Head's interpretations and conclusions that have relied on that information will be contingent on its validity. Sanborn Head has not performed an independent assessment of the reliability of the data; should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by Sanborn Head and the interpretations and conclusions presented herein may be modified accordingly.

3. Sampling and quantitative laboratory testing was performed by others as part of the investigation as noted within the report. Where such analyses have been conducted by an outside laboratory, unless otherwise stated in the report, Sanborn Head has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data.

APPENDIX B

FIELD SAMPLING & LABORATORY ANALYSIS

APPENDIX B.1

CLIMATOLOGIC DATA

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
September 2017

Generated on 10/19/2017

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	60	42	51	-13.6				14	0	0529	1838		0.00	0.0	0	28.42		7.5	23	350	20	360
02	62	39	50	-14.3				15	0	0530	1837	RA BR	0.18	0.0	0	28.43		6.4	19	150	15	140
03	59	49	54	-10.0				11	0	0531	1835	RA BR	0.42	0.0	0	28.20		8.8	22	130	18	130
04	74	51	62	-1.7				3	0	0532	1833	BR	0.00	0.0	0	28.15		10.2	28	240	21	250
05	71	55	63	-0.4				2	0	0533	1831	TS RA FG BR	0.22	0.0	0	28.05		7.3	23	210	16	230
06	58	52	55	-8.1				10	0	0534	1830	RA FG BR	0.08	0.0	0	28.17		3.8	15	130	13	130
07	64	48	56	-6.8				9	0	0535	1828	RA BR	0.02	0.0	0	28.15		7.7	22	280	17	250
08	62	48	55	-7.5				10	0	0536	1826	RA BR	0.02	0.0	0	28.35		6.7	22	340	16	340
09	56	45	50	-12.1				15	0	0537	1824		T	0.0	0	28.56		8.0	22	360	16	360
10	63	45	54	-7.8				11	0	0538	1823		0.00	0.0	0	28.66		7.6	22	350	15	350
11	71	39*	55	-6.4				10	0	0539	1821	FG BR	0.00	0.0	0	28.58		3.2	14	040	10	040
12	74	46	60	-1.0				5	0	0540	1819	FG BR	0.00	0.0	0	28.33		3.1	12	220	8	260
13	76	50	63	2.3				2	0	0542	1817	TS RA	0.01	0.0	0	28.18		5.2	17	220	12	210
14	69	61	65	4.7				0	0	0543	1816	TS RA	0.01	0.0	0	28.16		4.8	13	220	10	210
15	77	59	68	8.1				0	3	0544	1814	RA BR	0.20	0.0	0	28.34		5.3	13	030	10	310
16	79	58	68	8.5				0	3	0545	1812	BR	0.00	0.0	0	28.45		4.0	15	010	10	010
17	79	59	69	9.9				0	4	0546	1810	BR	0.00	0.0	0	28.43		3.5	11	140	8	140
18	79	59	69	10.3				0	4	0547	1809	FG BR	0.00	0.0	0	28.40		5.3	16	150	12	170
19	78	57	68	9.7				0	3	0548	1807	FG BR	0.00	0.0	0	28.33		4.4	14	090	10	090
20	79	58	68	10.1				0	3	0549	1805		0.00	0.0	0	28.28		6.6	20	010	16	360
21	79	58	68	10.5				0	3	0550	1803	FG BR	0.00	0.0	0	28.36		5.8	17	330	14	320
22	79	58	68	10.9				0	3	0551	1802		0.00	0.0	0	28.38		7.0	19	010	15	340
23	82	52	67	10.3				0	2	0552	1800	BR	0.00	0.0	0	28.38		5.8	18	010	15	010
24	85	62	74	17.7				0	9	0553	1758		0.00	0.0	0	28.41		7.1	19	350	15	350
25	87*	63	75	19.1				0	10	0554	1756	BR	0.00	0.0	0	28.38		3.5	13	050	8	140
26	85	63	74	18.5				0	9	0555	1755	BR	0.00	0.0	0	28.32		3.0	12	210	8	200
27	85	62	74	18.9				0	9	0556	1753		0.00	0.0	0	28.20		6.3	25	340	20	340
28	64	46	55	0.3				10	0	0557	1751		0.00	0.0	0	28.22		10.9	29	330	21	330
29	60	43	52	-2.3				13	0	0558	1749		0.02	0.0	0	28.30		4.9	16	270	13	170
30	50	43	46	-8.0				19	0	0600	1748	RA BR	0.08		0	28.44		9.8	24	340	21	350
	71.5	52.3	61.9							Monthly Averages | Totals			1.26			28.33	30.06	6.0				
	3.1	1.6	2.3	Departure from Normal (1981-2010)									-2.37									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	157	-37	243	
Cooling	65	34	322	

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	0	0	11	4	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.47	10	0931
Minimum	29.69	05	0500

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.60s		
Date		
02-03		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: .75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
October 2017

Generated on 01/09/2018

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	62	37	50	-3.6	67	38	44	15	0	0601	1746		0.00	0.0	0	28.61	30.38	3.5	13	360	9	360
02	68	36	52	-1.2	59	35	44	13	0	0602	1744	FG BR	0.00	0.0	0	28.64	30.43	2.9	10	170	8	140
03	69	45	57	4.2	60	42	49	8	0	0603	1742		0.00	0.0	0	28.76	30.53	8.2	22	200	15	180
04	78*	49	64	11.6	65	51	56	1	0	0604	1741		T	0.0	0	28.58	30.28	8.7	21	220	16	220
05	73	57	65	12.9	72	54	58	0	0	0605	1739	RA	0.03	0.0	0	28.38	30.11	5.5	23	360	18	350
06	68	52	60	8.3	82	53	56	5	0	0606	1737	RA	0.01	0.0	0	28.37	30.10	3.4	12	250	9	200
07	77	58	68	16.6	75	58	61	0	3	0607	1736		T	0.0	0	28.30	30.00	9.4	28	210	18	190
08	75	62	68	17.0	79	61	64	0	3	0608	1734	RA BR	0.09	0.0	0	28.18	29.89	9.0	31	240	22	250
09	74	59	66	15.4	96	64	64	0	1	0609	1732	RA FG BR	0.56	0.0	0	28.16	29.87	10.0	30	330	21	320
10	72	55	64	13.7	78	56	59	1	0	0611	1731	FG BR	0.00	0.0	0	28.37	30.11	4.8	17	320	13	340
11	63	47	55	5.0	93	54	55	10	0	0612	1729	RA BR	0.28	0.0	0	28.40	30.15	6.6	20	070	14	060
12	56	47	52	2.4	84	46	48	13	0	0613	1727	RA	T	0.0	0	28.55	30.33	8.6	21	110	16	110
13	56	43	50	0.7	84	46	48	15	0	0614	1726		0.00	0.0	0	28.59	30.35	9.1	24	170	16	180
14	62	54	58	9.0	90	54	55	7	0	0615	1724		0.00	0.0	0	28.49	30.22	5.4	17	220	12	210
15	74	51	62	13.3	82	56	58	3	0	0616	1722	RA BR	0.40	0.0	0	28.17	29.88	12.3	32	200	22	200
16	51	32	42	-6.3	81	36	39	23	0	0617	1721	RA BR	0.18	0.0	0	28.32	30.11	9.4	29	330	21	340
17	55	31*	43	-5.0	63	31	38	22	0	0619	1719		0.00	0.0	0	28.48	30.27	6.4	20	250	14	220
18	66	43	54	6.3	60	41	48	11	0	0620	1718		0.00	0.0	0	28.51	30.26	7.1	18	270	13	220
19	68	48	58	10.6	56	41	49	7	0	0621	1716		0.00	0.0	0	28.38	30.11	9.2	26	250	18	240
20	64	45	54	6.9	51	36	46	11	0	0622	1715		0.00	0.0	0	28.43	30.20	6.2	24	010	17	320
21	71	42	56	9.2	46	36	47	9	0	0623	1713		0.00	0.0	0	28.56	30.32	4.1	13	220	10	240
22	71	48	60	13.5	52	42	51	5	0	0625	1712		0.00	0.0	0	28.59	30.32	7.5	20	160	13	170
23	66	50	58	11.8	76	52	55	7	0	0626	1710		T	0.0	0	28.40	30.09	12.0	37	160	26	150
24	67	52	60	14.1	76	53	56	5	0	0627	1709	RA BR	0.42	0.0	0	28.00	29.70	12.1	41	170	28	170
25	57	39	48	2.4	64	36	43	17	0	0628	1707		T	0.0	0	28.01	29.74	7.2	19	220	14	280
26	47	35	41	-4.3	80	35	39	24	0	0629	1706		0.00	0.0	0	28.07	29.83	8.0	23	340	17	350
27	59	34	46	1.0	60	33	40	19	0	0631	1704		0.00	0.0	0	28.23	30.00	7.8	20	160	14	160
28	63	45	54	9.4	67	42	48	11	0	0632	1703	RA BR	0.08	0.0	0	28.15	29.88	10.1	36	180	23	180
29	53	42	48	3.7	98	45	46	17	0	0633	1702	RA FG BR	1.51	0.0	0	27.91	29.55	9.0	35	320	25	330
30	46	36	41	-3.0	72	33	38	24	0	0634	1700	RA BR	0.57	0.0	0	27.68	29.48	17.3	40	270	30	270
31	47	35	41	-2.7	61	27	34	24	0	0635	1659		0.00	0.0	0	28.22	30.03	11.5	30	220	23	260
	63.8	45.5	54.6							Monthly Averages | Totals			4.13			28.34	30.08	8.1				
	7.0	5.4	6.1	Departure from Normal (1981-2010)									0.80									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	329	-186	572	
Cooling	7	5	330	

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	11	7	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.60	03	1008
Minimum	29.03	30	0157

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.85	0.0	0
Date		
29-30		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: .75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
November 2017

Generated on 01/09/2018

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	49	31	40	-3.4				25	0	0637	1658	RA BR	0.18	T	0	28.46		7.2	21	170	15	160
02	64*	49	56	12.9				9	0	0638	1657	RA	0.05	0.0	0	28.41		8.8	20	190	15	200
03	59	37	48	5.2				17	0	0639	1655	RA BR	0.07	0.0	0	28.35		9.9	24	320	18	340
04	48	33	40	-2.4				25	0	0640	1654	RA	T	0.0	0	28.51		5.8	22	170	15	170
05	57	41	49	6.9				16	0	0642	1653	RA BR	0.20	0.0	0	28.35		13.0	31	170	21	160
06	57	35	46	4.2				19	0	0643	1652	RA BR	0.46	0.0	0	28.22		10.4	27s	330s	21	340
07	36	28	32	-9.4				33	0	0644	1651	RA SN BR	T	T	0	28.43		8.0	18	010	16	010
08	44	26	35	-6.1				30	0	0645	1649		0.00	0.0	0	28.47		4.4	16	040	13	040
09	42	25	34	-6.7				31	0	0647	1648	SN BR	T	T	0	28.33		8.1	32	310	22	310
10	34	14	24	-16.4				41	0	0648	1647	SN FZFG BR UP FG	0.01	1.0	T	28.45		13.8	37	310	26	340
11	31	13*	22	-18.0				43	0	0649	1646	SN	T	T	T	28.69		4.8	16	020	13	020
12	39	22	30	-9.7				35	0	0650	1645	RA	0.01	T	T	28.59		3.9	12	240	9	240
13	44	31	38	-1.3				27	0	0652	1644	RA BR UP	0.03	0.1	T	28.53		4.7	13	360	10	340
14	38	34	36	-2.9				29	0	0653	1643	BR	0.00	0.0	0	28.53		3.9	11	350	8	330
15	42	26	34	-4.6				31	0	0654	1643	FZFG BR FG	0.00	0.0	0	28.39		7.1	25	160	17	170
16	46	33	40	1.8				25	0	0655	1642	TS RA BR	0.07	T	0	28.07		12.9	40	280	28	280
17	35	24	30	-7.8				35	0	0657	1641	SN UP	T	T	0	28.31		10.1	35	320	24	330
18	43	24	34	-3.4				31	0	0658	1640	RA BR	0.38	0.0	0	27.96		9.8	24	190	17	190
19	51	29	40	3.0				25	0	0659	1639	RA SN FG FZFG BR UP HZ	0.09	0.7	0	27.70		14.3	45	290	32	280
20	37	27	32	-4.6				33	0	0700	1638	SN	T	T	1	28.17		10.5	26	290	20	270
21	52	33	42	5.7				23	0	0701	1638		0.00	0.0	T	28.18		11.7	32	210	24	210
22	44	26	35	-0.9				30	0	0703	1637	RA SN BR UP	0.05	T	0	28.22		11.3	30	300	22	320
23	32	25	28	-7.5				37	0	0704	1637		Ts	T	T	28.28		6.4	19	320	13	330
24	48	29	38	2.9				27	0	0705	1636		0.00	0.0	0	28.17		8.1	25	210	16	200
25	52	37	44	9.3				21	0	0706	1635	RA	0.01	0.0	0	27.96		9.5	22	280	17	310
26	38	28	33	-1.3				32	0	0707	1635	SN BR	0.04	T	0	28.16		10.7	28	280	22	320
27	38	25	32	-1.9				33	0	0708	1634		0.00	0.0	0	28.26		8.4	25	310	17	330
28	50	24	37	3.5				28	0	0709	1634		0.00	0.0	0	28.45		9.1	27	220	18	210
29	50	29	40	6.9				25	0	0711	1634		0.00	0.0	0	28.38		11.1	33	350	23	280
30	44	23	34	1.3				31	0	0712	1633	RA BR	0.11	0.0	0	28.36		8.4	27	170	21	180
	44.8	28.7	36.8							Monthly Averages | Totals			1.76			28.31	30.09	8.9				
	-0.3	-2.7	-1.5	Departure from Normal (1981-2010)									-1.54									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	845	42	1418	
Cooling	0	0	330	

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	2	21	0	15	5	1		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.62	11	0912
Minimum	29.09	19	0400

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.56s		

Date		
05-06		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: .75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
December 2017

Generated on 01/09/2018

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	39	30	34	1.7				31	0	0713	1633		0.00	0.0	0	28.38		6.4	23	350	17	340
02	39	25	32	0.1				33	0	0714	1633		0.00	0.0	0	28.44		3.5	13	150	10	160
03	44	30	37	5.5				28	0	0715	1632		0.00	0.0	0	28.40		3.3	12	280	8	280
04	46	26	36	4.9				29	0	0716	1632	BR	0.00	0.0	0	28.52		7.3	32	160	22	170
05	49*	42	46	15.3				19	0	0717	1632	RA BR	0.31	0.0	0	28.23		15.0	40	250	28	270
06	42	25	34	3.6				31	0	0718	1632		0.00	0.0	0	28.12		11.5	29	280	22	270
07	34	25	30	0.0				35	0	0719	1632	SN	T	T	0	28.14		12.3	32	250	25	260
08	28	20	24	-5.6				41	0	0720	1632		T	T	T	28.19		7.5	20	250	14	250
09	27	20	24	-5.3				41	0	0721	1632		0.00	0.0	0	28.07		3.0	10	260	8	140
10	30	20	25	-3.9				40	0	0721	1632	SN BR	0.01	0.3	T	28.04		10.1	27	250	20	260
11	29	23	26	-2.6				39	0	0722	1632	SN BR	T	T	T	28.14		8.1	22	150	15	160
12	33	12	22	-6.2				43	0	0723	1632	SN BR	0.05	1.1	1	27.80		11.7	30	300	22	290
13	18	9	14	-13.9				51	0	0724	1632	SN FZFG BR HZ FG	0.09	1.3	1	27.76		11.5	38	280	24	290
14	17	7	12	-15.6				53	0	0725	1632	SN BR BLSN	0.06	1.6	3	27.94		8.3	27s	330s	20	310
15	19	6	12	-15.2				53	0	0725	1633		Ts	T	3	28.14		6.5	17	230	12	230
16	25	18	22	-4.9				43	0	0726	1633	SN BR	0.03	1.4	2	28.15		6.4	20s	320s	14	260
17	25	19	22	-4.6				43	0	0727	1633	SN BR	T	T	3	28.40		3.0	11	160	7	160
18	37	25	31	4.7				34	0	0727	1633	SN BR HZ	0.01	T	3	28.22		7.7	18	230	12	230
19	48	36	42	16.0				23	0	0728	1634	RA	0.03	0.0	T	28.02		12.3	33	270	25	260
20	38	26	32	6.2				33	0	0729	1634		Ts	T	0	28.12		13.0	38	290	25	300
21	29	21	25	-0.5				40	0	0729	1635		Ts	T	0	28.36		6.9	23	310	17	340
22	36	24	30	4.8				35	0	0730	1635	RA SN UP	0.02	T	T	28.32		9.0	26	150	18	170
23	40	28	34	9.0				31	0	0730	1636	RA SN FG BR UP	0.51	T	0	28.09		8.3	29s	330s	21	330
24	30	26	28	3.2				37	0	0731	1636	SN BR	0.02	0.3	0	28.32		9.2	28	150	22	140
25	29	16	22	-2.5				43	0	0731	1637	SN FZFG BR UP FG	0.07	2.4	1	28.03		14.6	46	290	32	280
26	16	7	12	-12.3				53	0	0731	1638	SN HZ	T	T	2	28.45		10.5	30	280	24	270
27	13	2	8	-16.1				57	0	0732	1638	SN BR	T	0.1	2	28.59		10.0	26	260	21	260
28	6	-1	2	-21.9				63	0	0732	1639	SN BR UP HZ	0.04	0.8	2	28.64		10.2	26	290	18	330
29	12	0	6	-17.7				59	0	0732	1640	SN BR HZ	T	0.1	2	28.41		4.9	19	270	15	280
30	16	6	11	-12.5				54	0	0732	1641	SN FZFG BR UP FG	0.14			28.13		7.2	17	330	13	280
31	9	-3*	3	-20.3				62	0	0733	1641		0.02			28.36		9.2	25	310	17	310
	29.1	18.4	23.8									**Monthly Averages | Totals**	1.41			28.22	30.02	8.7				
	-4.2	-2.8	-3.5	**Departure from Normal (1981-2010)**									-1.42									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	1274	104	2692	
Cooling	0	0	330	

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	18	29	3	15	3	5		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.57	28	1045
Minimum	29.44	12	1419

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.51		
Date		
23-23		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: .75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
January 2018

Generated on 10/26/2018

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	10	-7	2	-21.2	74	-3	2	63	0	0733	1643	SN BR UP	0.01	0.3	4	28.46	30.33	9.0	28	280	18	270
02	18	6	12	-11.0	69	2	8	53	0	0733	1643	SN FZFG BR HZ FG	0.04	0.7	4	28.43	30.28	10.1	28	320	21	320
03	21	2	12	-10.9	50	-3	8	53	0	0733	1644		0.00	0.0	4	28.32	30.14	7.8	19	210	14	210
04	17	4	11	-11.7	72	5	11	54	0	0733	1645	SN BR UP	0.05	1.5	4	27.94	29.71	13.0	39	290	25	300
05	4	-3	1	-21.6	66	-8	-1	64	0	0733	1646	SN UP HZ BLSN	T	0.3	5	27.99	29.87	17.4	39	290	26	290
06	1	-5	-2	-24.5	65	-10	-2	67	0	0733	1647	SN UP HZ BLSN	T	0.1	5	28.34	30.26	15.2	38	290	26	300
07	17	-7*	5	-17.4	62	-5	2	60	0	0733	1648	BR	T	T	5	28.55	30.41	7.4	21	210	15	220
08	31	17	24	1.7	66	14	22	41	0	0733	1649	SN HZ	T	T	4	28.22	30.01	10.1	25	210	16	230
09	33	26	30	7.8	71	21	26	35	0	0732	1650	SN	T	T	4	28.33	30.17	10.2	32	290	23	300
10	35	19	27	4.9	69	20	26	38	0	0732	1651		0.00	0.0	4	28.53	30.34	7.6	21	200	15	180
11	53	35	44	21.9	78	38	42	21	0	0732	1652		0.00	0.0	3	28.43	30.20	10.8	32	210	20	190
12	60*	30	45	23.0	95	49	49	20	0	0732	1654	RA FZRA SN BR UP	1.23	T	0	28.05	29.74	13.2	31	350	23	350
13	29	4	17	-5.0	82	6	10	48	0	0731	1655	FZRA SN FZFG BR UP FG	0.48	5.5	4	28.17	30.06	15.0	37	360	29	350
14	11	0	6	-15.9	76	0	4	59	0	0731	1656	SN BR HZ	T	0.1	5	28.72	30.63	7.8	21	320	15	330
15	19	-3	8	-13.9	79	4	8	57	0	0730	1657	SN	0.01	T	5	28.71	30.55	8.0	18	140	15	140
16	25	19	22	0.1	92	20	22	43	0	0730	1658	SN FZFG BR FG	0.31	3.3	4	28.54	30.37	4.1	14	220	10	210
17	24	7	16	-5.8	81	11	14	49	0	0729	1659	SN FZFG BR HZ FG	0.05	1.4	8	28.46	30.28	6.6	21	320	16	330
18	20	4	12	-9.8	74	6	11	53	0	0729	1701		0.00	0.0	8	28.24	30.06	7.7	19	290	14	310
19	32	14	23	1.2	64	13	20	42	0	0728	1702		0.00	0.0	7	28.15	29.95	8.8	20	240	15	250
20	42	30	36	14.2	59	22	31	29	0	0728	1703		0.00	0.0	6	28.09	29.89	10.9	28	290	22	280
21	39	27	33	11.1	83	29	32	32	0	0727	1704	RA FG BR	0.02	0.0	5	28.33	30.12	4.2	11	270	9	270
22	43	35	39	17.1	97	38	39	26	0	0726	1705	RA FG BR	0.13	0.0	4	28.28	30.04	7.7	23	140	17	150
23	46	35	41	19.1	85	36	38	24	0	0726	1707	RA FG BR	0.39	T	T	27.92	29.65	11.2	31	280	24	280
24	35	14	25	3.0	74	15	20	40	0	0725	1708	SN UP	T	0.2	T	28.17	30.01	14.2	38	310	26	290
25	24	14	19	-3.0	60	6	15	46	0	0724	1709	SN BR	T	0.1	T	28.53	30.41	6.9	23	350	17	350
26	35	13	24	1.9	60	13	21	41	0	0723	1710		0.00	0.0	T	28.72	30.55	6.9	20	180	15	160
27	47	26	37	14.9	62	26	33	28	0	0722	1712	RA	0.05	0.0	0	28.49	30.26	10.9	28	220	20	210
28	45	29	37	14.8	74	29	34	28	0	0721	1713		0.00	0.0	0	28.45	30.24	6.6	17	020	13	010
29	36	22	29	6.7	78	23	27	36	0	0721	1714	BR	0.00	0.0	0	28.40	30.17	4.9	13	050	9	050
30	27	7	17	-5.4	79	12	16	48	0	0720	1716	SN FZFG BR UP FG	0.02	1.1	T	28.25	30.08	11.0	33	330	20	340
31	24	2	13	-9.5	69	6	12	52	0	0719	1717	SN	0.01	0.3	1	28.29	30.09	8.3	23	140	16	160
	29.1	13.4	21.3									**Monthly Averages | Totals**	2.80	14.9		28.34	30.16	9.4				
	0.4	-2.3	-0.9									**Departure from Normal (1981-2010)**	0.35									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	1351	24	4043	
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	0	18	28	6	14	5	5		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.70	14	1053
Minimum	29.52	23	1505

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.49	5.5	8
Date		
12-13	13-13	18

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
February 2018

Generated on 10/26/2018

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	40	23	32	9.4	65	21	28	33	0	0718	1718	RA SN FG FZFG BR	0.14	1.5	1	28.06	29.84	11.0	27	360	22	340
02	23	3	13	-9.7	71	3	9	52	0	0717	1720	SN BR UP	T	0.4	2	28.25	30.11	14.9	37	300	24	310
03	23	2*	13	-9.8	60	3	12	52	0	0715	1721	UP	T	T	1	28.41	30.25	10.6	27	210	18	250
04	29	23	26	3.1	84	21	25	39	0	0714	1722	SN FZFG BR FG	0.36	3.7	1	28.19	29.93	8.8	30	190	20	190
05	29	11	20	-3.0	70	8	14	45	0	0713	1723	SN BR UP HZ BLSN	T	0.2	5	28.19	30.05	10.0	38	310	26	310
06	26	13	20	-3.2	70	11	17	45	0	0712	1725	SN BR	0.02	0.9	4	28.47	30.33	7.0	21	280	15	270
07	26	17	22	-1.3	84	16	19	43	0	0711	1726	SN FZFG BR HZ FG	0.64	5.5	5	28.38	30.16	10.6	33	310	22	300
08	20	11	16	-7.5	72	8	14	49	0	0710	1727	SN BR	0.01	0.2	8	28.46	30.31	8.2	29	330	20	310
09	29	9	19	-4.6	80	13	17	46	0	0708	1729	SN BR HZ	0.10	1.1	8	28.56	30.38	7.3	24	180	17	190
10	40	29	35	11.2	87	30	32	30	0	0707	1730	RA SN BR UP	0.08	T	9	28.35	30.13	6.2	18	200	12	190
11	45	30	38	14.1	98	37	37	27	0	0706	1731	RA FZRA FG FZFG BR UP	0.11	0.0	7	28.15	29.92	8.1	24	350	21	350
12	33	19	26	1.9	69	17	23	39	0	0705	1732		0.00	0.0	3	28.53	30.42	11.6	26	340	20	350
13	30	15	23	-1.3	61	11	20	42	0	0703	1734	SN BR	T	0.1	3	28.86	30.68	5.2	20	190	14	190
14	40	28	34	9.5	78	28	32	31	0	0702	1735		0.03	0.0	3	28.43	30.18	7.8	19	200	14	210
15	56	37	46	21.3	86	43	45	19	0	0701	1736	RA FG BR	0.03	0.0	2	28.07	29.78	6.5	20	270	14	220
16	50	21	36	11.2	86	31	33	29	0	0659	1738	RA SN FG BR	0.21	T	T	28.01	29.81	10.5	33	330	23	330
17	31	17	24	-1.0	71	15	21	41	0	0658	1739	SN BR	0.12	0.9	0	28.40	30.19	7.8	27	190	18	170
18	34	23	29	3.7	73	20	25	36	0	0656	1740	SN BR HZ	0.04	0.8	2	28.42	30.27	7.8	25	340	17	290
19	41	25	33	7.5	84	30	33	32	0	0655	1741	RA BR	0.28	0.0	1	28.50	30.29	10.4	26	180	18	190
20	64	41	53	27.3	81	47	50	12	0	0654	1743	BR	0.00	0.0	0	28.46	30.22	9.5	25	220	18	220
21	69*	32	51	25.1	83	45	47	14	0	0652	1744	RA BR	0.06	0.0	0	28.51		11.2	32	220	24	230
22	32	28	30	3.9	91	28	30	35	0	0651	1745	SN FG FZFG BR UP	0.52	4.8	0	28.80	30.61	6.2	15	020	13	360
23	37	29	33	6.6	97	31	32	32	0	0649	1746	RA FZRA FG FZFG BR SN	0.14	0.0	4	28.63	30.38	10.2	25	170	18	160
24	40	33	37	10.4	89	33	35	28	0	0648	1748	RA FG BR	T	T	1	28.40	30.18	5.6	14	330	12	360
25	42	33	38	11.1	95	37	38	27	0	0646	1749	RA BR	0.51	0.0	0	28.19	29.95	10.8	39	160	28	150
26	47	31	39	11.9	58	23	32	26	0	0644	1750	BR	0.00	0.0	0	28.35	30.16	8.6	27	340	17	310
27	52	26	39	11.6	45	19	32	26	0	0643	1751		0.00	0.0	0	28.50	30.26	8.1	24	270	18	260
28	56	35	46	18.4	48	26	38	19	0	0641	1752		T	0.0	0	28.20	29.94	7.9	23	230	17	220
	38.7	23.0	30.9							Monthly Averages | Totals			3.40	20.1		28.38	30.17	8.9				
	6.6	5.6	6.2	Departure from Normal (1981-2010)									1.09									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	953	-174	4996	
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	0	11	23	0	18	11	5		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.81	13	0953
Minimum	29.60	16	0553

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.64	5.5	9
Date		
07-07	07-07	10

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
March 2018

Generated on 10/26/2018

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	46	33	40	12.1	84	35	38	25	0	0640	1754	RA SN BR	0.44	T	0	28.07	29.77	7.8	23	070	15	070
02	33	25	29	0.8	91	25	27	36	0	0638	1755	SN FZFG BR FG	0.68	12.5	3	27.95	29.77	19.5	41	350	30	340
03	31	25	28	-0.5	87	23	26	37	0	0636	1756	SN BR UP	T	T	9	28.36	30.20	16.4	33	320	25	340
04	30	21	26	-2.7	73	18	23	39	0	0635	1757		0.00	0.0	8	28.44	30.23	13.6	30	320	23	340
05	31	21	26	-3.0	75	18	23	39	0	0633	1758		0.00	T	7	28.35	30.15	11.4	24	360	20	350
06	38	21	30	0.7	73	22	27	35	0	0632	1800	SN FZFG BR FG	0.09	1.6	6	28.19	29.95	6.9	24	160	16	180
07	31	27	29	-0.6	91	27	29	36	0	0630	1801	SN FZFG BR FG	0.12	2.5	6	27.99	29.75	8.0	22	130	18	120
08	31	21	26	-3.9	71	18	24	39	0	0628	1802	SN BR	T	0.2	6	27.95	29.71	8.3	23	270	15	280
09	32	21	27	-3.3	82	21	24	38	0	0627	1803	SN FZFG BR FG	0.02	1.1	5	27.91	29.71	11.7	31	290	22	270
10	29	23	26	-4.6	72	18	23	39	0	0625	1804	SN BR UP	T	0.1	6	28.12	29.93	10.9	29	280	21	280
11	29	22	26	-4.9	69	17	23	39	0	0623	1806	SN	T	T	5	28.28	30.09	8.0	18	360	16	360
12	32	16	24	-7.2	84	20	23	41	0	0621	1807	SN BR	0.17	2.0	5	28.19	29.95	5.3	16	140	10	360
13	29	22	26	-5.6	83	21	24	39	0	0620	1808	SN BR UP	0.13	2.0	8	27.98	29.74	12.1	31	340	21	330
14	29	22	26	-5.9	89	22	24	39	0	0618	1809	SN FZFG BR FG	0.19	8.0	8	27.79	29.56	14.1	33	320	22	290
15	35	19	27	-5.3	66	17	23	38	0	0616	1810	SN BR	T	0.1	13	27.81	29.58	10.4	25	280	18	300
16	26	17	22	-10.6	73	14	20	43	0	0615	1811	SN FZFG BR FG	0.19	4.9	11	27.99	29.81	13.3	37	310	25	290
17	35	13	24	-9.0	55	10	20	41	0	0613	1813		0.00	0.0	11	28.05	29.83	11.9	36	330	24	320
18	34	10*	22	-11.4	41	3	18	43	0	0611	1814		0.00	0.0	9	28.14	29.93	5.9	19	320	15	320
19	30	16	23	-10.7	44	4	18	42	0	0609	1815		0.00	0.0	8	28.17	29.98	8.7	19	030	15	360
20	34	11	23	-11.1	46	5	18	42	0	0608	1816		0.00	0.0	8	28.14	29.92	7.4	18	040	14	040
21	34	22	28	-6.5	53	12	23	37	0	0606	1817		0.00	0.0	8	28.01	29.78	11.7	25	340	20	340
22	36	22	29	-5.9	62	17	25	36	0	0604	1818		0.00	0.0	8	28.15	29.95	11.9	29	320	20	350
23	35	23	29	-6.3	65	18	25	36	0	0603	1819		0.00	0.0	6	28.28	30.08	10.3	23	350	17	350
24	33	19	26	-9.7	62	15	23	39	0	0601	1820		0.00	0.0	5	28.36	30.17	10.9	26	350	20	350
25	39	16	28	-8.1	61	15	24	37	0	0559	1822	SN FZFG BR HZ FG	0.05	1.3	5	28.58	30.44	8.1	19	090	14	060
26	42	24	33	-3.5	49	15	27	32	0	0557	1823		0.00	0.0	3	28.82	30.62	6.8	18	200	14	100
27	38	28	33	-3.9	65	21	29	32	0	0556	1824	RA FZRA BR UP	0.24	0.0	2	28.59	30.33	11.0	31	180	22	170
28	43	31	37	-0.3	96	36	37	28	0	0554	1825	FZRA FG BR UP	0.15	0.0	1	28.25	30.02	2.4	14	180	10	180
29	50	39	45	7.3	99	44	44	20	0	0552	1826	RA FG BR	0.27	0.0	T	28.15	29.88	6.8	20	150	17	140
30	51*	30	41	2.9	84	33	36	24	0	0550	1827	RA FG BR	0.18	0.0	0	28.08	29.88	12.2	31	350	23	340
31	50	24	37	-1.6	47	19	31	28	0	0549	1828		0.00	0.0	0	28.36	30.12	9.5	28	220	21	200
	35.4	22.1	28.7							Monthly Averages | Totals			2.92	36.3		28.18	29.96	10.1				
	-5.7	-2.5	-4.1	Departure from Normal (1981-2010)									-0.07									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	1122	125	6118	
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	0	13	29	0	14	11	9		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.69	26	1102
Minimum	29.47	02	0327

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.12	12.5	13

Date		
01-02	02-02	15

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
April 2018

Generated on 10/26/2018

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	43	28	36	-3.0	60	21	29	29	0	0547	1829	RA BR	0.03	T	0	28.23	30.02	9.9	24	340	18	340
02	42	25	34	-5.4	63	21	28	31	0	0545	1831	SN BR UP	0.11	1.1	1	28.30	30.09	2.5	16	280	13	270
03	38	30	34	-5.8	92	32	34	31	0	0544	1832	RA SN FG BR	0.35	T	0	28.19	29.93	9.6	22	170	17	160
04	51	24	38	-2.3	75	32	37	27	0	0542	1833	RA SN FZFG BR FG	0.15	0.2	0	27.81	29.57	19.2	52	280	40	270
05	32	20	26	-14.7	64	14	22	39	0	0540	1834	SN BR	T	0.1	T	28.24	30.05	10.5	33	290	23	280
06	43	22	33	-8.1	85	26	29	32	0	0538	1835	RA SN FZFG BR UP FG	0.19	1.7	T	28.09	29.83	11.4	49	260	33	280
07	33	22	28	-13.6	62	15	23	37	0	0537	1836	SN BR	T	0.1	T	28.11	29.91	10.7	30	300	20	300
08	32	19	26	-16.0	73	16	21	39	0	0535	1837	SN FZFG BR FG	0.03	0.6	0	28.15	29.97	8.2	27	330	22	330
09	39	18*	29	-13.4	58	15	24	36	0	0533	1838	SN	T	0.1	T	28.33	30.14	3.7	12	310	9	270
10	37	25	31	-11.8	67	21	27	34	0	0532	1840	SN BR	0.01	0.2	T	28.37	30.17	5.9	17	330	14	330
11	43	24	34	-9.3	62	23	30	31	0	0530	1841	SN	T	T	0	28.32	30.09	7.2	28	250	20	250
12	57	32	45	1.3	72	36	40	20	0	0529	1842	RA	0.06	0.0	0	28.15	29.88	7.7	25	220	18	230
13	71*	47	59	14.9	68	44	50	6	0	0527	1843	RA	0.04	0.0	0	28.12	29.86	5.8	19	350	16	350
14	57	35	46	1.5	74	35	40	19	0	0525	1844	BR	0.00	0.0	0	28.22	29.96	9.6	21	360	18	360
15					68	18	24			0524	1845	HZ	0.00	0.0	0	28.33	29.58	17.9	38	120	29	130
16	44	33	39	-6.4	92	32	33	26	0	0522	1846	RA SN BR UP	0.57	T	0	27.89	29.73	17.5	46	140	35	130
17	37	27	32	-13.8	83	26	29	33	0	0520	1847	SN FZFG BR FG	0.12	0.8	T	27.88	29.64	10.9	27	270	21	270
18	38	27	33	-13.2	74	25	30	32	0	0519	1848	SN	T	T	1	28.00	29.77	9.3	24	260	18	260
19	34	28	31	-15.6	86	26	29	34	0	0517	1850	SN FZFG BR UP FG	0.10	1.2	1	28.05	29.85	9.6	31	310	22	340
20	37	26	32	-15.0	67	21	27	33	0	0516	1851	SN BR	0.01	0.1	T	28.43	30.27	11.0	29	350	22	340
21	52	27	40	-7.4	46	19	32	25	0	0514	1852		0.00	0.0	T	28.59	30.39	8.2	26	340	21	350
22	59	31	45	-2.8	32	17	35	20	0	0513	1853		0.00	0.0	0	28.61	30.40	7.5	34	350	21	360
23	67	31	49	0.8	30	19	39	16	0	0511	1854		0.00	0.0	0	28.61	30.38	6.5	20	140	15	150
24	66	43	55	6.5	44	31	43	10	0	0510	1855	RA BR	0.11	0.0	0	28.48	30.22	9.6	26	190	20	200
25	54	45	49	0.1	96	49	49	16	0	0508	1856	RA BR	0.31	0.0	0	28.12	29.81	7.3	16	110	13	300
26	56	41	48	-1.3	71	38	43	17	0	0507	1857		0.00	0.0	0	28.03	29.79	9.7	24	320	18	290
27	54	39	46	-3.7	83	41	44	19	0	0505	1858	RA BR	0.14	0.0	0	28.06	29.78	5.7	15	110	13	130
28	58	39	48	-2.0	77	40	44	17	0	0504	1900	RA	0.03	0.0	0	28.04	29.80	9.4	29	220	22	250
29	40	32	36	-14.4	76	29	34	29	0	0503	1901	RA SN BR UP	0.01	T	0	28.22	30.00	11.5	27	330	20	310
30	58	34	46	-4.7	40	22	36	19	0	0501	1902	SN	T	T	0	28.27	30.03	12.8	35	340	24	340
	47.4	30.0	38.7							Monthly Averages | Totals			2.37	6.2		28.21	29.99	9.6				
	-6.8	-5.9	-6.4	Departure from Normal (1981-2010)									-1.06									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	760	157	6878	
Cooling	0	-4	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	2	20	0	18	10	3		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.46	23	0938
Minimum	29.35	04	0953

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
0.57	1.7	1
Date		
16-16	06-06	19

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
May 2018

Generated on 10/26/2018

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	77	39*	58	6.9	29	27	45	7	0	0500	1903		0.00	0.0	0	28.30	30.04	7.6	23	340	16	310
02	84	58	71	19.6	29	37	54	0	6	0458	1904		T	0.0	0	28.30	30.00	10.7	33	220	24	250
03	82	62	72	20.2	65	56	62	0	7	0457	1905	RA BR	0.16	0.0	0	28.25	29.95	9.0	28	250	20	270
04	78	52	65	12.9	74	56	60	0	0	0456	1906	RA BR	0.09	0.0	0	28.15	29.85	12.4	41	300	28	220
05	72	43	57	4.6	52	41	50	8	0	0455	1907	RA	T	0.0	0	28.30	30.04	8.1	23	320	17	260
06	60	51	56	3.2	87	49	52	9	0	0453	1908	RA BR	0.18	0.0	0	28.25	29.98	5.1	16	170	12	200
07	65	48	56	2.9	66	42	48	9	0	0452	1909	BR	T	0.0	0	28.34	30.11	5.8	14	350	12	330
08	72	41	56	2.6	42	36	49	9	0	0451	1911		0.00	0.0	0	28.46	30.19	4.8	16	280	10	290
09	77	52	64	10.3	46	43	53	1	0	0450	1912		0.00	0.0	0	28.36	30.07	6.5	20	200	14	180
10	72	55	64	10.0	72	51	55	1	0	0449	1913	TS RA BR	0.50	0.0	0	28.12	29.84	10.3	29	210	21	210
11	55	41	48	-6.3	56	33	42	17	0	0447	1914	RA	T	0.0	0	28.30	30.08	7.9	25	340	16	310
12	47	43	45	-9.6	91	42	44	20	0	0446	1915	RA FG BR	0.27	0.0	0	28.34	30.10	5.7	16	130	13	130
13	53	42	48	-6.9	93	45	46	17	0	0445	1916	RA BR	0.03	0.0	0	28.35	30.09	7.6	17	150	14	140
14	74	49	61	5.7	77	52	56	4	0	0444	1917	RA FG BR	0.04	0.0	0	28.22	29.95	4.7	16	210	12	200
15	75	52	64	8.4	85	57	59	1	0	0443	1918	TS RA BR	0.39	0.0	0	28.15	29.88	7.7	32	350	23	350
16	62	47	55	-0.9	89	52	54	10	0	0442	1919	FG BR	0.00	0.0	0	28.33	30.06	6.1	17	140	14	150
17	79	55	67	10.8	69	53	58	0	2	0441	1920	FG BR	0.00	0.0	0	28.30	30.04	4.1	16	350	13	010
18	74	51	63	6.5	56	45	52	2	0	0440	1921		0.00	0.0	0	28.50	30.24	8.8	23	130	16	150
19	59	44	52	-4.8	91	48	50	13	0	0439	1922	RA BR	1.12	0.0	0	28.41	30.12	11.3	27	110	20	130
20	65	53	59	2.0	89	56	57	6	0	0438	1923	RA BR	0.03	0.0	0	28.27	30.01	8.3	24	250	16	330
21	72	47	59	1.7	59	45	52	6	0	0438	1924	FG BR	0.00	0.0	0	28.43	30.18	3.8	13	360	10	350
22	61	52	56	-1.6	92	53	54	9	0	0437	1925	TS RA FG BR	0.45	0.0	0	28.32	30.02	7.3	25	150	20	160
23	75	54	64	6.1	69	52	57	1	0	0436	1926	RA FG BR	0.01	0.0	0	28.27	30.01	8.4	24	350	18	350
24	76	51	64	5.8	50	45	55	1	0	0435	1927	HZ	0.00	0.0	0	28.40	30.13	7.0	24	350	17	350
25	81	56	68	9.5	47	48	58	0	3	0434	1928	HZ	0.00	0.0	0	28.25	29.93	8.0	22	270	17	250
26	82	61	72	13.2	54	54	61	0	7	0434	1928	HZ	0.00	0.0	0	28.14	29.84	6.0	20	280	14	280
27	70	56	63	3.9	93	60	60	2	0	0433	1929	RA BR	0.39	0.0	0	28.25	29.98	8.5	18	150	14	130
28	78	55	67	7.6	92	61	62	0	2	0432	1930	TS RA FG BR	0.07	0.0	0	28.28	29.99	6.0	24	280	18	300
29	84*	63	73	13.3	73	62	66	0	8	0432	1931	FG BR	0.00	0.0	0	28.29	30.00	4.8	12	040	9	020
30	83	62	73	13.0	67	59	64	0	8	0431	1932		0.00	0.0	0	28.33	30.03	10.4	27	140	20	150
31	71	60	66	5.7	85	61	63	0	1	0431	1933		T	0.0	0	28.23	29.93	8.8	22	160	16	140
	71.5	51.5	61.5							Monthly Averages | Totals			3.73			28.30	30.03	7.4				
	6.0	5.4	5.7	Departure from Normal (1981-2010)									0.16									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	153	-152	7031	
Cooling	43	24	43	

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	0	0	14	8	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.28	18	2353
Minimum	29.66	04	1653

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.12	0.0	0
Date		
19-19		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
June 2018

Generated on 10/26/2018

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	84	65	74	13.4	85	66	68	0	9	0430	1933	TS RA FG BR	0.11	0.0	0	28.10	29.80	5.2	32	320	25	340
02	67	58	62	1.1	90	60	61	3	0	0430	1934	FG BR	T	0.0	0	28.15	29.87	8.3	22	340	17	340
03	63	52	57	-4.2	82	52	55	8	0	0429	1935	RA	0.04	0.0	0	28.20	29.91	10.2	29	190	21	150
04	67	50	58	-3.5	75	49	53	7	0	0429	1936	RA BR	0.07	0.0	0	28.04	29.75	9.4	27	290	18	300
05	59	49	54	-7.8	80	47	50	11	0	0429	1936	RA BR	0.04	0.0	0	27.98	29.71	7.5	21	310	16	310
06	57	48	53	-9.1	84	47	50	12	0	0428	1937	RA	T	0.0	0	28.15	29.91	4.7	12	340	10	350
07	70	48	59	-3.3	68	49	54	6	0	0428	1938	FG BR	0.00	0.0	0	28.33	30.08	4.6	19	250	13	280
08	77	55	66	3.4	61	52	58	0	1	0428	1938		0.00	0.0	0	28.41	30.14	6.7	18	350	14	360
09	71	52	62	-0.9	57	46	54	3	0	0428	1939		0.00	0.0	0	28.43	30.15	2.9	12	310	9	330
10	66	54	60	-3.2	73	50	54	5	0	0427	1939		0.00	0.0	0	28.33	30.05	4.9	14	160	12	150
11	75	52	64	0.5	61	48	55	1	0	0427	1940		0.00	0.0	0	28.31	30.05	3.8	17	140	12	150
12	75	53	64	0.3	57	48	55	1	0	0427	1940		0.00	0.0	0	28.38	30.10	9.8	27	240	18	230
13	75	58	66	2.0	85	60	62	0	1	0427	1941	TS RA FG BR	0.81	0.0	0	28.14	29.83	10.0	36	350	23	280
14	73	53	63	-1.3	58	47	54	2	0	0427	1941	RA	0.00	0.0	0	28.12	29.84	12.6	41	320	29	310
15	72	51	62	-2.5	58	45	53	3	0	0427	1942		0.00	0.0	0	28.27	30.00	9.8	27	360	22	360
16	79	50	64	-0.8	49	45	55	1	0	0427	1942		0.00	0.0	0	28.33	30.05	3.6	17	330	13	340
17	84	58	71	6.0	58	56	63	0	6	0427	1943		0.00	0.0	0	28.35	30.06	4.8	13	280	10	290
18	90*	70	80	14.7	74	67	70	0	15	0427	1943	RA BR	0.10	0.0	0	28.23	29.90	9.5	26	260	20	260
19	73	59	66	0.5	66	55	60	0	1	0427	1943	RA BR	T	0.0	0	28.19	29.90	10.2	25	340	18	360
20	70	56	63	-2.7	67	52	57	2	0	0427	1943		T	0.0	0	28.18	29.88	3.5	12	240	9	240
21	77	53	65	-0.9	61	50	57	0	0	0428	1944		0.00	0.0	0	28.13	29.85	7.6	23	010	17	350
22	74	48	61	-5.2	68	52	56	4	0	0428	1944	RA	T	0.0	0	28.25	29.97	8.6	21	110	15	120
23	69	53	61	-5.4	87	57	59	4	0	0428	1944	RA BR HZ	0.60	0.0	0	28.13	29.83	8.8	21	130	15	140
24	73	58	65	-1.6	92	63	63	0	0	0428	1944	TS RA BR	0.48	0.0	0	28.10	29.83	6.9	20	340	16	350
25	70	54	62	-4.8	61	47	54	3	0	0429	1944	RA BR	0.01	0.0	0	28.35	30.11	10.4	29	010	23	350
26	74	48*	61	-5.9	57	46	54	4	0	0429	1944		0.00	0.0	0	28.48	30.20	6.8	17	190	13	220
27	64	58	61	-6.1	93	59	60	4	0	0429	1944	TS RA BR	1.09	0.0	0	28.25	29.94	8.7	22	160	15	160
28	77	63	70	2.7	84	64	66	0	5	0430	1944	TS RA BR	0.54	0.0	0	28.09	29.81	7.2	21	320	16	340
29	82	61	72	4.6	64	59	64	0	7	0430	1944		0.00	0.0	0	28.28	30.01	6.9	23	320	17	350
30	88	63	75	7.4	65	64	69	0	10	0431	1944		0.00	0.0	0	28.36	30.05	5.9	18	220	15	240
	73.2	55.0	64.1							Monthly Averages | Totals			3.89			28.23	29.95	7.4				
	-0.5	-0.2	-0.3	Departure from Normal (1981-2010)									-0.42									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	84	-7	7116	
Cooling	56	-18	99	

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	11	7	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.28	26	0829
Minimum	29.67	05	0753

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.55	0.0	0
Date		
27-28		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
July 2018

Generated on 10/26/2018

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	90	69	80	12.3	66	67	71	0	15	0431	1944		0.00	0.0	0	28.34	30.04	5.3	13	220	10	190
02	90*	68	79	11.1	74	68	71	0	14	0432	1944	TS RA BR	0.73	0.0	0	28.37	30.06	5.9	29	280	24	280
03	84	67	75	7.0	74	66	69	0	10	0432	1944	FG BR	0.00	0.0	0	28.50	30.22	5.0	15	340	12	340
04	86	64	75	6.9	81	67	69	0	10	0433	1943	TS RA BR	T	0.0	0	28.58	30.30	5.2	31	180	23	190
05	84	67	75	6.8	78	69	71	0	10	0433	1943	BR	0.00	0.0	0	28.52	30.21	8.9	24	210	17	230
06	74	55	64	-4.3	71	57	61	1	0	0434	1943	RA	0.03	0.0	0	28.40	30.13	10.7	30	310	24	330
07	74	51	63	-5.4	55	46	54	2	0	0435	1943		0.00	0.0	0	28.60	30.35	5.8	20	090	13	090
08	79	54	66	-2.5	59	52	59	0	1	0435	1942		0.00	0.0	0	28.61	30.33	3.5	12	180	9	250
09	82	59	71	2.4	56	55	62	0	6	0436	1942		0.00	0.0	0	28.46	30.16	5.5	16	270	13	280
10	84	62	73	4.4	60	58	64	0	8	0437	1941	TS	0.00	0.0	0	28.27	29.96	7.6	18	330	14	360
11	77	60	69	0.3	55	50	58	0	4	0438	1941		0.00	0.0	0	28.32	30.05	10.1	28	350	20	350
12	78	54	66	-2.8	52	49	57	0	1	0438	1940		0.00	0.0	0	28.48	30.21	3.7	15	010	13	020
13	81	56	68	-0.8	61	55	61	0	3	0439	1940		0.00	0.0	0	28.49	30.20	3.7	16	160	12	190
14	86	66	76	7.1	72	62	66	0	11	0440	1939	TS RA BR	0.53	0.0	0	28.38	30.08	7.3	20	210	15	240
15	84	65	74	5.1	76	66	69	0	9	0441	1939	RA BR	T	0.0	0	28.30	30.00	3.0	12	260	9	340
16	87	67	77	8.1	77	68	70	0	12	0442	1938	TS RA FG BR	0.35	0.0	0	28.26	29.95	4.6	20	330	15	020
17	77	63	70	1.1	78	63	66	0	5	0442	1937	TS RA FG BR	1.34	0.0	0	28.16	29.85	7.2	21	350	17	350
18	72	55	64	-5.0	60	50	56	1	0	0443	1937		0.00	0.0	0	28.26	29.99	9.3	23	340	17	010
19	75	51*	63	-6.0	55	47	55	2	0	0444	1936		0.00	0.0	0	28.38	30.11	3.0	14	150	10	140
20	79	53	66	-3.0	62	54	60	0	1	0445	1935		0.00	0.0	0	28.38	30.10	7.4	20	170	15	160
21	75	57	66	-3.0	73	55	59	0	1	0446	1934	RA	0.07	0.0	0	28.32	30.02	9.2	26	130	22	130
22	78	58	68	-1.0	87	64	66	0	3	0447	1933	RA BR	0.32	0.0	0	28.15	29.86	12.8	33	140	26	130
23	80	67	73	4.0	89	69	70	0	8	0448	1932	RA BR	0.22	0.0	0	28.32	30.05	10.6	37	140	25	160
24	74	69	72	3.0	95	69	69	0	7	0449	1932	RA BR	1.49	0.0	0	28.38	30.08	9.5	26	170	17	170
25	72	66	69	0.0	96	68	68	0	4	0450	1931	RA FG BR	0.88	0.0	0	28.22	29.92	7.1	20	180	14	200
26	80	64	72	3.0	77	64	66	0	7	0451	1930	TS RA FG BR	0.01	0.0	0	28.17	29.89	6.7	30	230	22	220
27	77	65	71	2.1	81	64	66	0	6	0452	1929	RA	0.01	0.0	0	28.24	29.96	5.8	20	280	14	270
28	77	60	69	0.1	76	60	63	0	4	0453	1928	BR	0.00	0.0	0	28.29	30.01	5.3	20	330	17	340
29	74	56	65	-3.9	69	54	59	0	0	0454	1927		0.00	0.0	0	28.39	30.12	4.8	15	300	12	340
30	75	57	66	-2.9	80	58	61	0	1	0455	1926	RA	0.07	0.0	0	28.42	30.14	3.3	22	180	14	190
31	76	60	68	-0.8	83	62	64	0	3	0456	1924	RA BR	T	0.0	0	28.39	30.11	5.1	15	160	12	150
	79.4	60.8	70.1									**Monthly Averages | Totals**	6.05			28.36	30.08	6.5				
	1.6	1.2	1.4									**Departure from Normal (1981-2010)**	2.35									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	6	-18	6	
Cooling	164	26	264	

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	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.40	08	0753
Minimum	29.72	22	0528

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
1.69	0.0	0

Date		
16-17		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
August 2018

Generated on 10/26/2018

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	80	66	73	4.2	90	68	69	0	8	0457	1923	RA BR	0.37	0.0	0	28.30	30.01	7.6	18	160	13	230
02	76	66	71	2.2	85	66	67	0	6	0458	1922	RA	T	0.0	0	28.37	30.09	5.9	15	220	10	260
03	70	66	68	-0.7	94	66	66	0	3	0459	1921	RA FG BR	0.59	0.0	0	28.40	30.12	3.3	12	100	10	090
04	83	64	73	4.3	77	64	67	0	8	0500	1920	FG BR	0.00	0.0	0	28.40	30.12	4.1	17	270	14	280
05	84	63	73	4.4	71	64	68	0	8	0501	1919		0.00	0.0	0	28.45	30.16	4.2	15	270	12	270
06	86	68	77	8.4	70	66	70	0	12	0502	1917		0.00	0.0	0	28.38	30.07	5.8	16	240	12	240
07	83	68	75	6.5	80	68	70	0	10	0503	1916	TS RA FG BR	0.55	0.0	0	28.27	29.96	6.2	22	330	18	330
08	77	67	72	3.6	94	68	69	0	7	0504	1915	TS RA FG BR	1.47	0.0	0	28.20	29.89	3.9	20	250	15	250
09	77	64	71	2.6	75	62	65	0	6	0505	1913	FG BR	0.00	0.0	0	28.15	29.87	7.1	22	300	17	330
10	78	62	70	1.7	78	62	64	0	5	0506	1912		0.00	0.0	0	28.21	29.92	5.9	15	350	13	350
11	75	61	68	-0.2	90	63	64	0	3	0507	1911	RA BR	0.58	0.0	0	28.25	29.96	5.0	12	050	9	050
12	77	64	71	2.9	82	64	66	0	6	0508	1909	FG BR	0.00	0.0	0	28.35	30.07	5.4	16	030	12	050
13	69	65	67	-1.0	95	65	66	0	2	0509	1908	RA BR	0.58	0.0	0	28.32	30.02	5.5	15	020	10	040
14	71	62	67	-0.9	95	65	66	0	2	0510	1907	TS RA FG BR	1.95	0.0	0	28.16	29.86	6.7	25	250	18	280
15	82	61	72	4.2	79	65	67	0	7	0511	1905	FG BR HZ	0.00	0.0	0	28.23	29.95	6.7	20	330	15	330
16	84	63	73	5.3	74	64	67	0	8	0512	1904		T	0.0	0	28.36	30.07	5.3	15	270	10	270
17	81	65	73	5.4	88	68	69	0	8	0513	1902	TS RA BR	0.68	0.0	0	28.30	29.99	7.5	23	230	17	260
18	73	61	67	-0.5	89	64	65	0	2	0514	1901	RA FG BR	1.04	0.0	0	28.18	29.89	8.0	20	350	16	340
19	70	59	64	-3.3	85	60	62	1	0	0515	1859		0.00	0.0	0	28.28	30.03	4.8	13	080	9	060
20	72	58	65	-2.2	79	58	61	0	0	0516	1858		0.00	0.0	0	28.40	30.13	6.2	18	150	14	120
21	68	62	65	-2.0	91	63	64	0	0	0517	1856	RA BR	0.11	0.0	0	28.27	29.96	10.1	24	160	16	160
22	74	59	66	-0.8	88	61	63	0	1	0518	1854	RA BR	0.32	0.0	0	28.07	29.78	9.1	36	290	22	290
23	71	52*	62	-4.7	75	53	57	3	0	0520	1853	RA BR	0.01	0.0	0	28.28	30.03	6.9	22	310	16	300
24	77	54	65	-1.5	67	54	59	0	0	0521	1851		0.00	0.0	0	28.47	30.21	4.9	16	250	12	230
25	73	58	65	-1.3	70	55	59	0	0	0522	1850		0.00	0.0	0	28.50	30.22	6.9	22	200	15	200
26	79	61	70	3.9	80	63	65	0	5	0523	1848		T	0.0	0	28.38	30.09	7.5	18	250	14	260
27	82	65	73	7.1	85	68	70	0	8	0524	1846	BR	T	0.0	0	28.36	30.08	6.0	17	250	13	250
28	86	71	79	13.4	75	69	72	0	14	0525	1845	BR HZ	0.00	0.0	0	28.33	30.03	8.8	22	250	17	240
29	87*	68	78	12.6	74	68	71	0	13	0526	1843	TS RA BR	0.56	0.0	0	28.28	29.97	8.6	24	260	18	250
30	75	59	67	1.9	82	62	64	0	2	0527	1842	RA FG BR	T	0.0	0	28.38	30.12	7.5	20	350	14	360
31	67	55	61	-3.9	94	61	61	4	0	0528	1840	RA FG BR	0.07	0.0	0	28.50	30.24	8.3	21	150	16	150
	77.0	62.5	69.7							Monthly Averages | Totals			8.88			28.32	30.03	6.5				
	0.5	4.2	2.3	Departure from Normal (1981-2010)									5.43									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	8	-31	15	
Cooling	155	42	419	

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	14	12	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.27	31	2253
Minimum	29.70	22	0453

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
2.06	0.0	0
Date		
13-14		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

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

Current Location: Elev: 1595 ft. Lat: 42.2068° N Lon: -75.9800° W
Station: **BINGHAMTON GREATER AP, NY US 04725**

Local Climatological Data
Daily Summary
September 2018

Generated on 10/26/2018

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	71	63	67	2.4				0	2	0529	1838		0.00	0.0	0	28.53		8.5	18	160	14	160
02	81	67	74	9.7				0	9	0530	1837		0.00	0.0	0	28.49		7.7	18	250	13	250
03	85	67	76	12.0				0	11	0531	1835	TS RA	T	0.0	0	28.52		7.2	18	270	14	270
04	82	67	74	10.3				0	9	0532	1833		0.00	0.0	0	28.55		2.9	13	250	10	240
05	87*	67	77	13.6				0	12	0533	1831		0.00	0.0	0	28.50		6.3	18	240	14	240
06	83	64	73	9.9				0	8	0534	1830	TS RA	0.01	0.0	0	28.44		7.3	18	340	14	340
07	75	58	66	3.2				0	1	0535	1828		0.00	0.0	0	28.46		7.0	18	350	14	350
08	61	50	55	-7.5				10	0	0536	1826		0.00	0.0	0	28.45		7.2	17	040	13	030
09	54	47	50	-12.1				15	0	0537	1824	RA	0.02	0.0	0	28.48		8.0	16	070	12	100
10	56	45	50	-11.8				15	0	0538	1823	RA BR	2.70	0.0	0	28.40		13.5	34s	140s	26	130
11	72	56	64	2.6				1	0	0539	1821	RA FG BR	0.10	0.0	0	28.40		4.7	14	150	10	150
12	70	57	64	3.0				1	0	0540	1819	RA FG BR	T	0.0	0	28.53		4.8	11	070	9	070
13	78	64	71	10.3				0	6	0542	1817	FG BR	0.00	0.0	0	28.53		4.7	11	170	9	120
14	76	64	70	9.7				0	5	0543	1816		0.00	0.0	0	28.50		4.9	14	140	12	140
15	77	63	70	10.1				0	5	0544	1814	FG BR	0.00	0.0	0	28.49		2.9	11	250	9	260
16	81	60	71	11.5				0	6	0545	1812	FG BR	0.00	0.0	0	28.49		3.5	13	130	8	220
17	73	60	67	7.9				0	2	0546	1810	RA BR	1.66	0.0	0	28.35		7.5	20	190	14	200
18	78	63	71	12.3				0	6	0547	1809	RA BR	1.45	0.0	0	28.14		7.9	23	040	17	050
19	73	54	64	5.7				1	0	0548	1807	FG BR	0.00	0.0	0	28.25		7.4	19	360	15	350
20	71	48	60	2.1				5	0	0549	1805	FG BR	T	0.0	0	28.43		5.0	16	140	13	150
21	69	61	65	7.5				0	0	0550	1803	TS RA BR	0.90	0.0	0	28.33		11.7	28	190	21	200
22	67	47	57	-0.1				8	0	0551	1802		0.00	0.0	0	28.41		9.2	26	350	18	350
23	59	41*	50	-6.7				15	0	0552	1800	BR	0.00	0.0	0	28.51		3.0	10	140	7	260
24	64	43	54	-2.3				11	0	0553	1758	FG BR	0.00	0.0	0	28.64		11.3	30	150	23	140
25	65	49	57	1.1				8	0	0554	1756	RA BR	1.19	0.0	0	28.50		10.9	30	120	24	130
26	71	53	62	6.5				3	0	0555	1755	RA BR	0.21	0.0	0	28.23		10.8	32	340	23	350
27	59	47	53	-2.1				12	0	0556	1753	RA	0.02	0.0	0	28.38		4.4	19	150	14	150
28	71s	50	61s	6.3s				4s	0s	0557	1751	RA FG BR	0.40	0.0	0	28.33		5.3	14	110	12	110
29	62	46	54	-0.3				11	0	0558	1749	BR	0.00	0.0	0	28.46		5.0	22	270	15	290
30	55	42	49	-5.0				16	0	0600	1748		T	0.0	0	28.56		4.3	15	220	12	240
	70.9	55.4	63.2							Monthly Averages | Totals			8.66s			28.45	30.17	6.9				
	2.5	4.7	3.6	Departure from Normal (1981-2010)									5.03s									

Degree Days

	Monthly		Season-to-date	
	Total	Departure	Total	Departure
Heating	137	-57	152	
Cooling	82	51	501	

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	0	0	11	8	0		

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

N/A

Sea Level Pressure

		Date	Time
Maximum	30.45	24	1009
Minimum	29.80	18	1627

Greatest...

24-Hr...		Snow Depth
Precip	Snowfall	
3.11s		
Date		
17-18		

Station Augmentation

Name:WFO BGM Lat: N/A Lon: N/A Elevation: N/A Distance: 0.75mi N Elements: TEMP, PRECIP, SNOW Equipment: PSY, SRG, SNOWBOARD

APPENDIX B.2

TIME SERIES PLOTS – FIGURES B.1 THROUGH B.37

Figure B.1
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

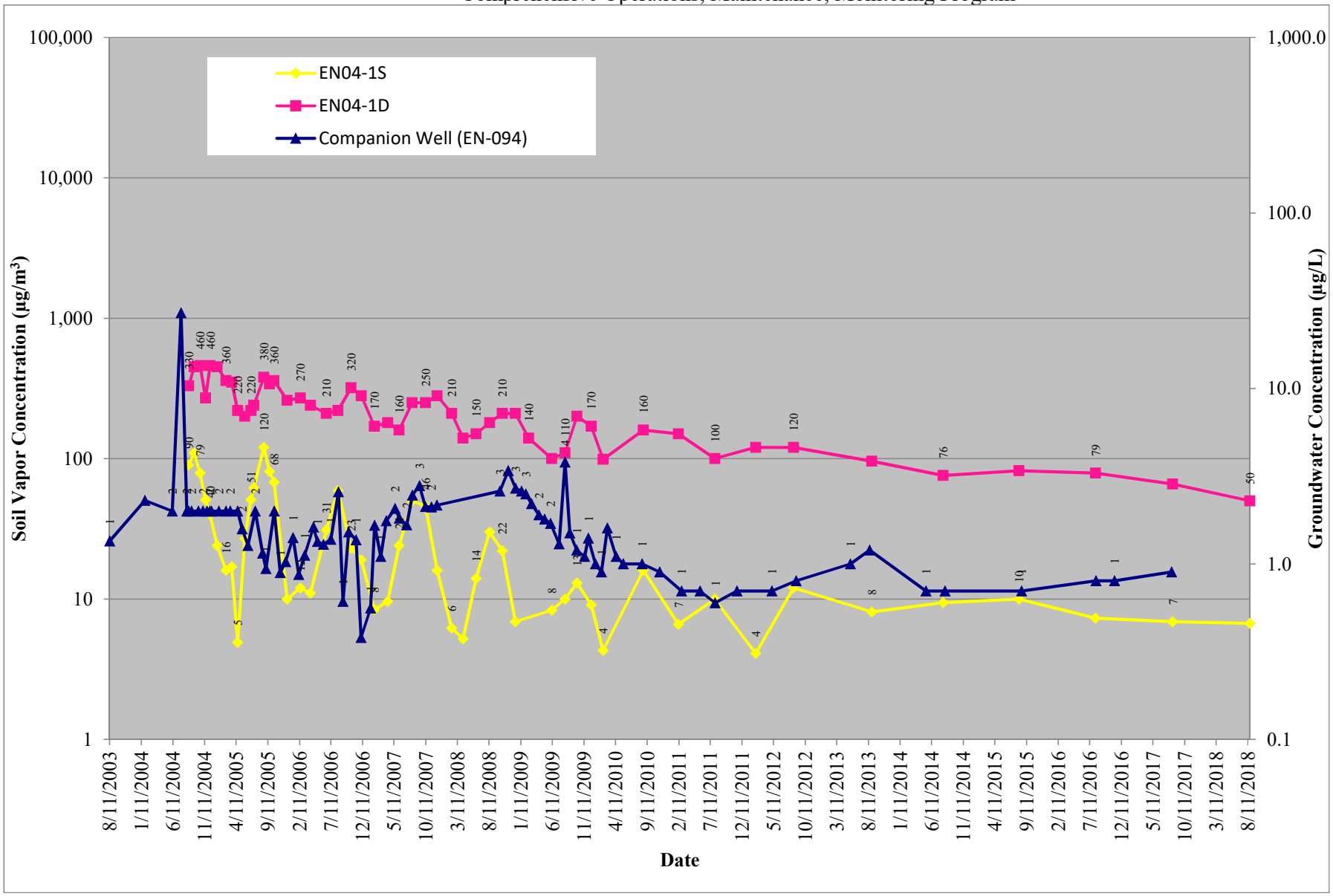


Figure B.2
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

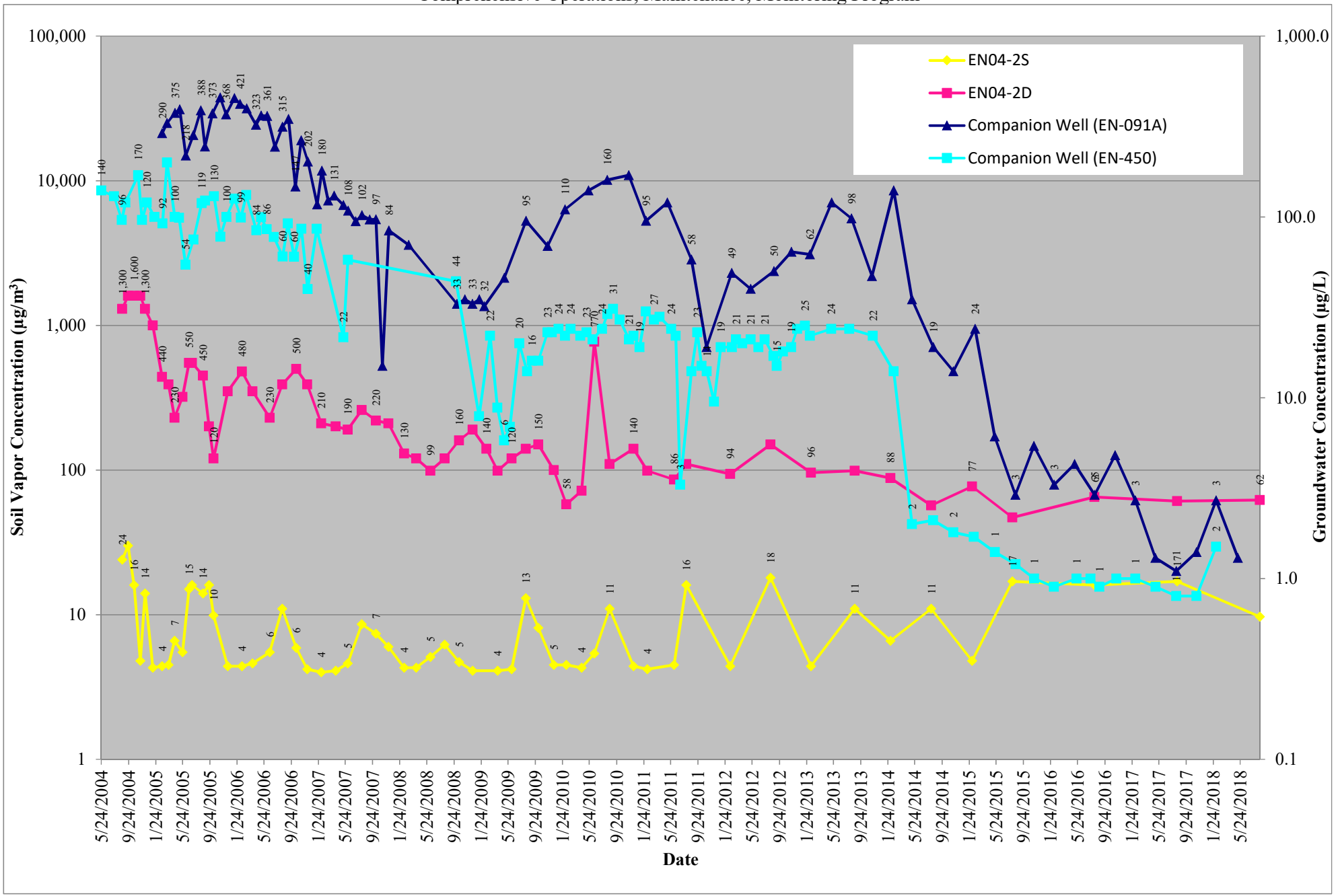


Figure B.3
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

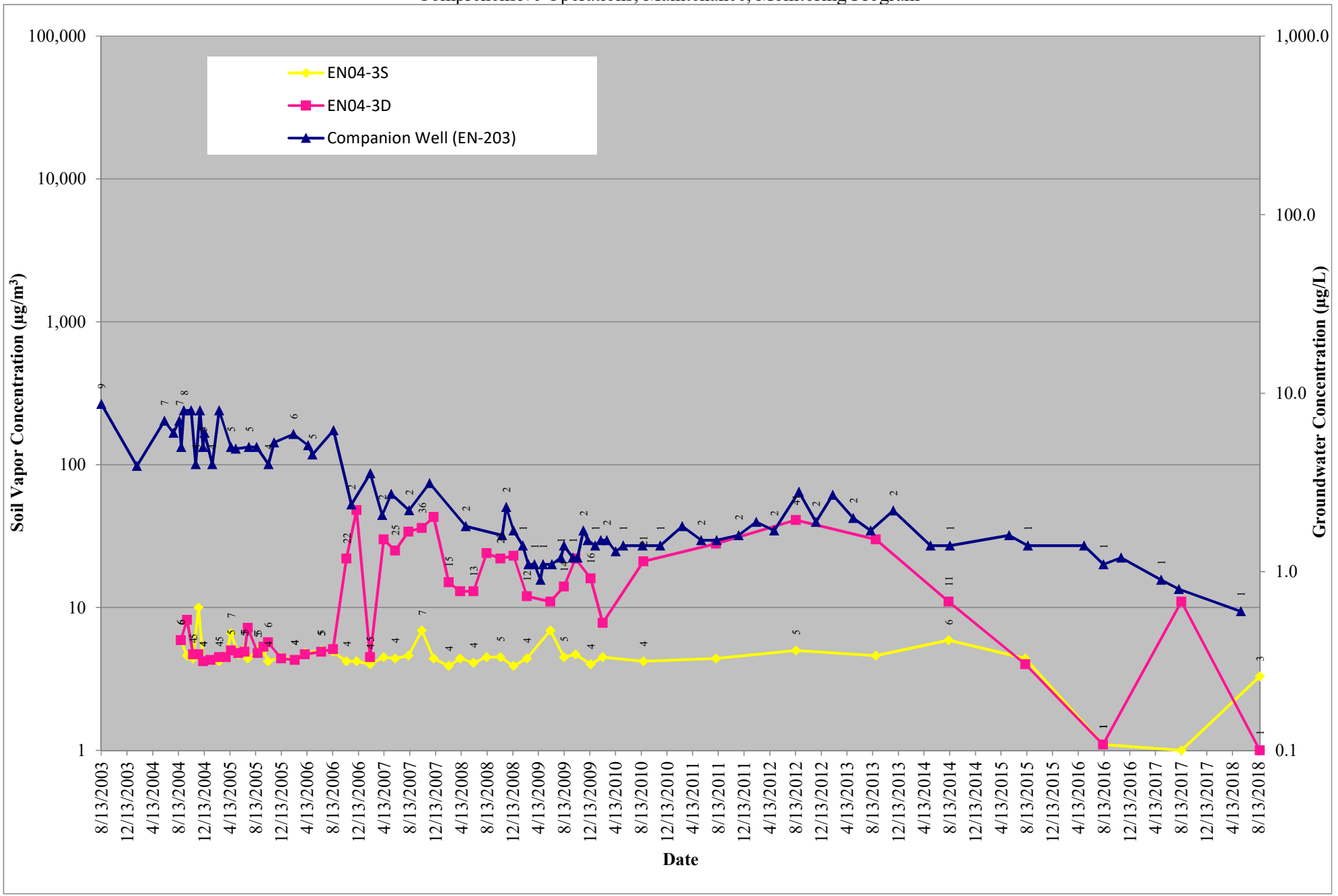


Figure B.4
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

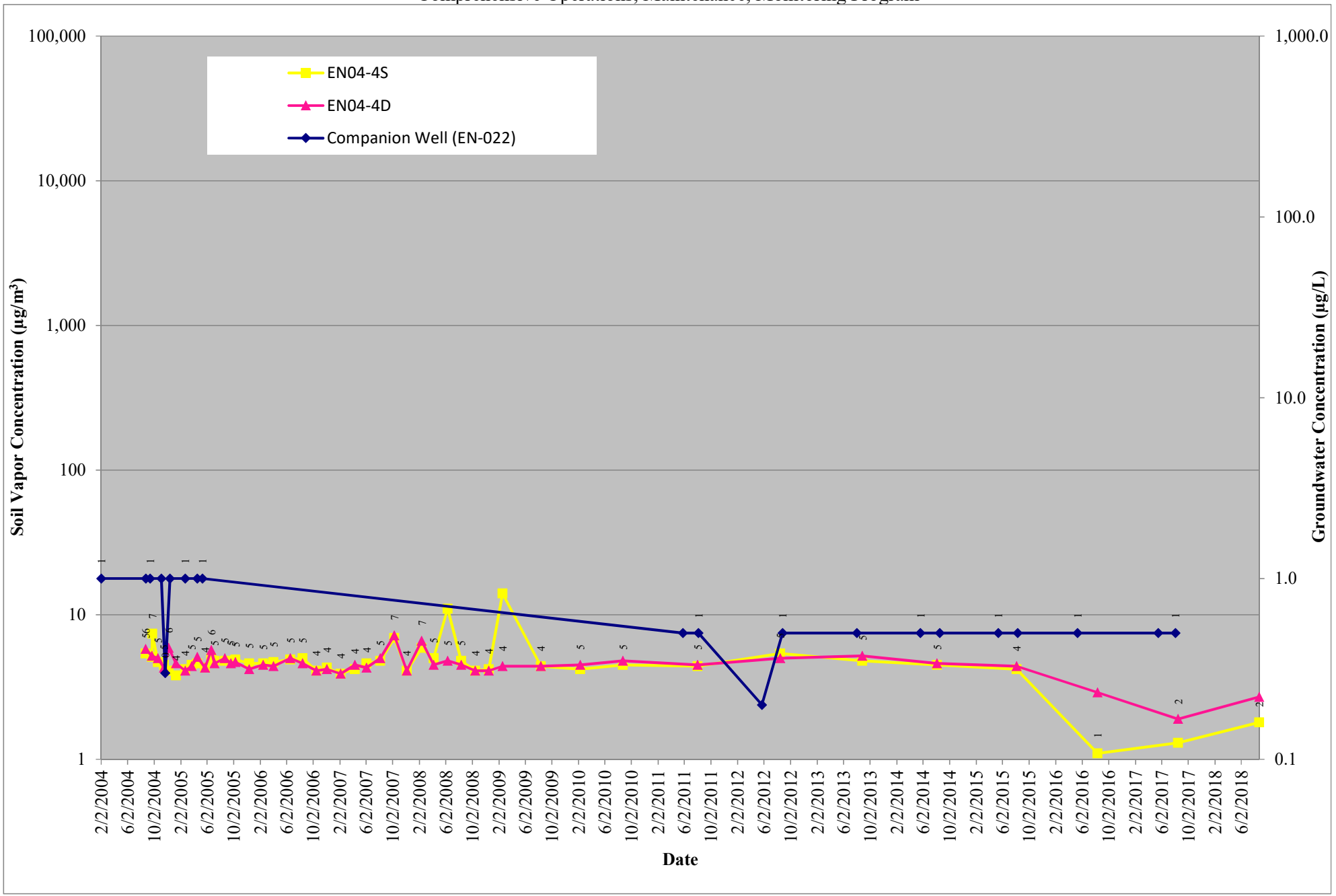


Figure B.5
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

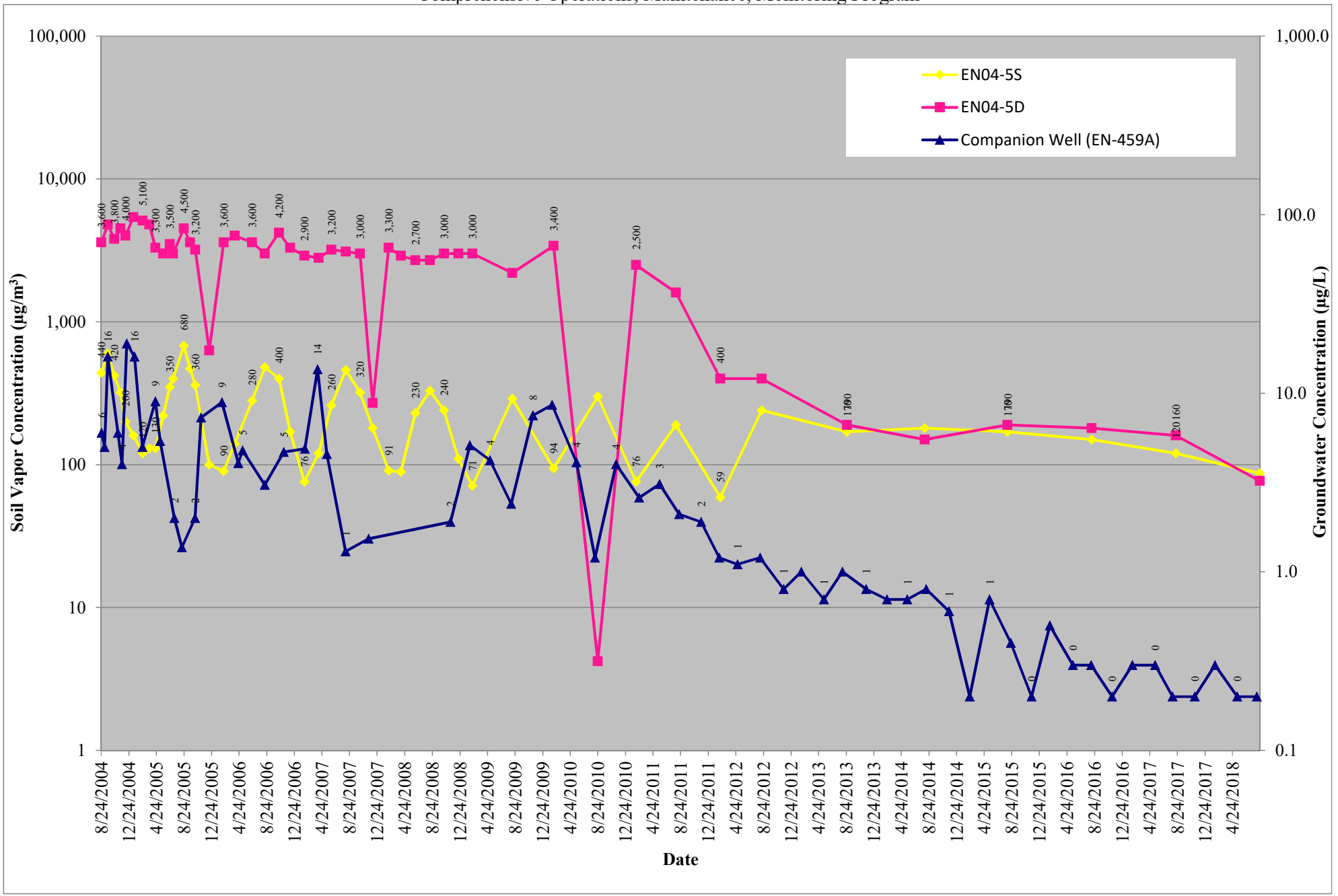


Figure B.6
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

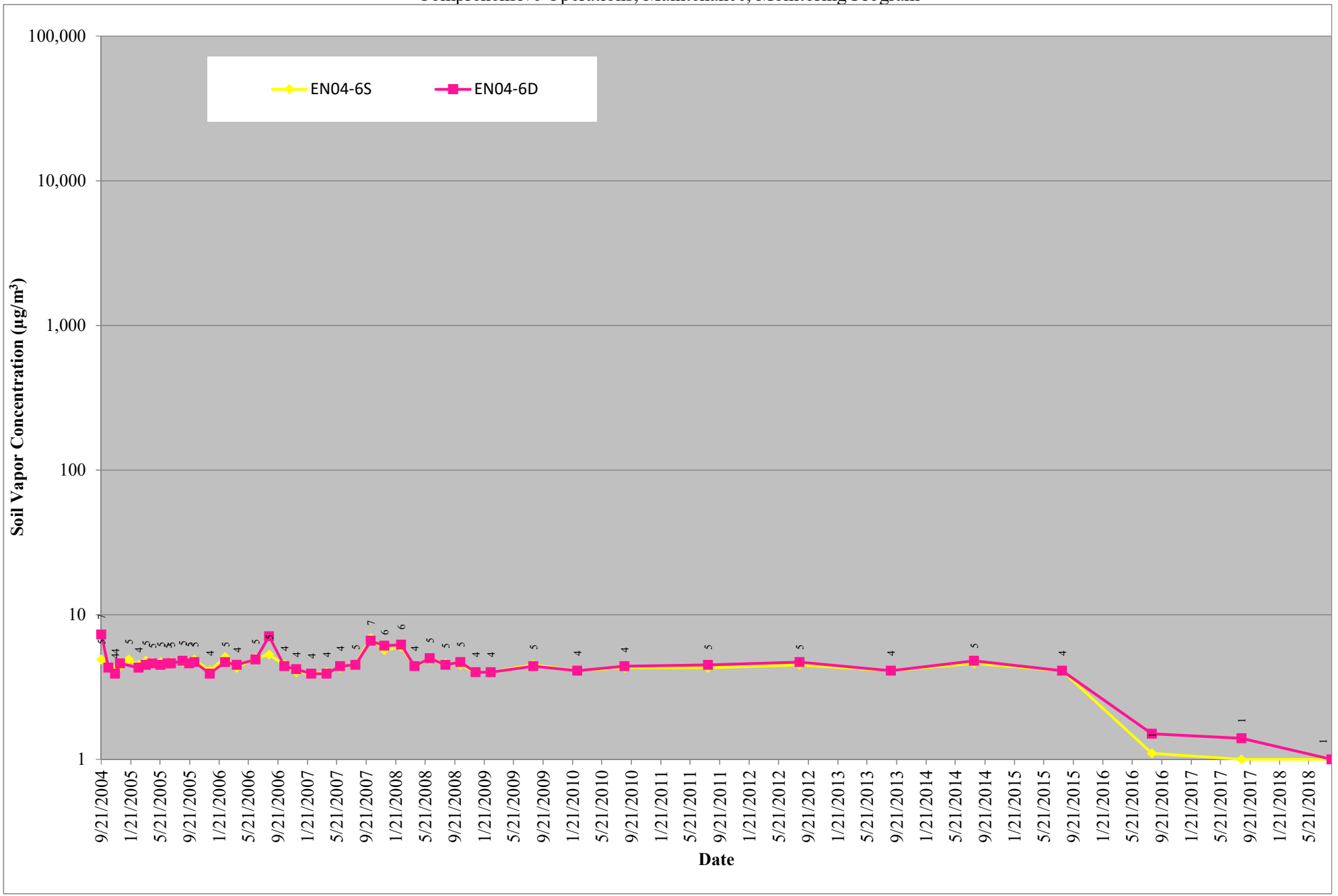


Figure B.7
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

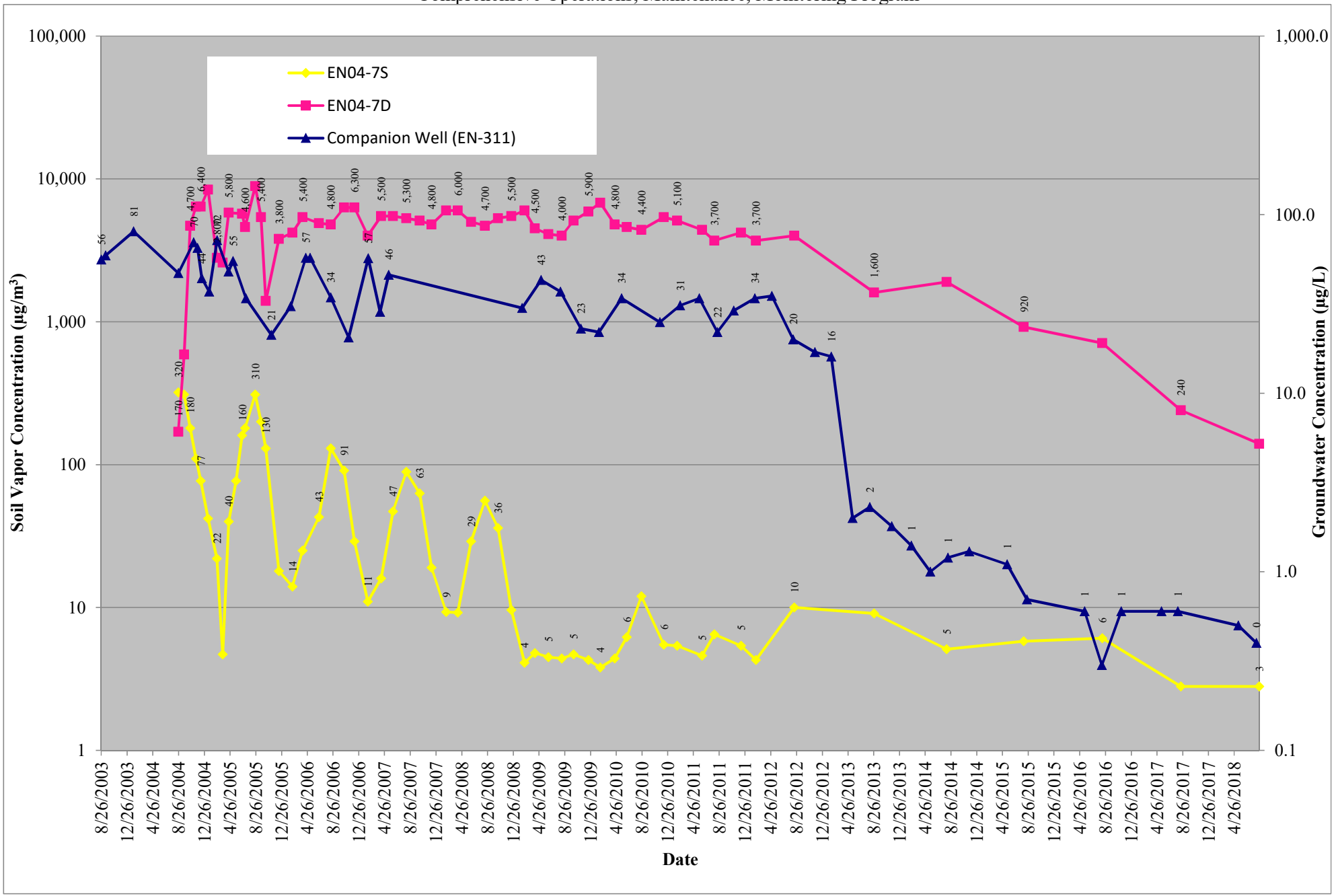


Figure B.8
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

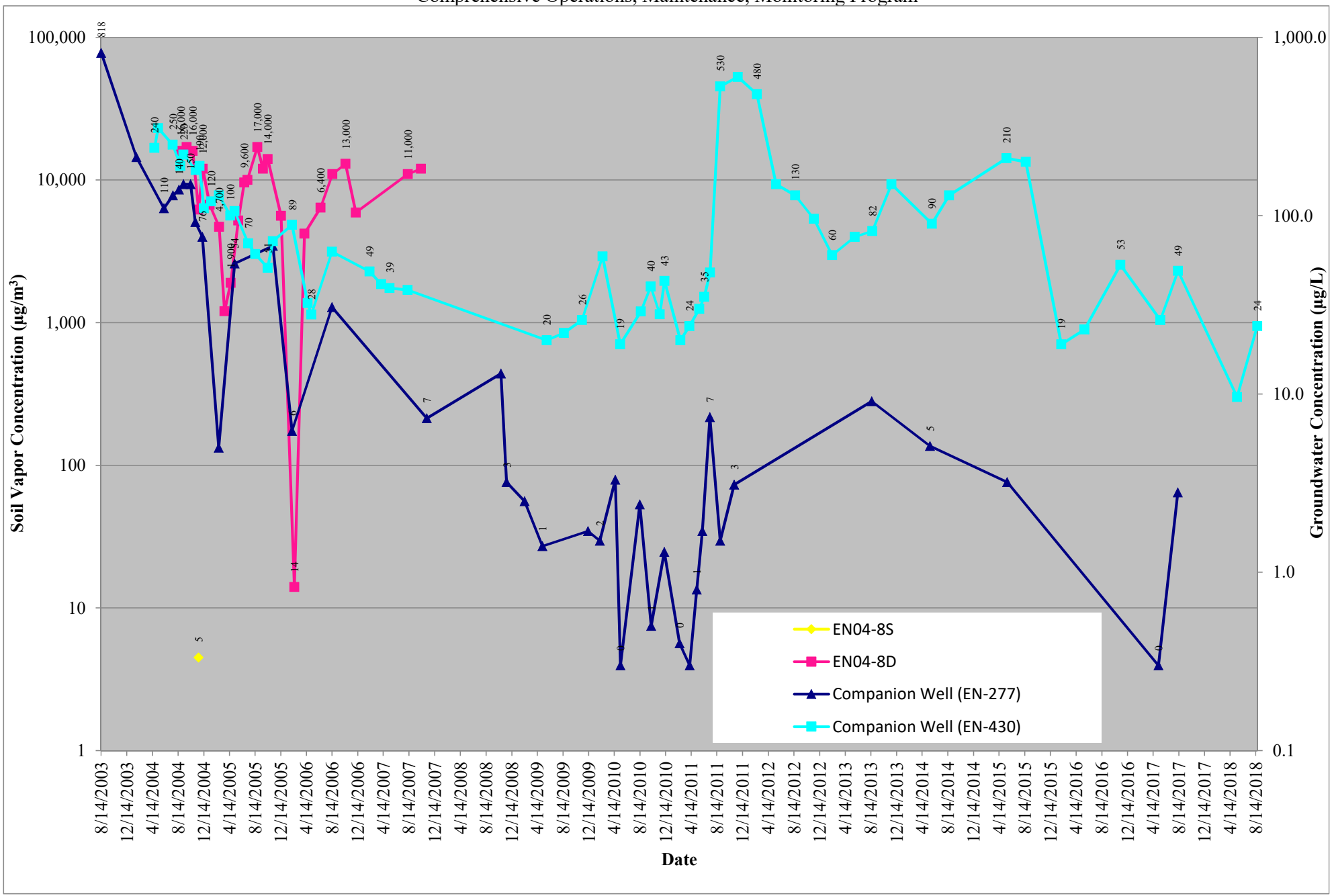


Figure B.9
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

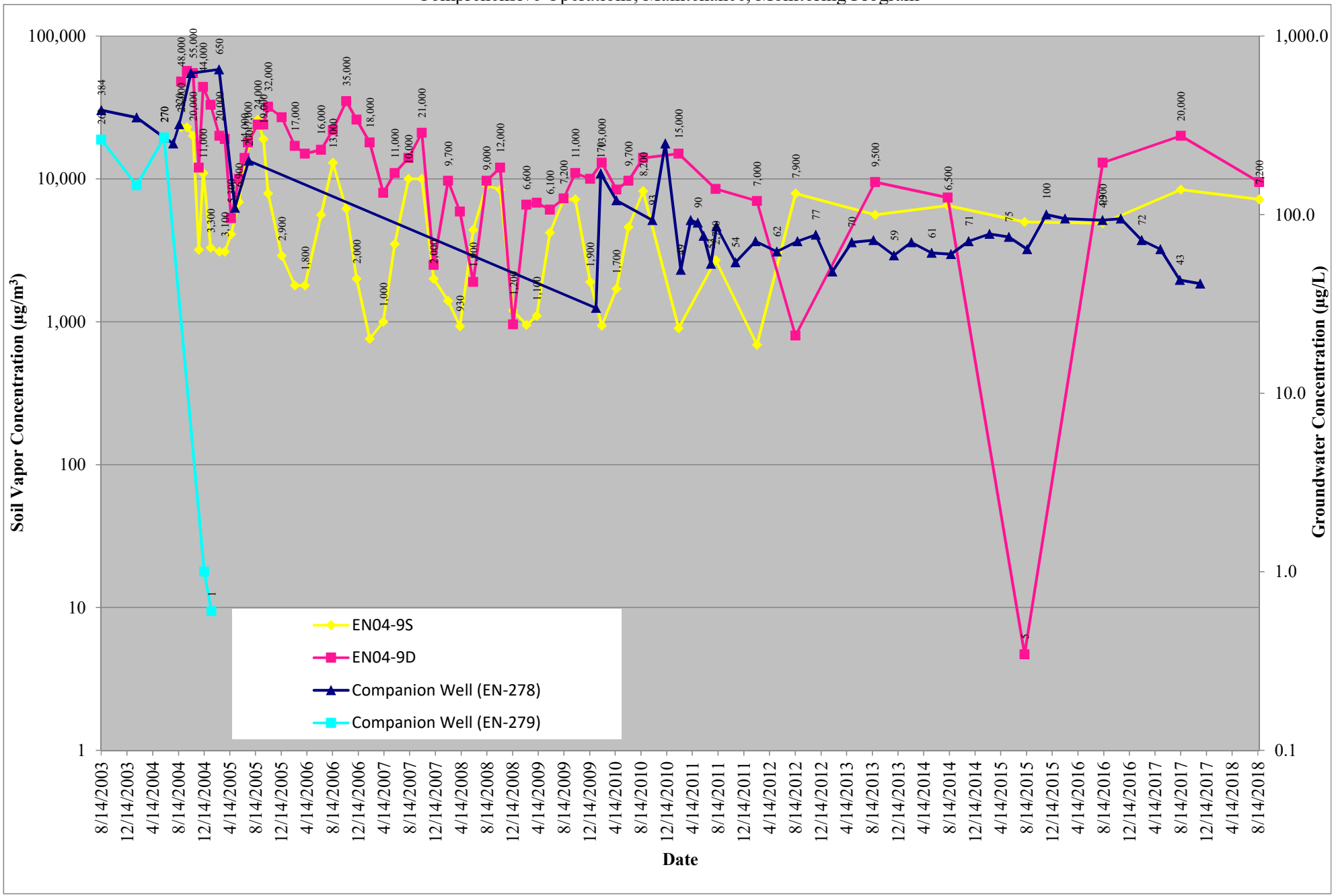


Figure B.10
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

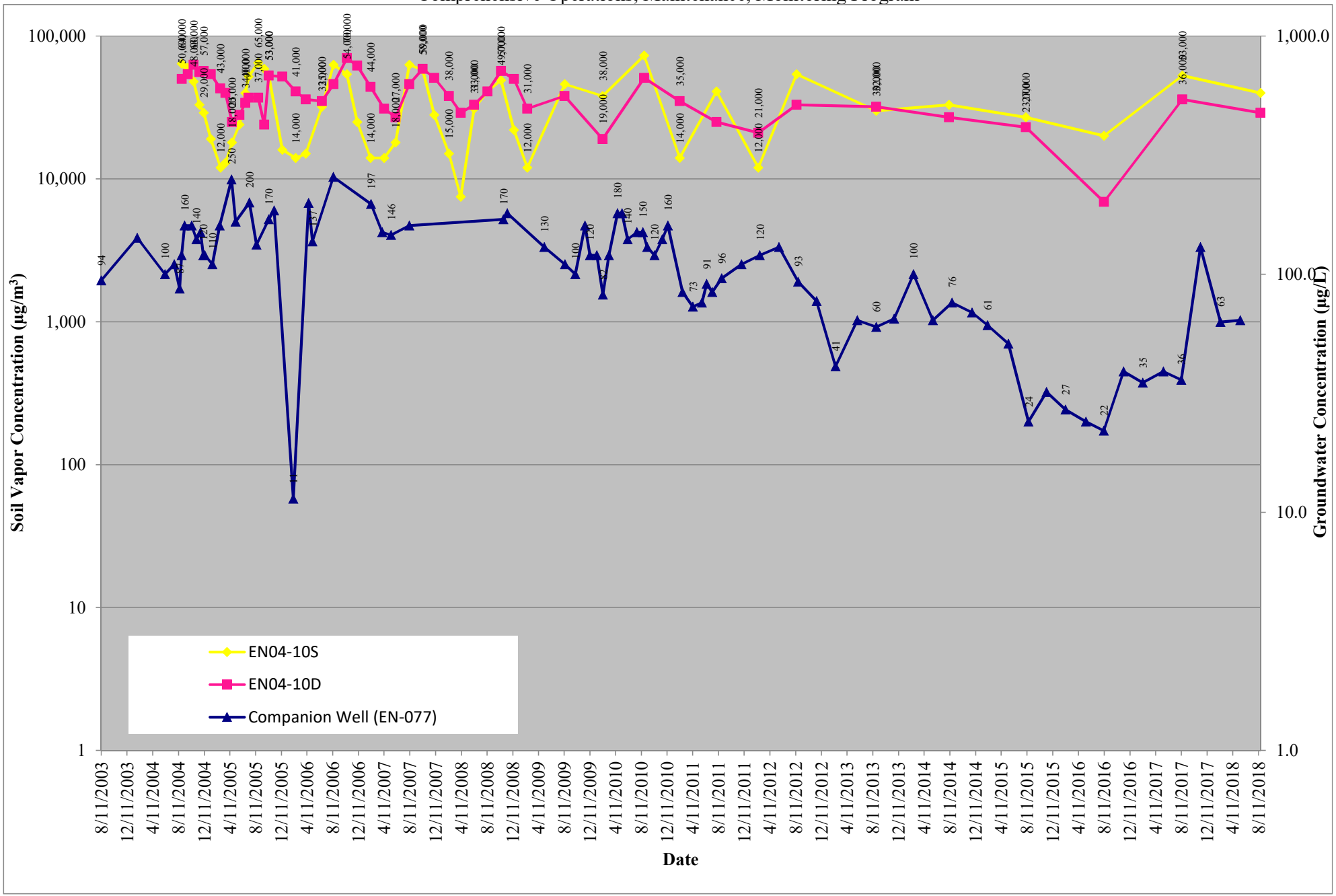


Figure B.11
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

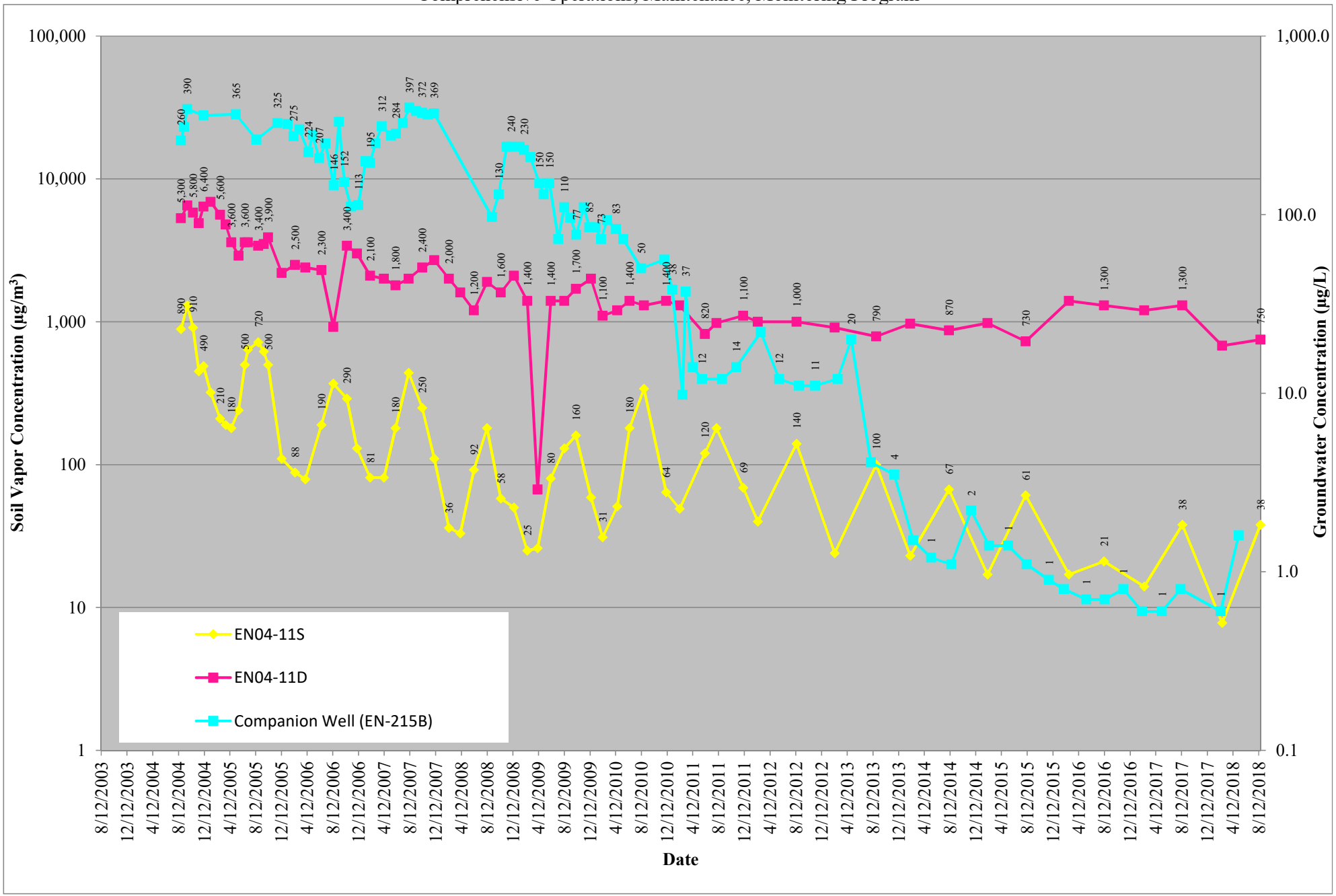


Figure B.12
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

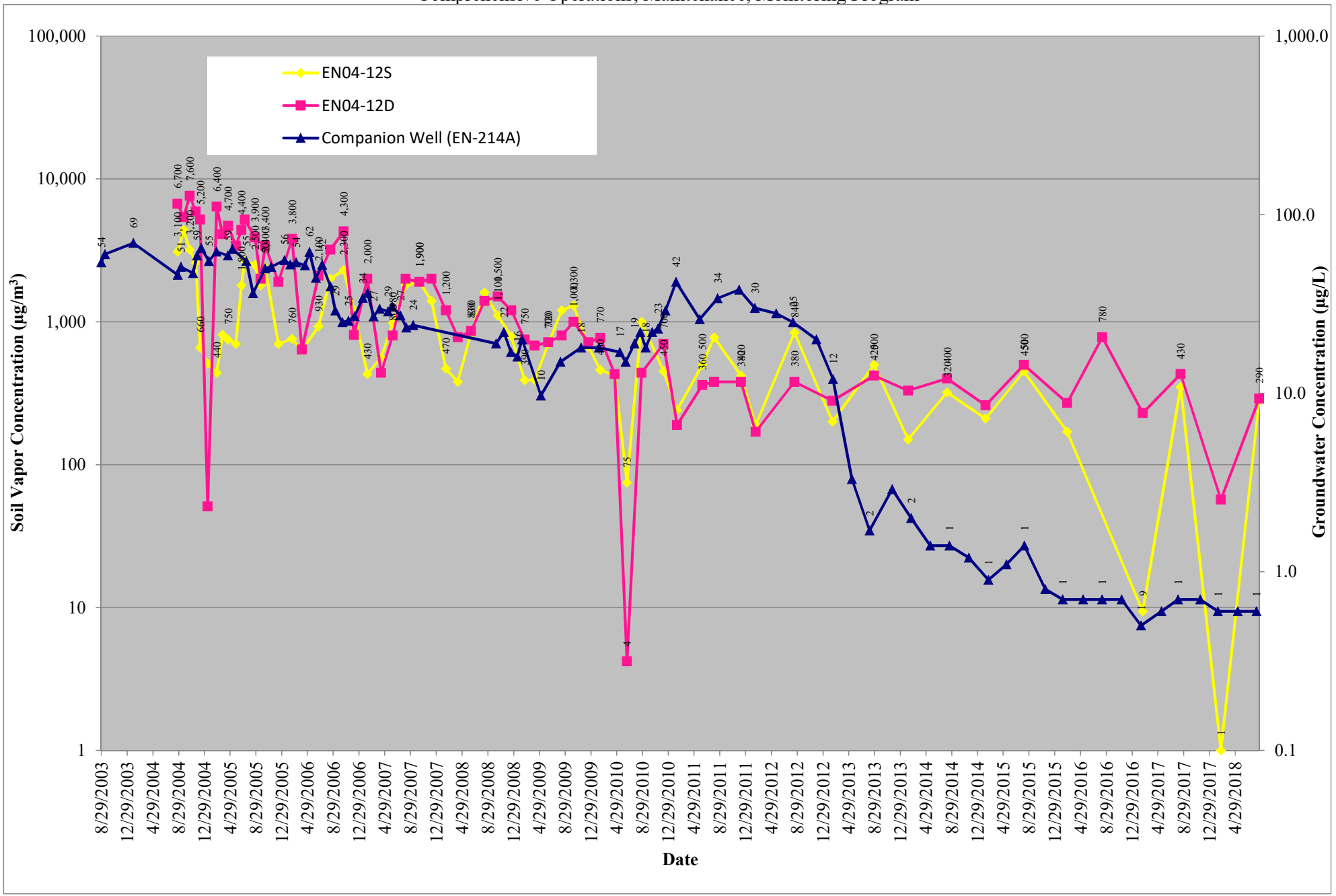


Figure B.13
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

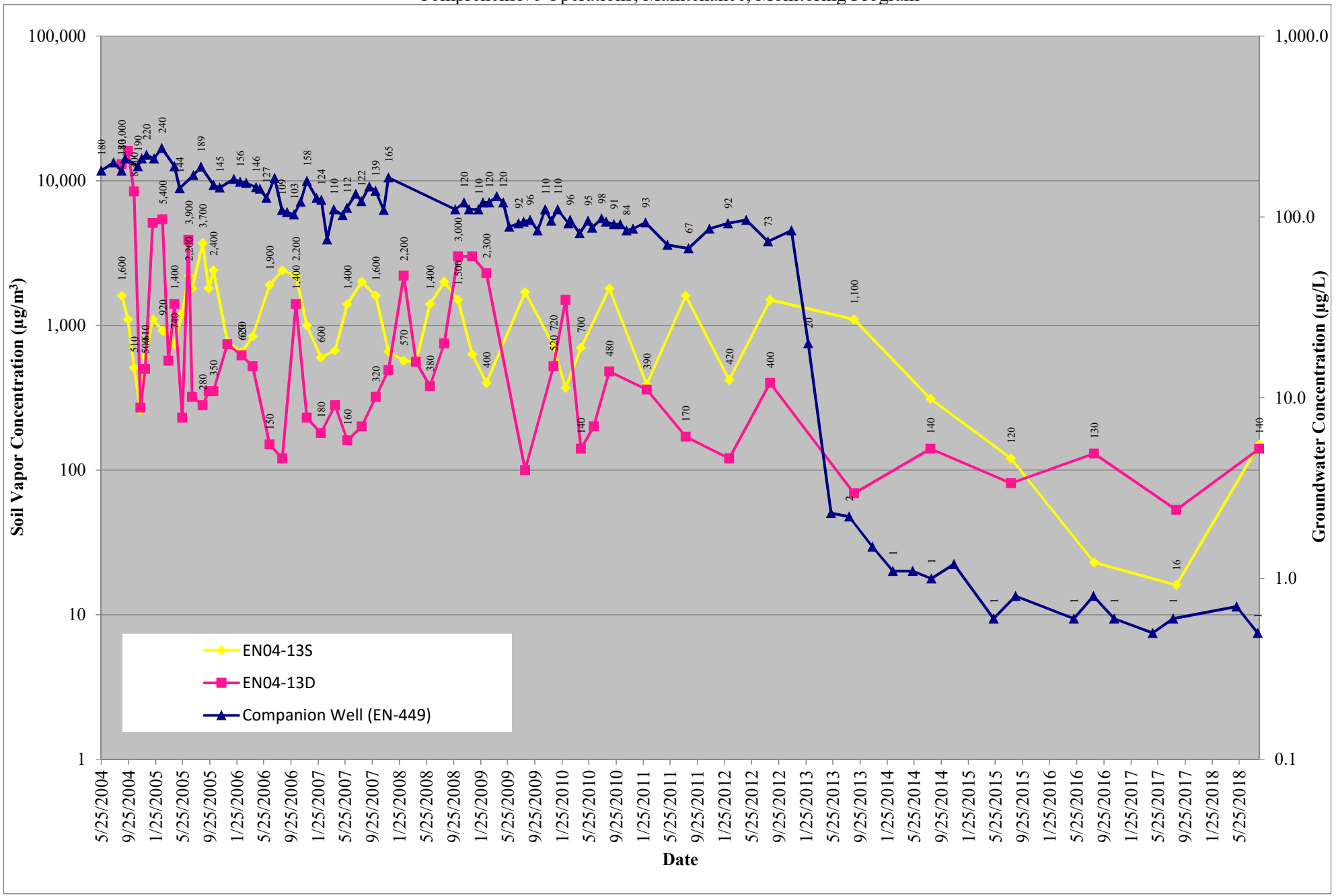


Figure B.14
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

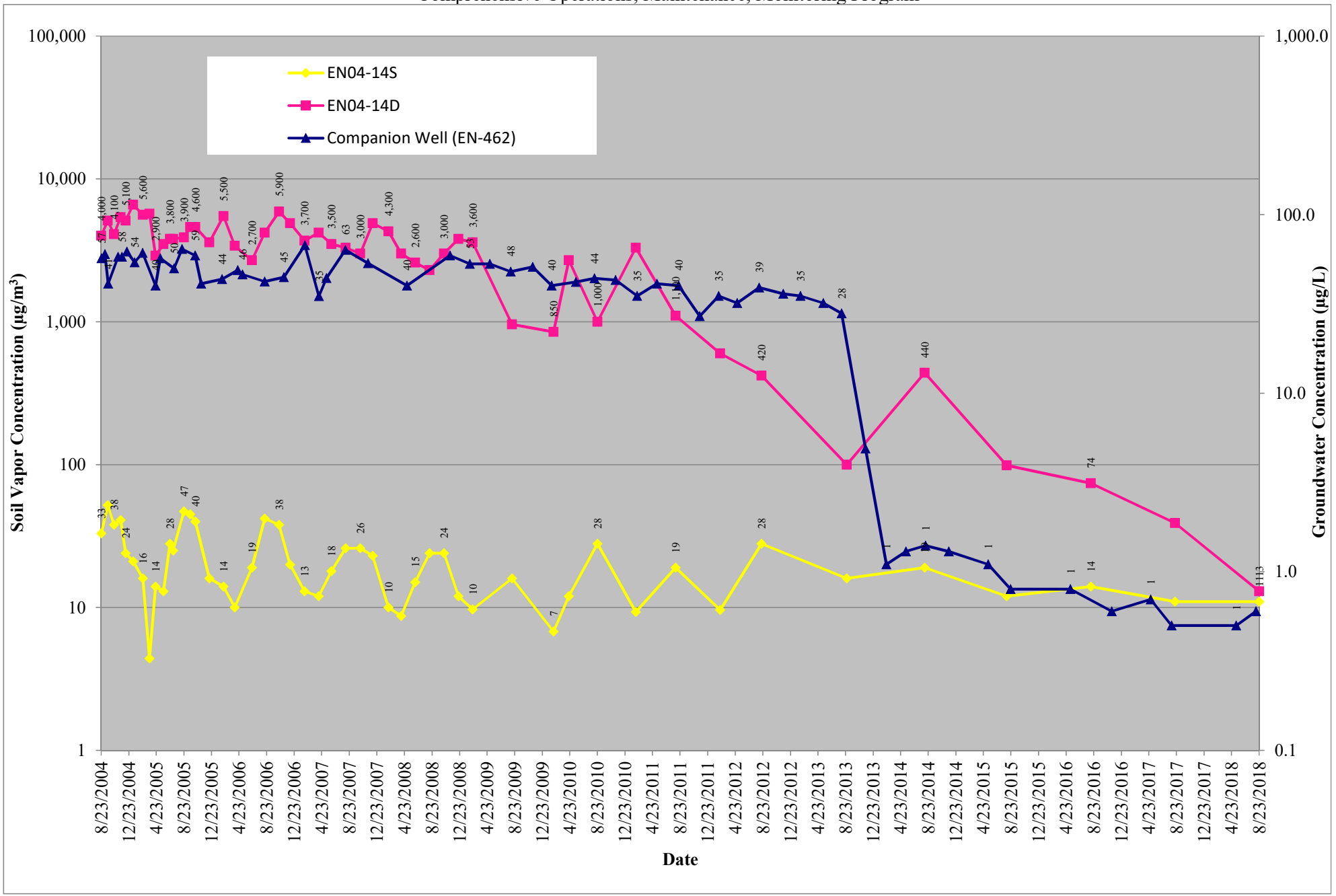


Figure B.15
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

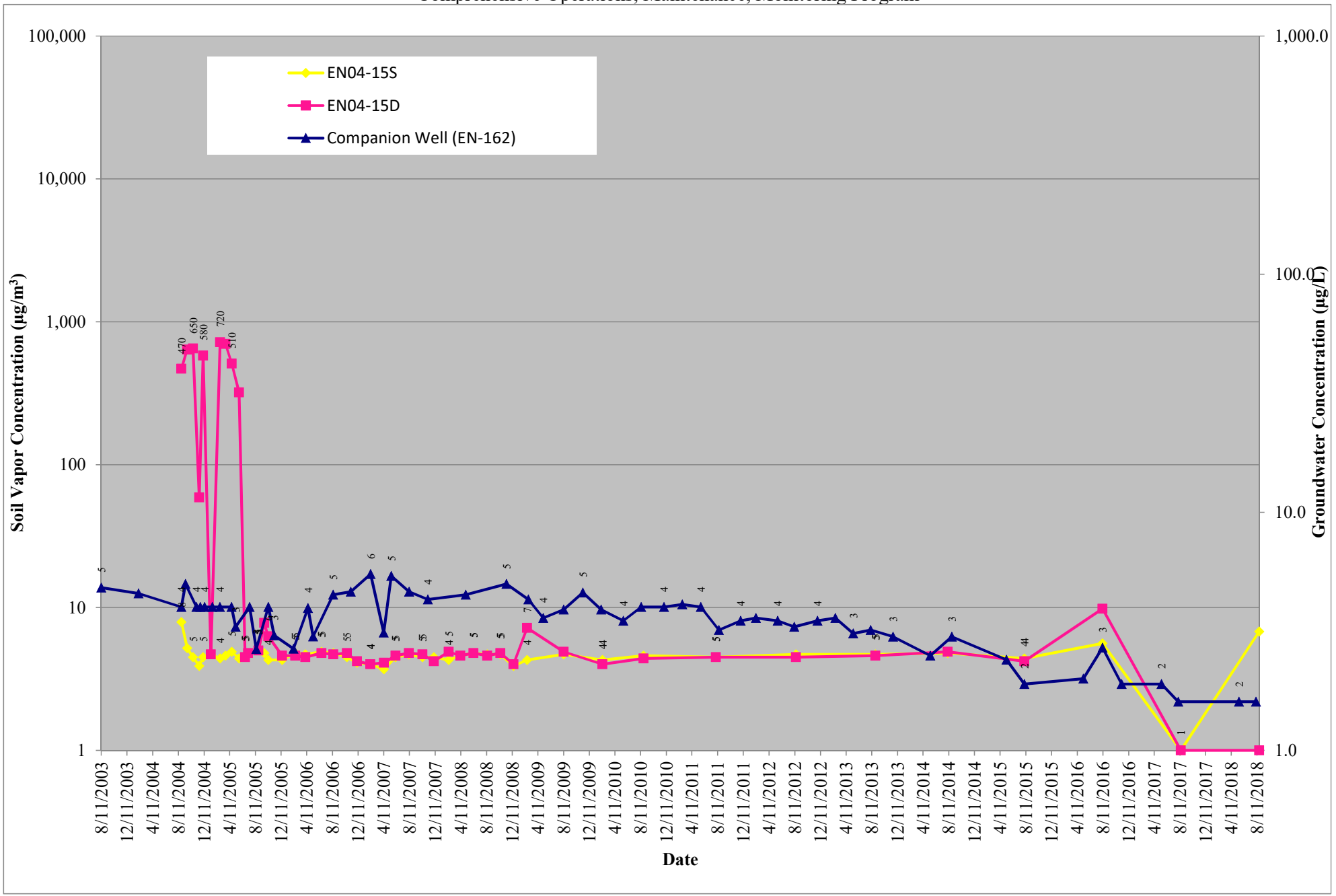


Figure B.16
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

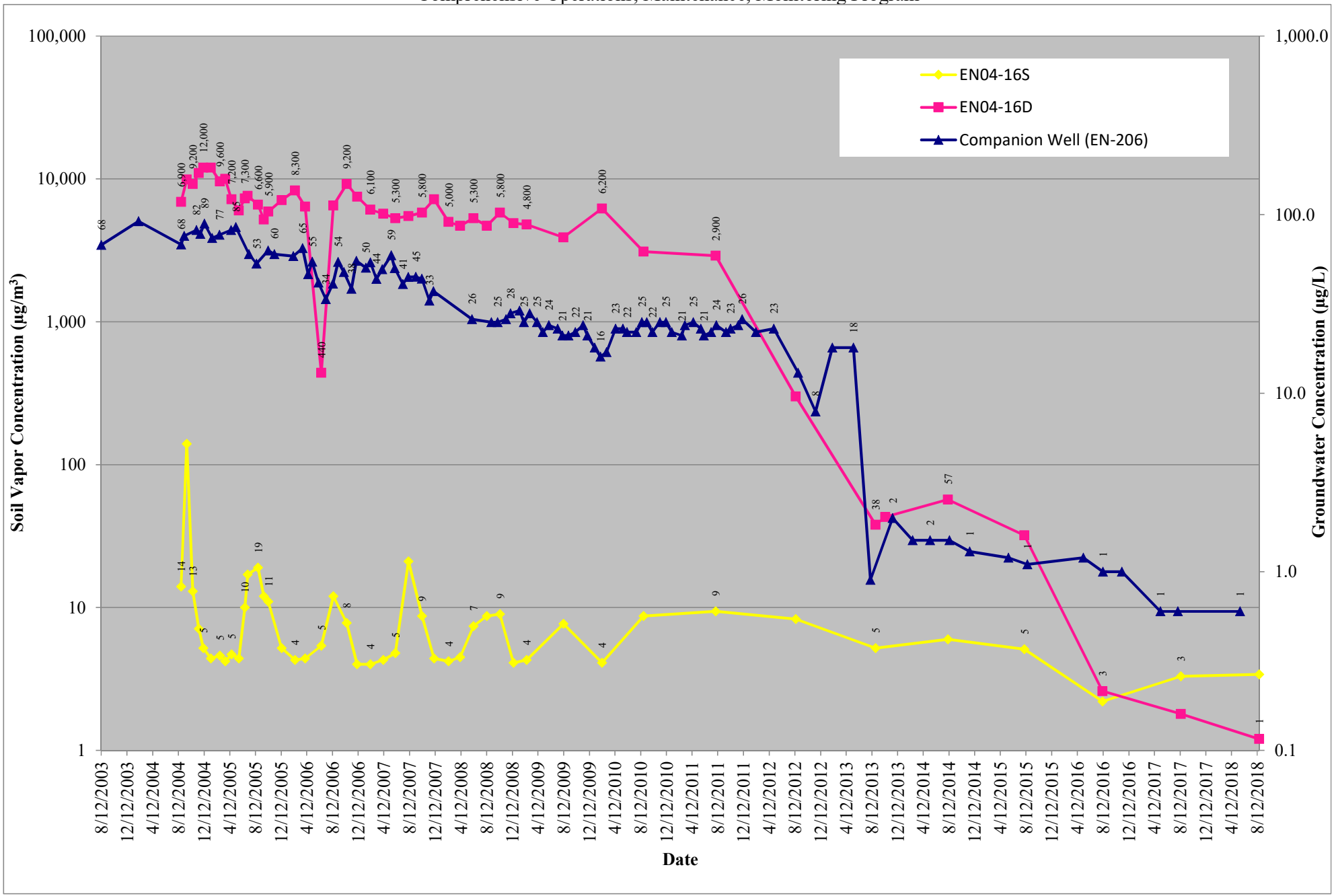


Figure B.17
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

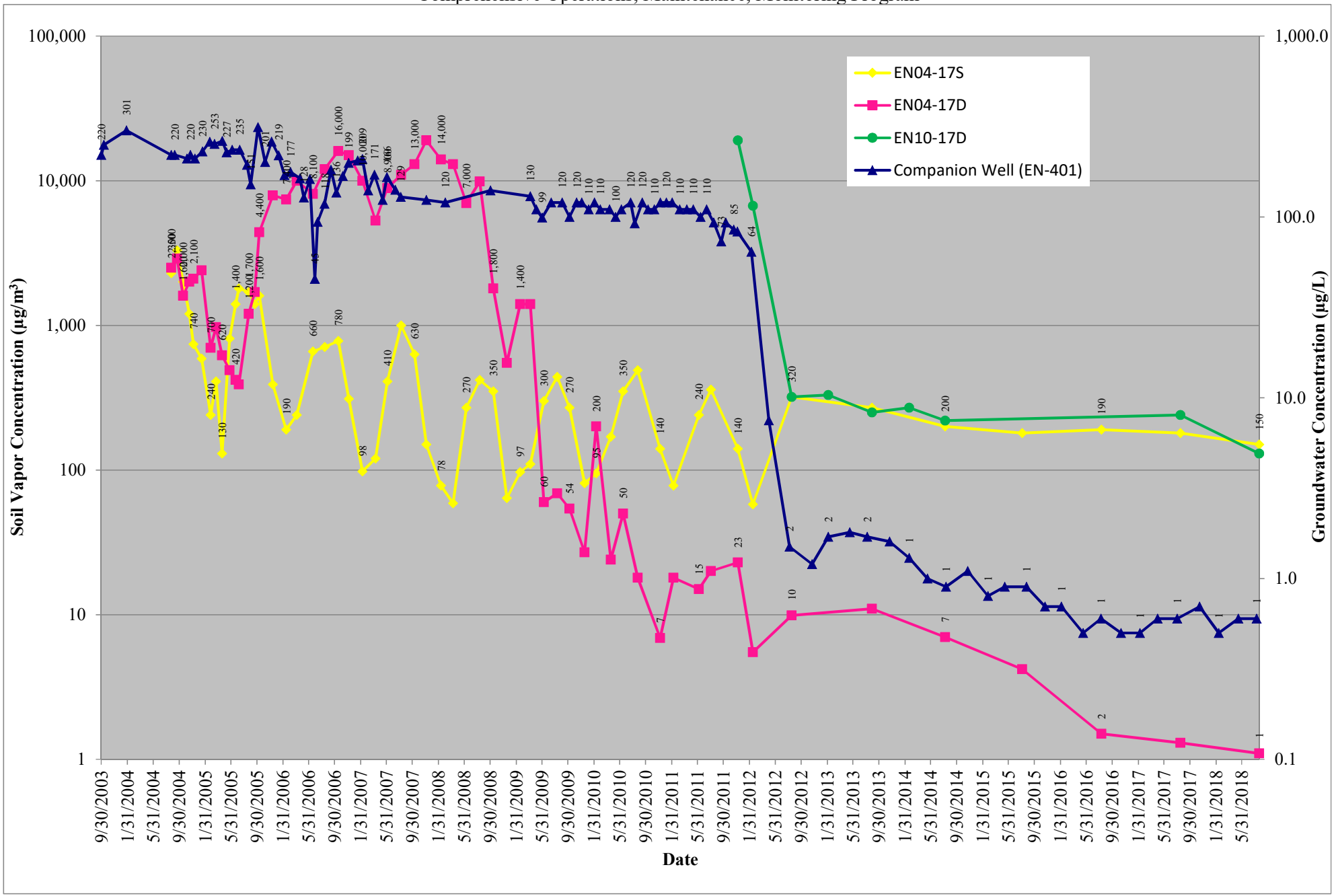


Figure B.18
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

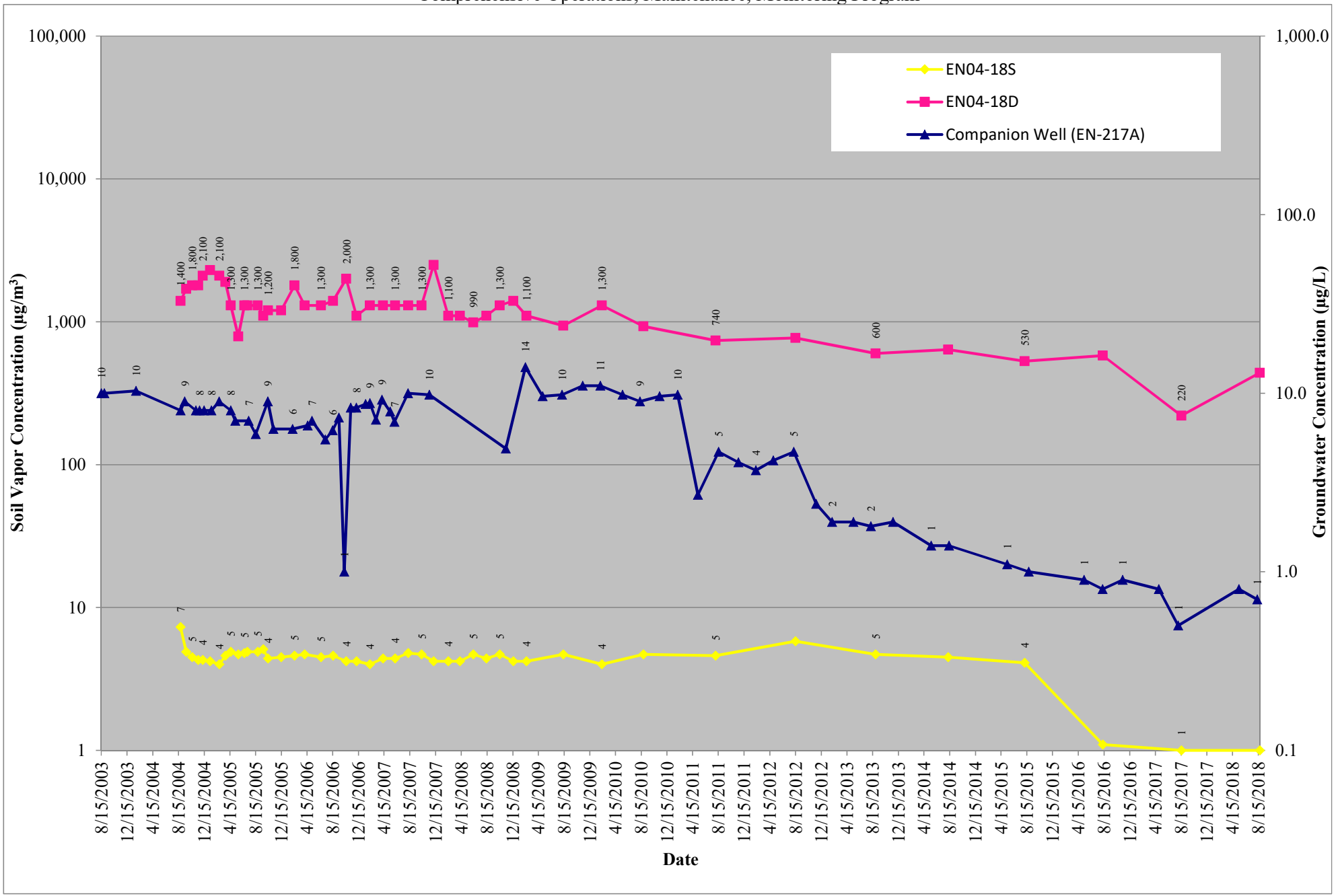


Figure B.19
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

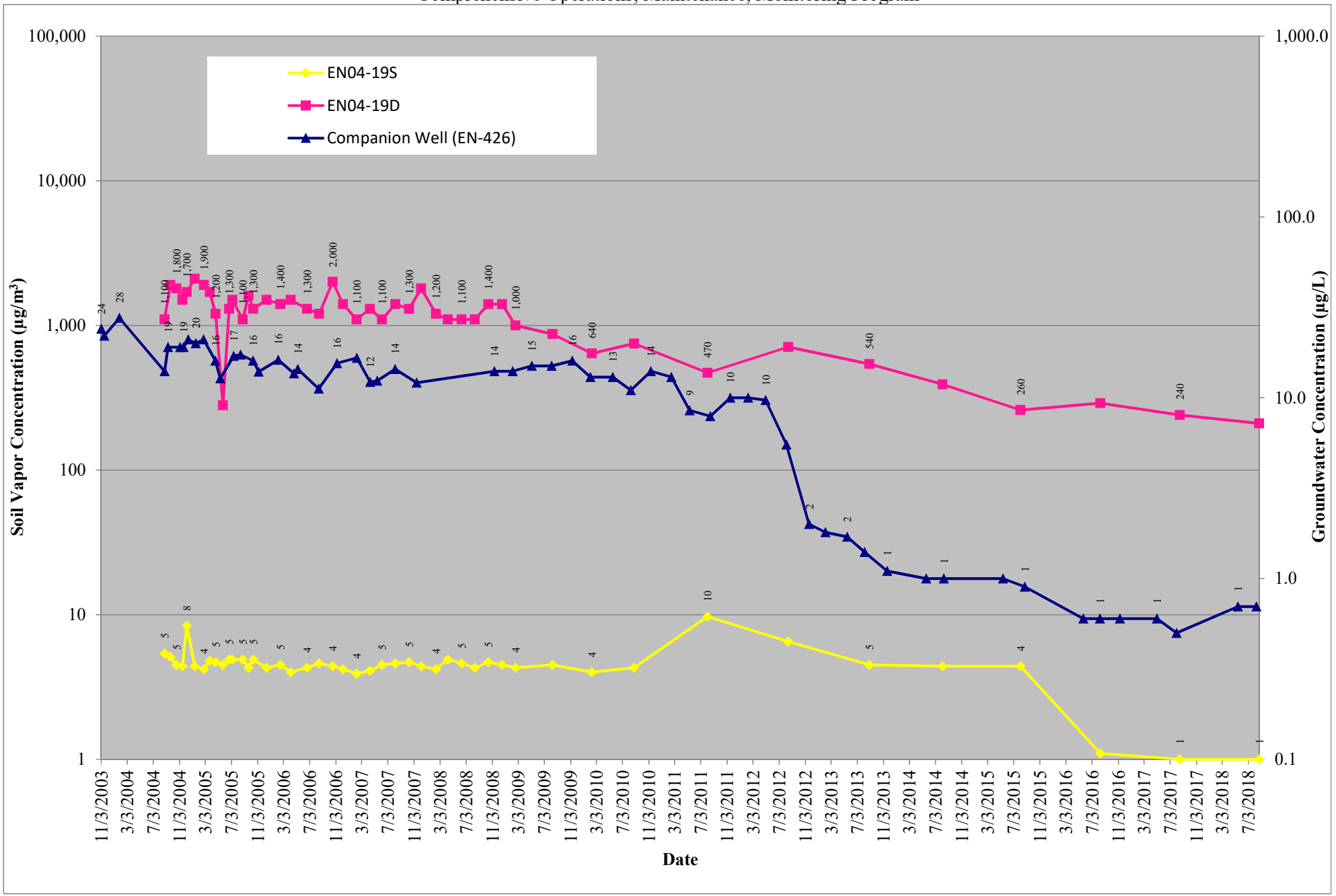


Figure B.20
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

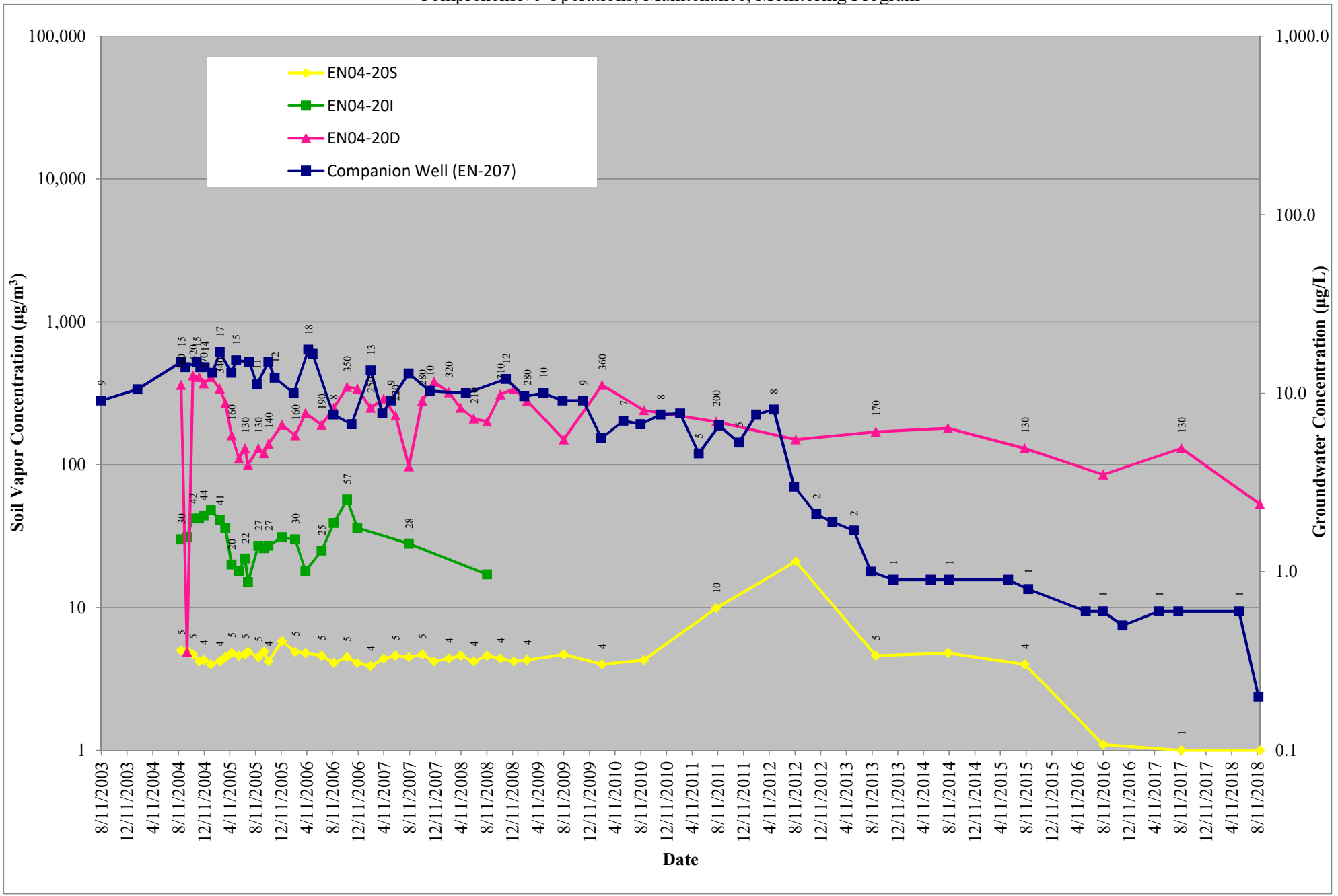


Figure B.21
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

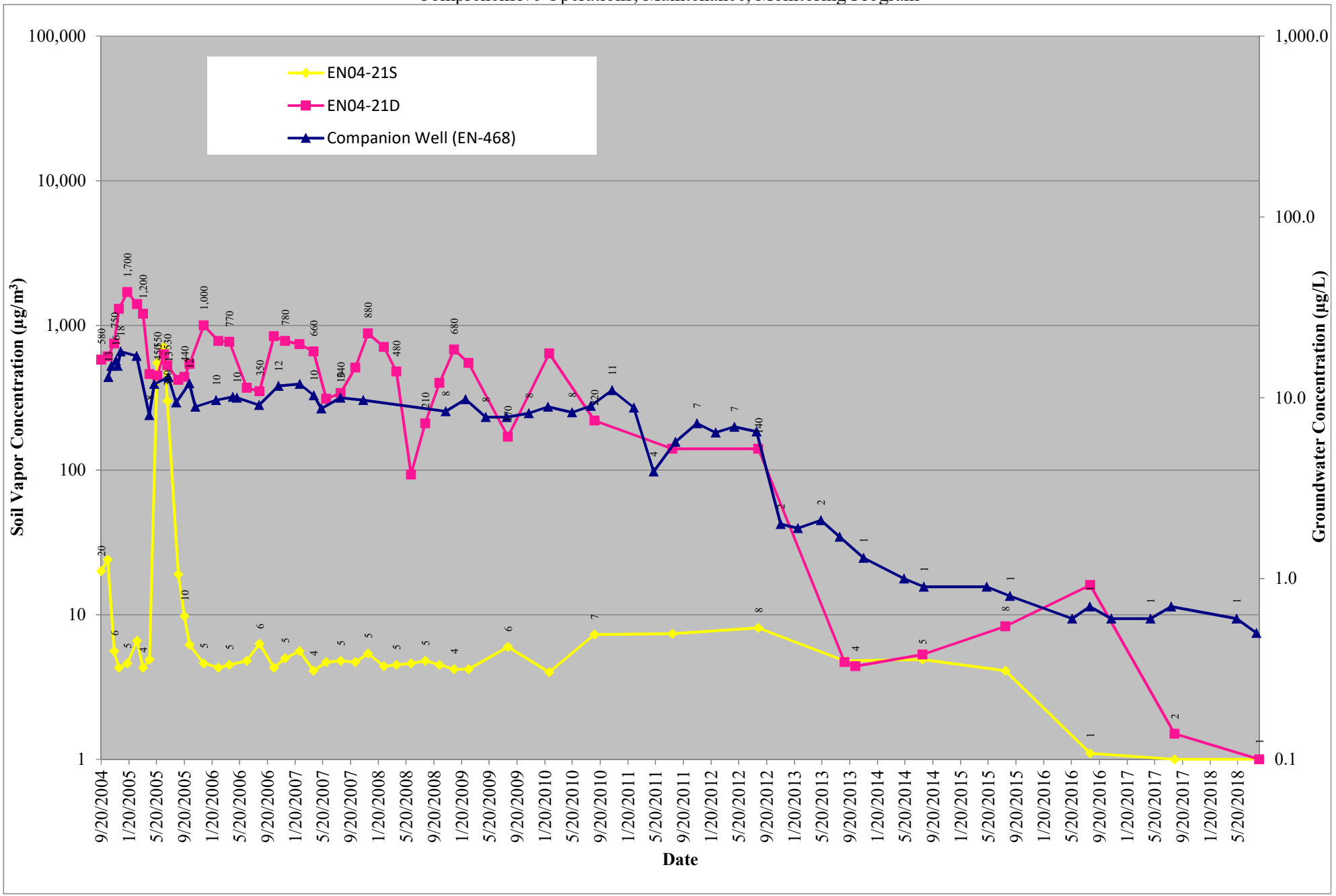


Figure B.22
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

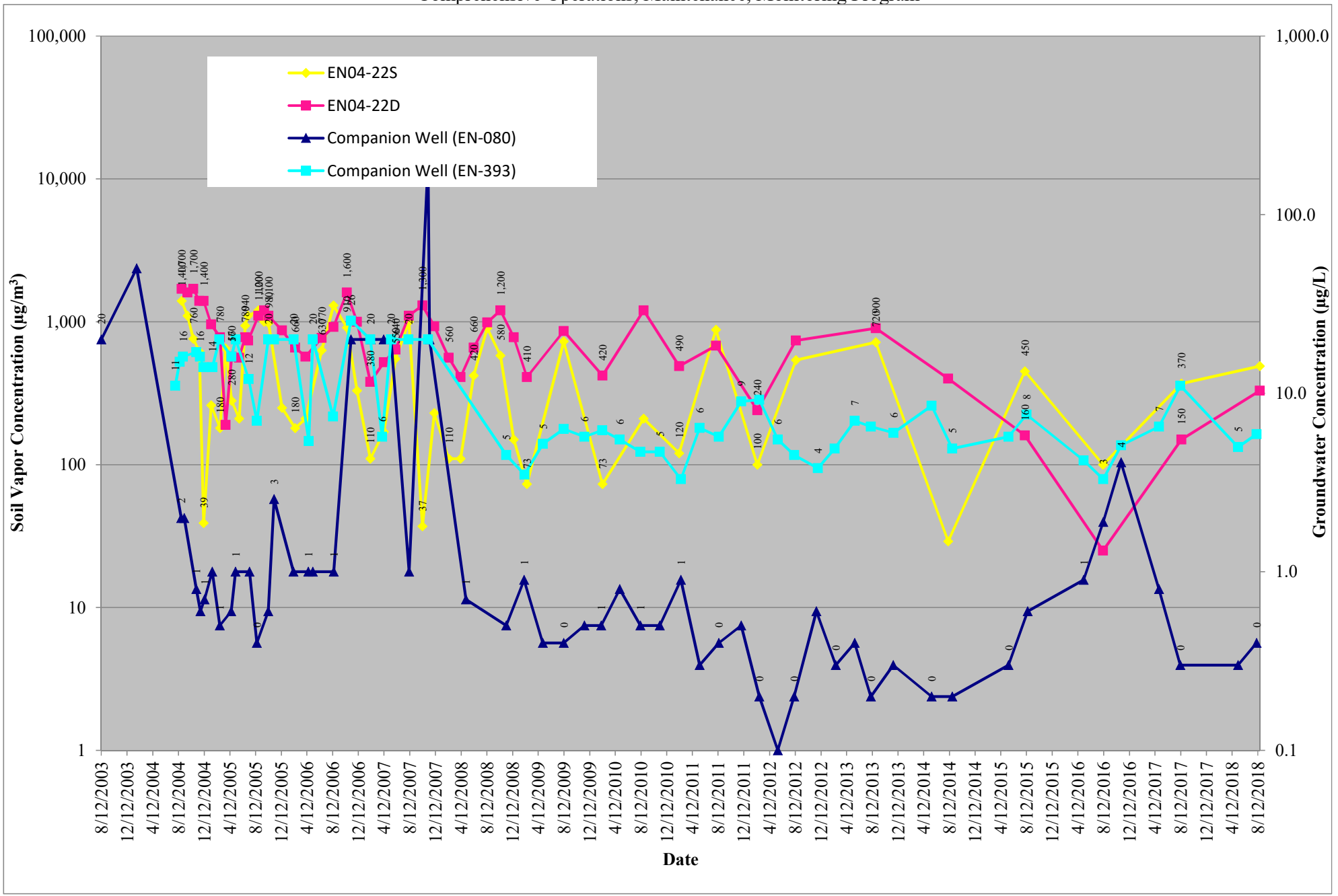


Figure B.23
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

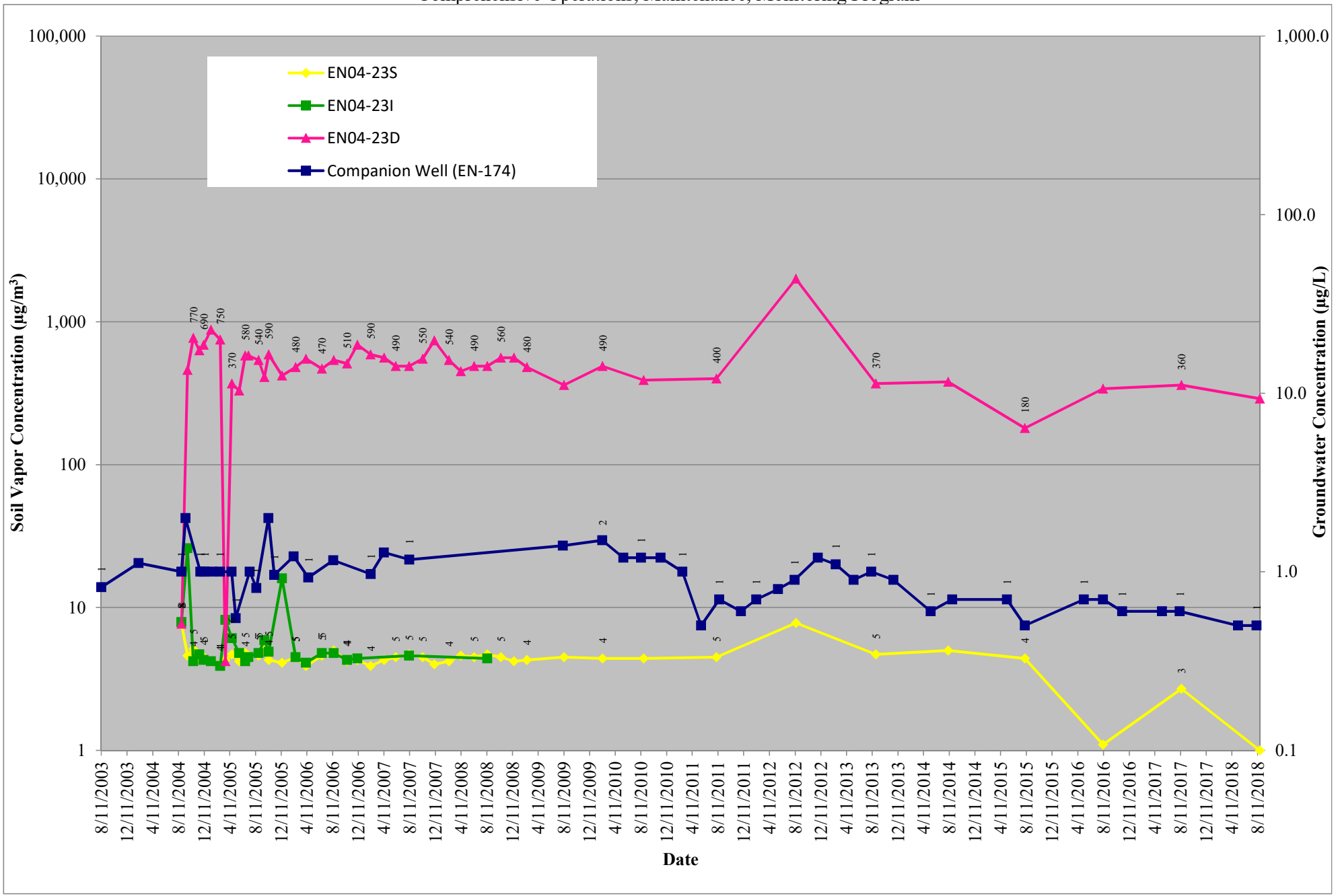


Figure B.24
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

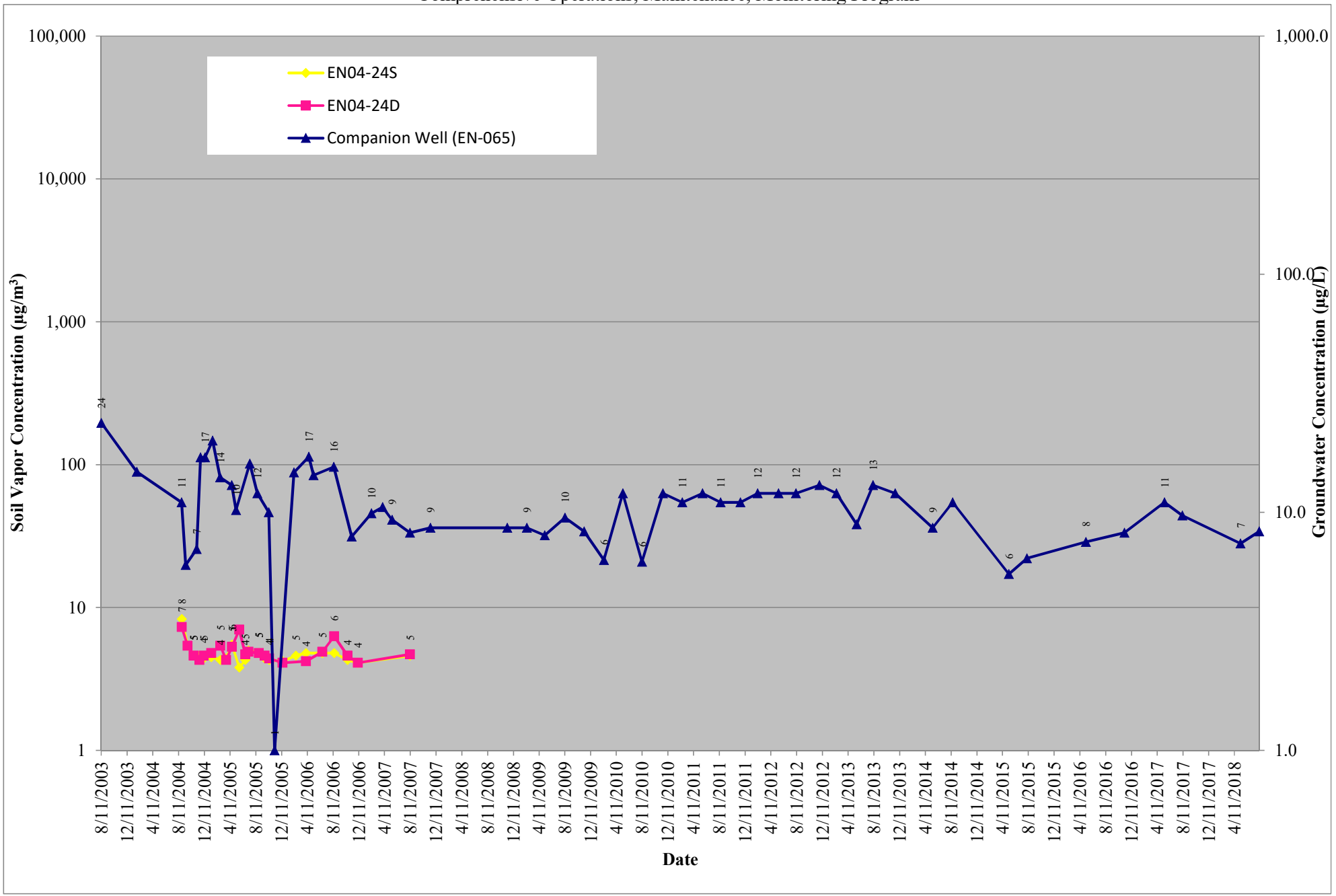


Figure B.25
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

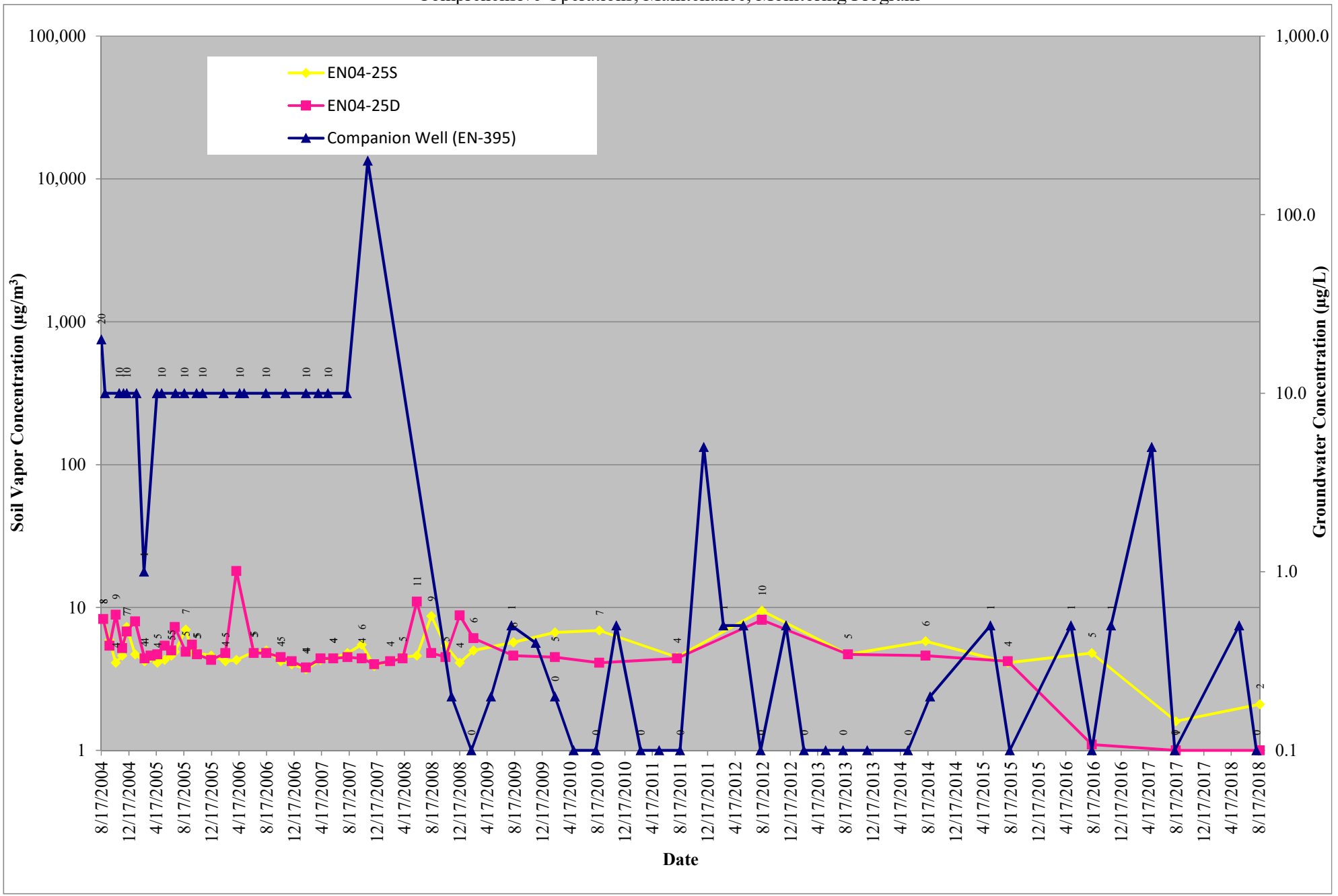


Figure B.26
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

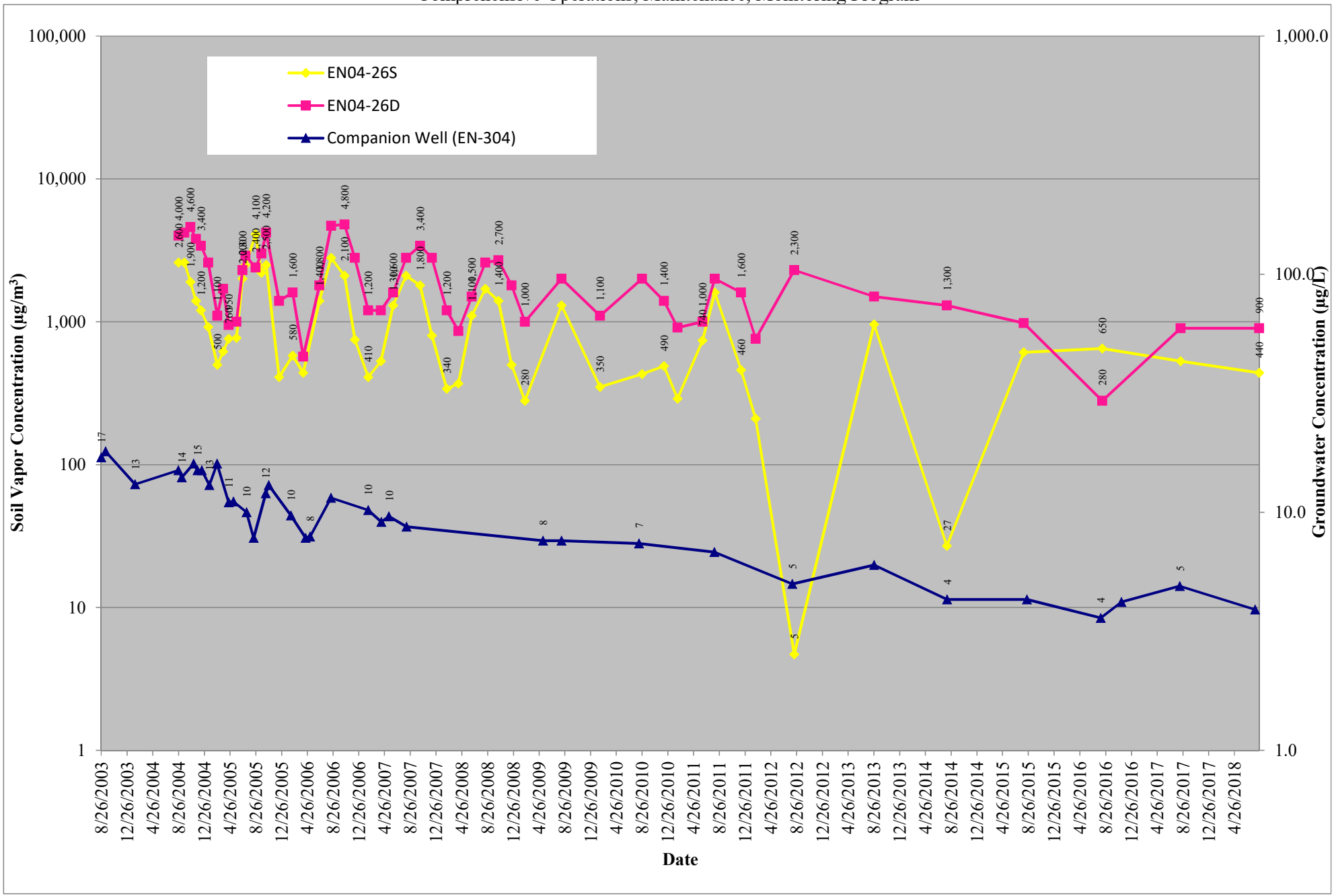


Figure B.27
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

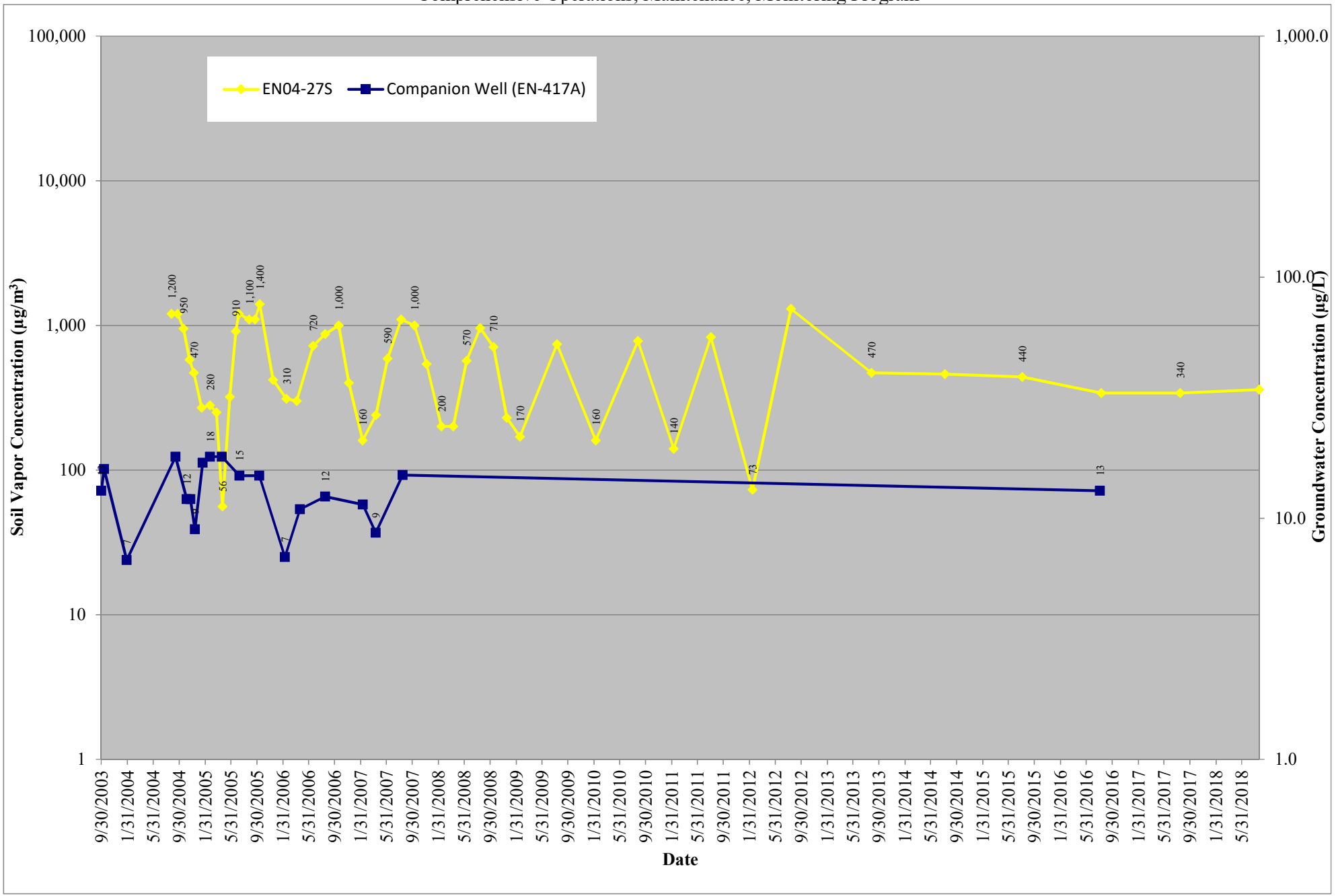


Figure B.28
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

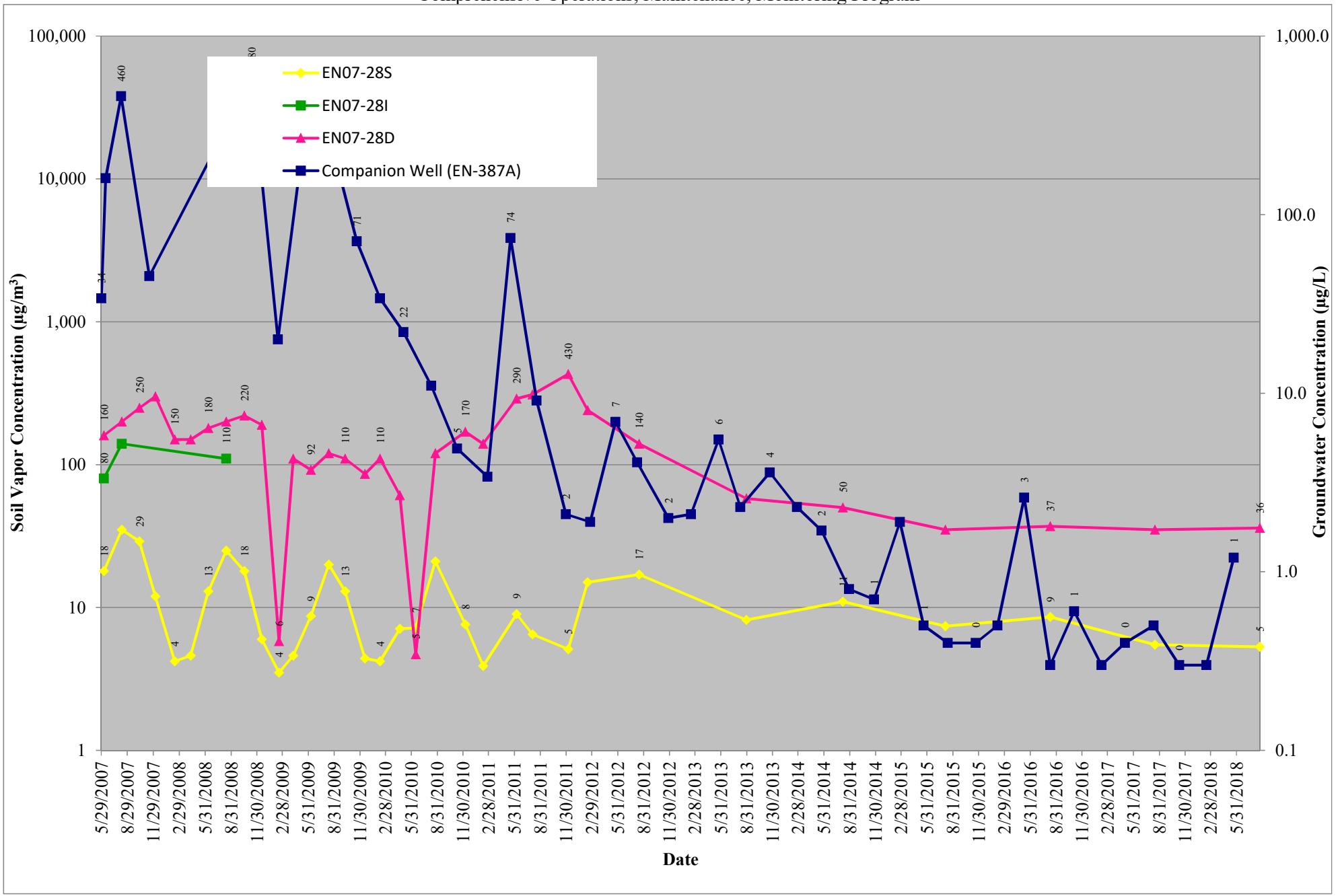


Figure B.29
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

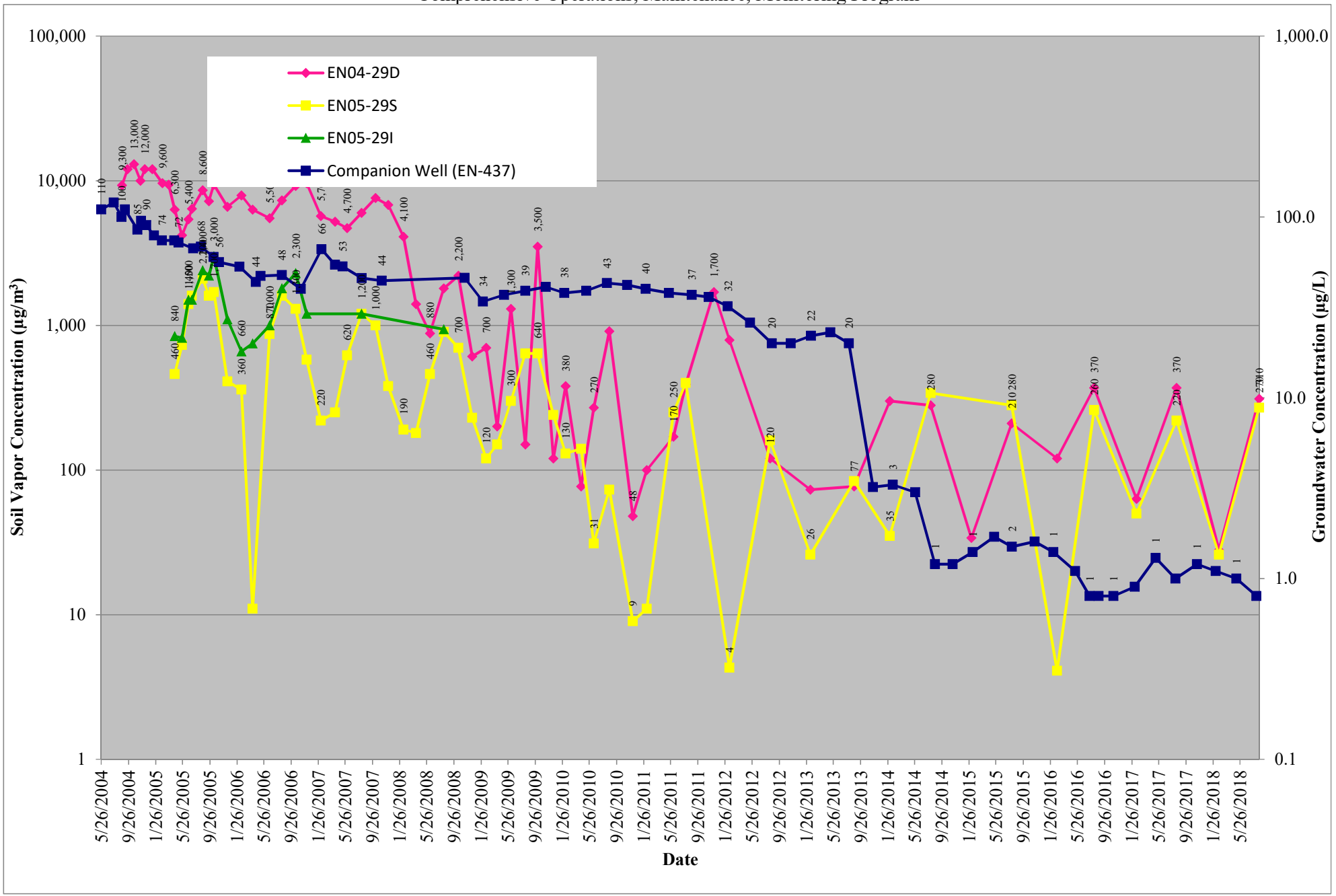


Figure B.30
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

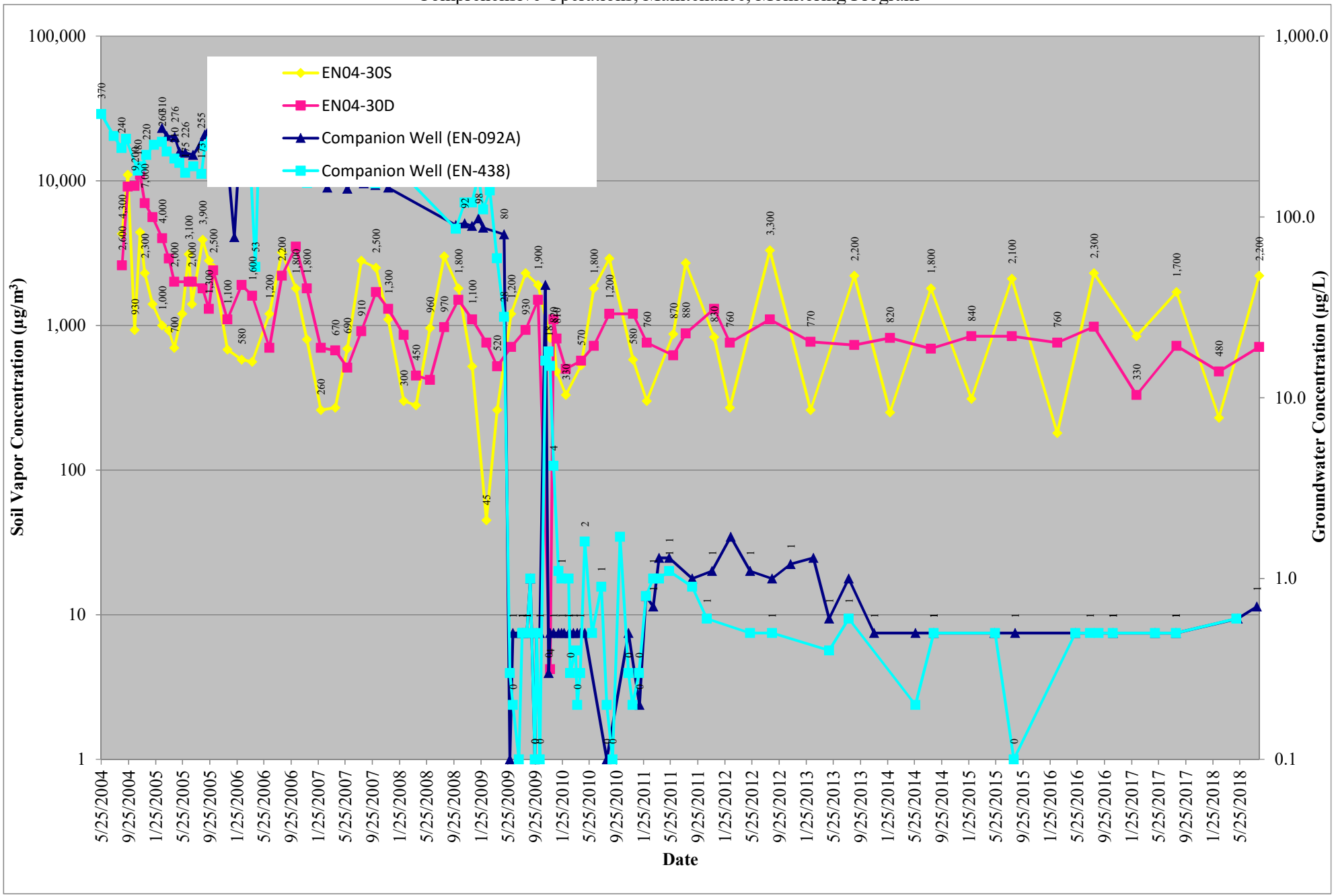


Figure B.31
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

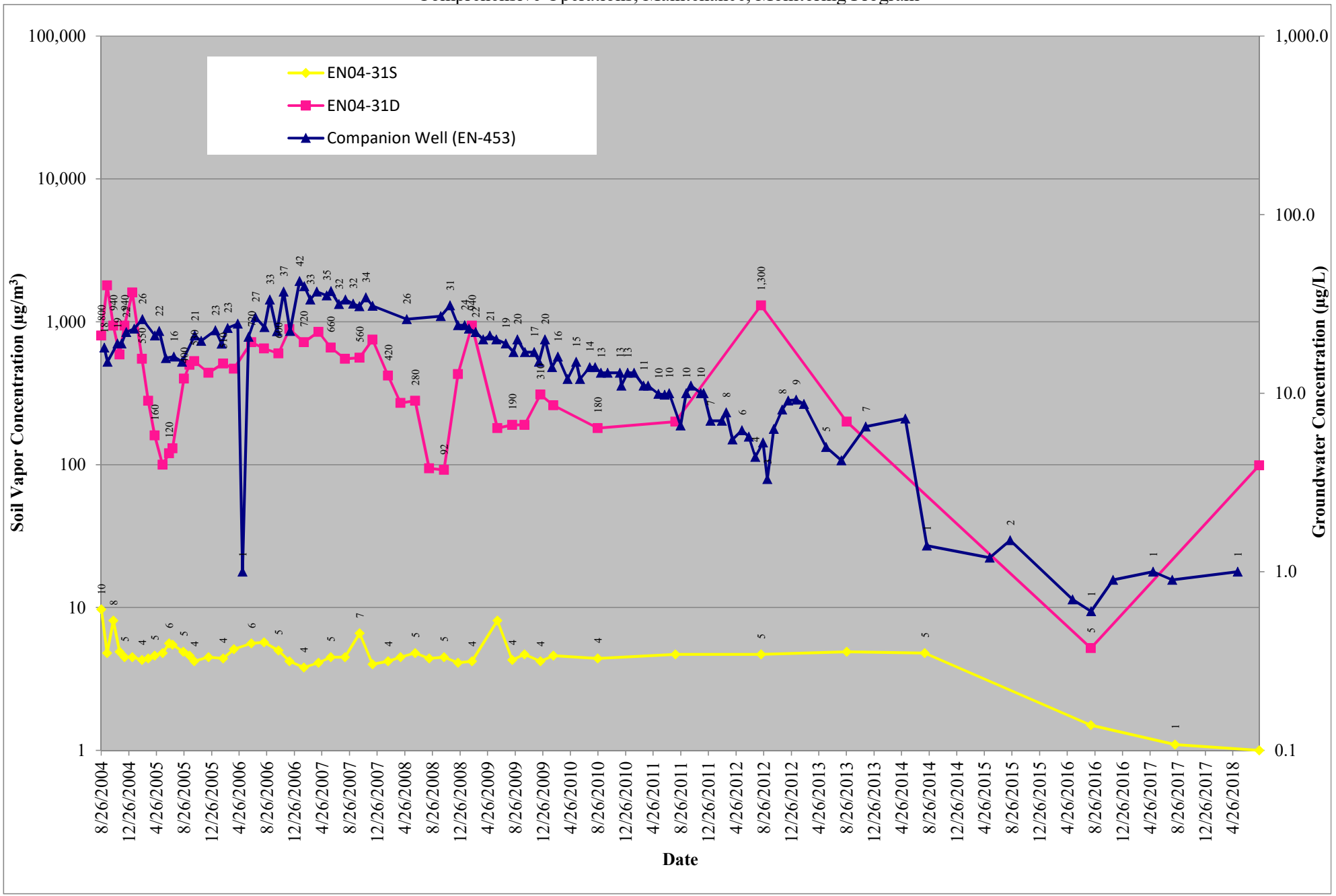


Figure B.32
TCE in Soil Vapor and Groundwater
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Comprehensive Operations, Maintenance, Monitoring Program

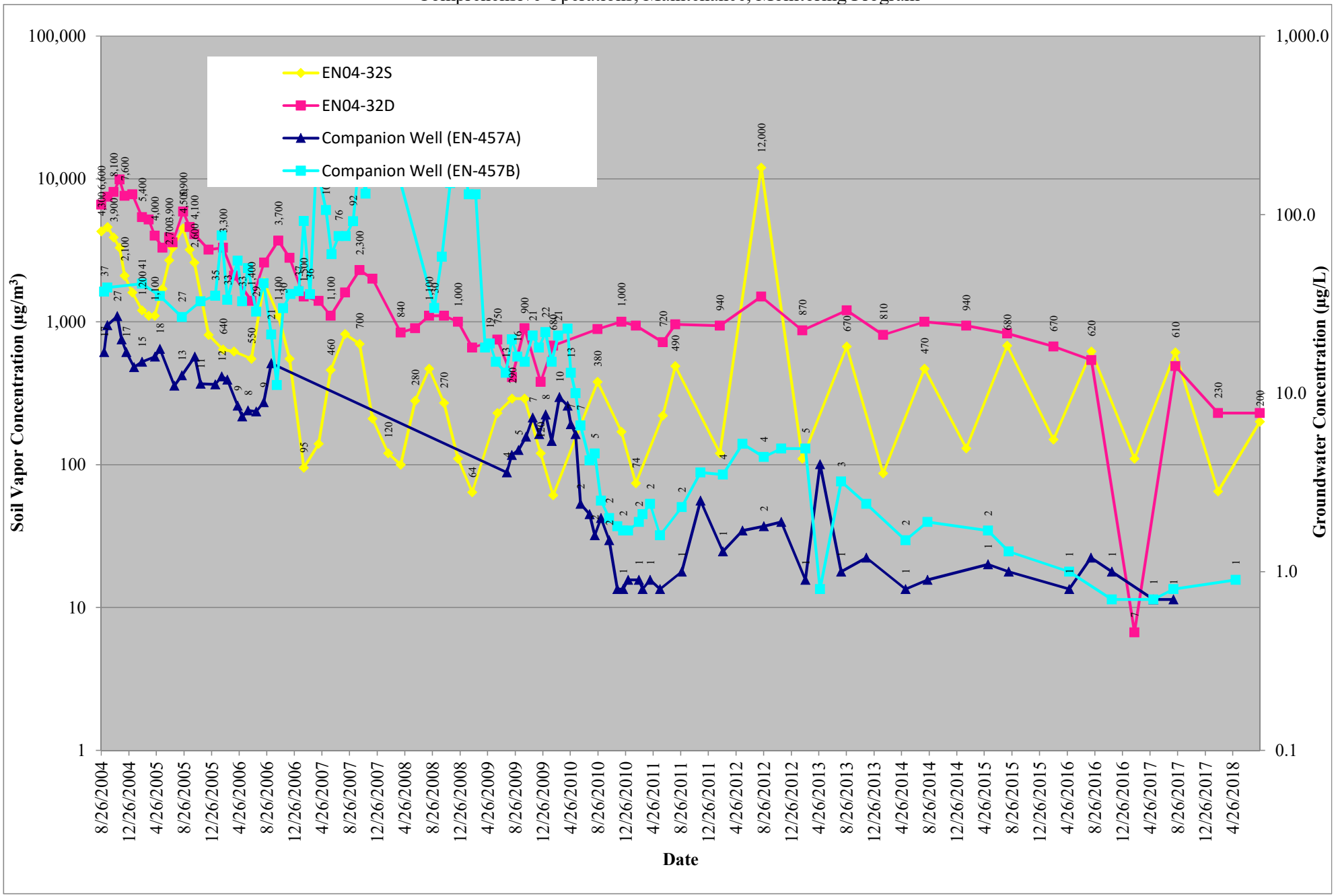

Figure B.33
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

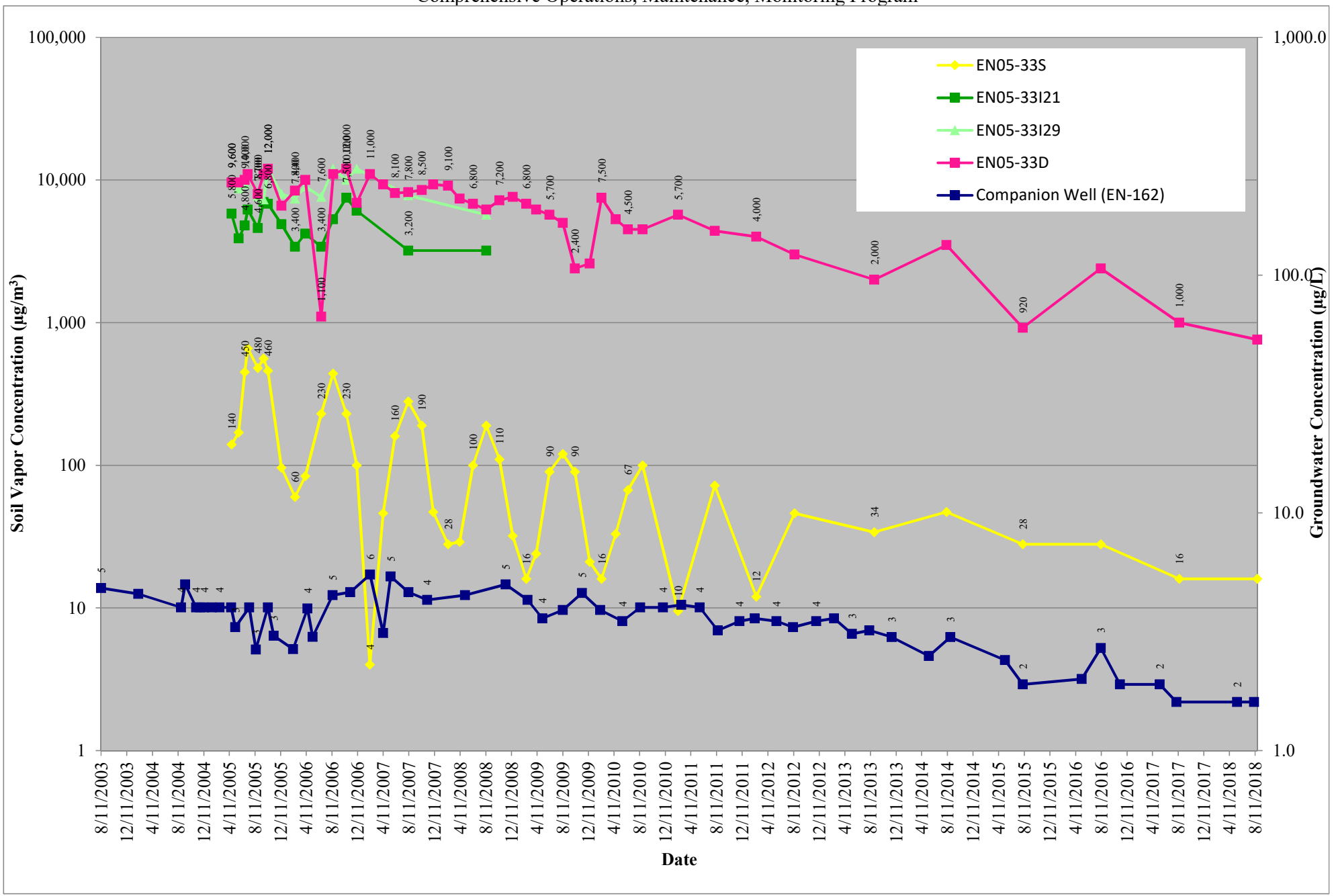

Figure B.34
TCE in Soil Vapor and Groundwater
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Comprehensive Operations, Maintenance, Monitoring Program

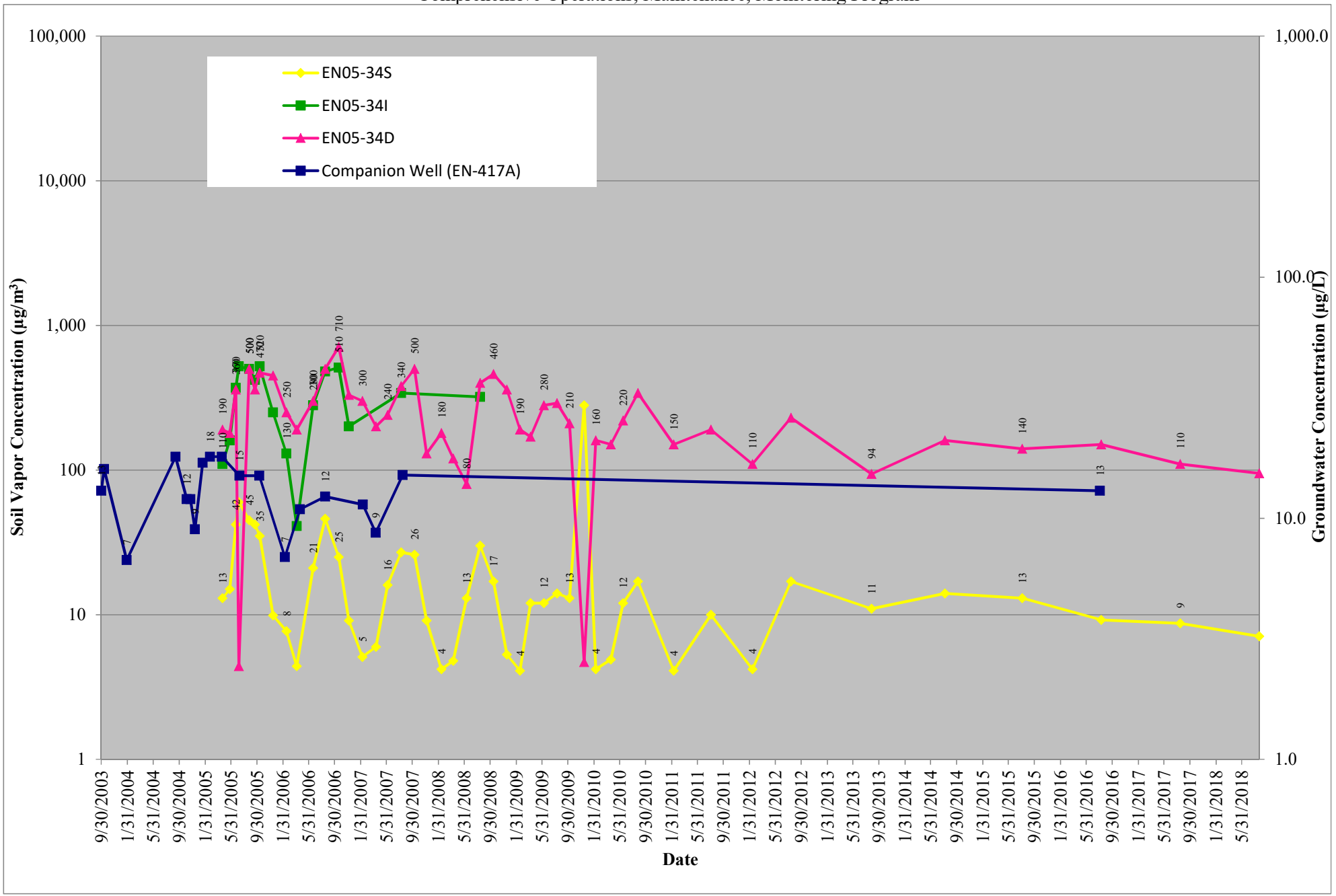


Figure B.35
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

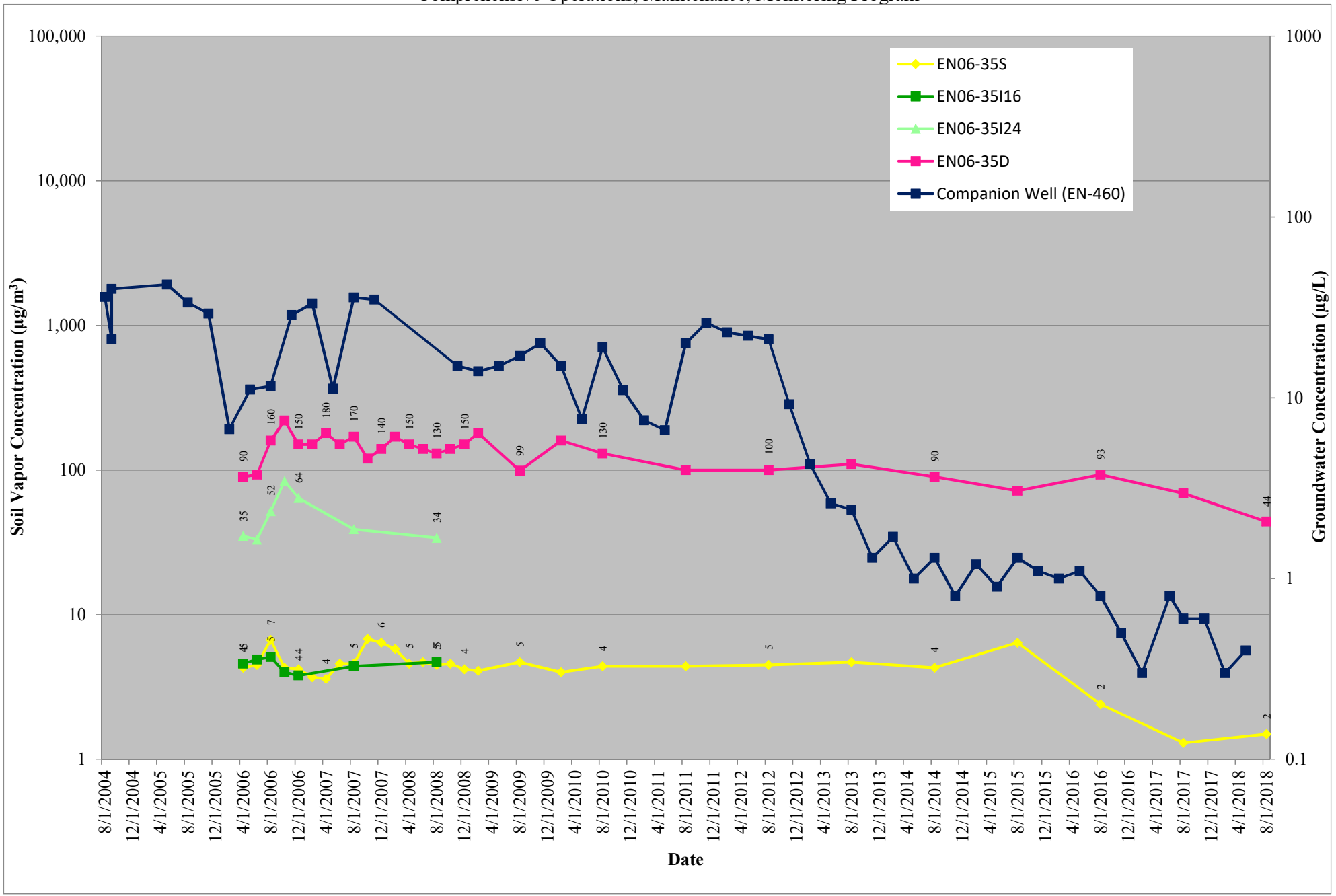


Figure B.36
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program

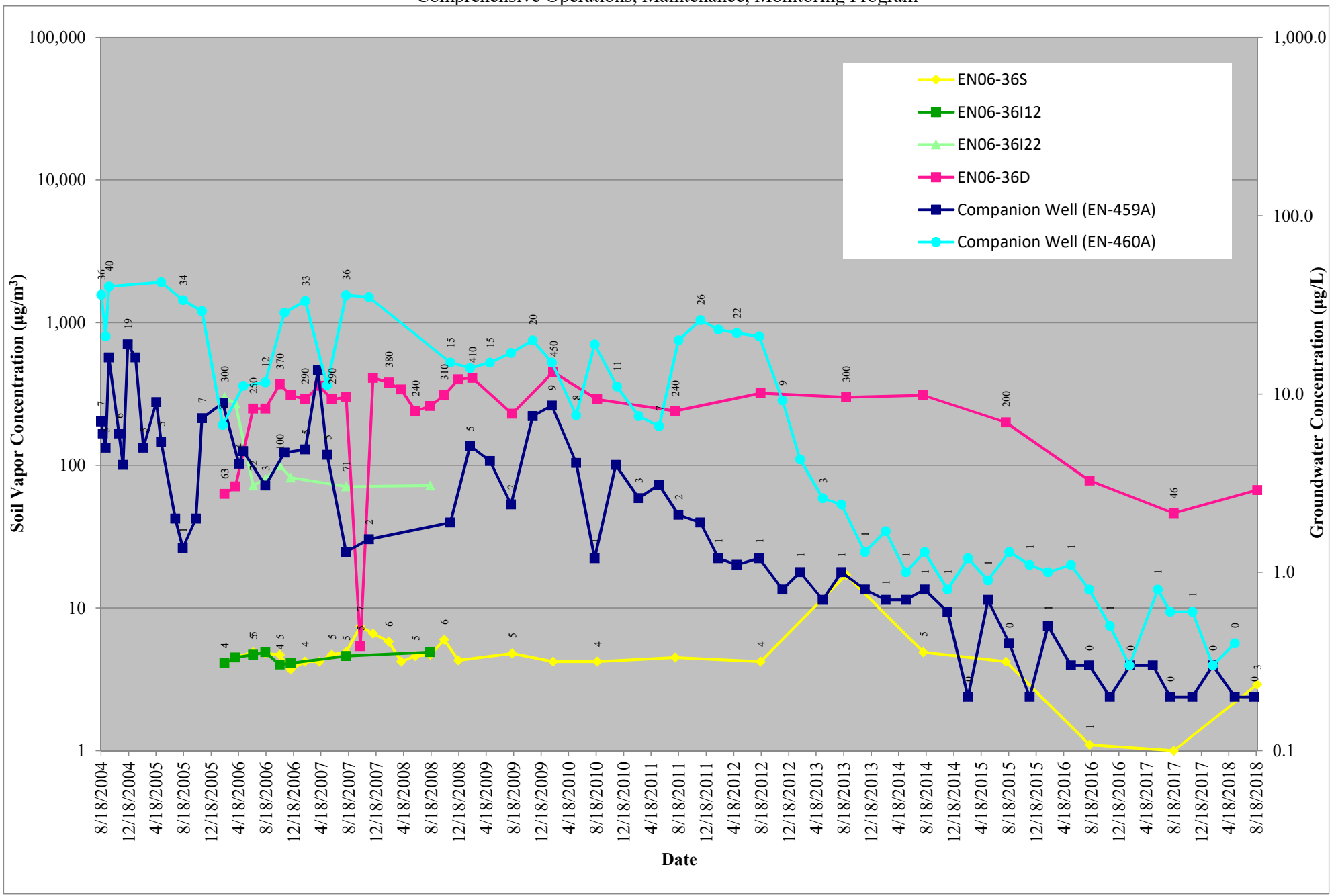
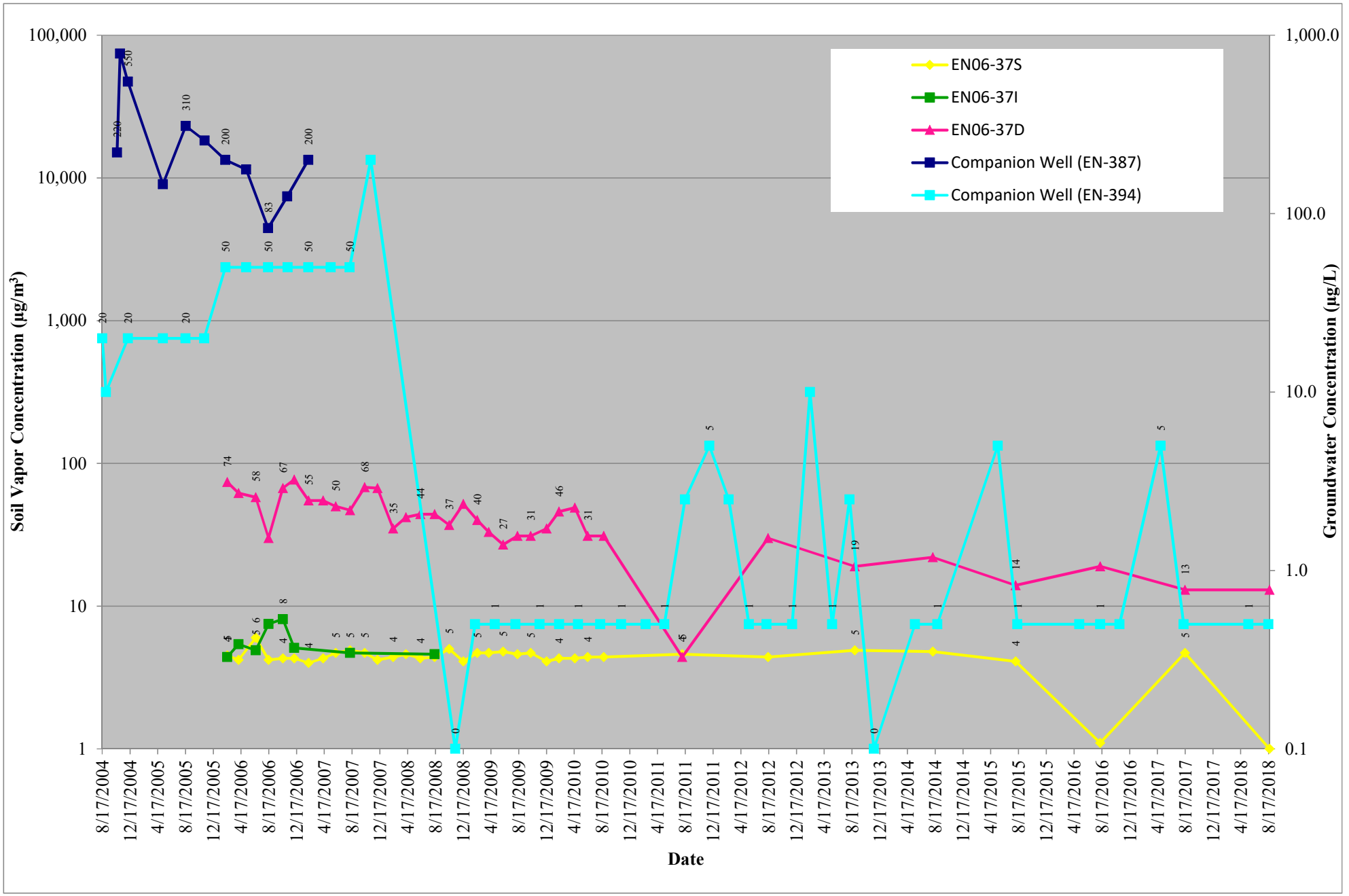


Figure B.37
TCE in Soil Vapor and Groundwater
Annual Report - Soil Vapor Monitoring through August 2018
Comprehensive Operations, Maintenance, Monitoring Program



APPENDIX C

ANALYTICAL RESULTS AND LABORATORY DATA

APPENDIX C.1

TABLE C.1 – SUMMARY OF ANALYTICAL LABORATORY DATA 2016 - 2018

Table C.1
Summary of Analytical Laboratory Data - Soil Vapor
Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation	Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene			Trichloroethene			cis-1,2-Dichloroethene			trans-1,2-Dichloroethene			Vinyl chloride			1,1,1-Trichloroethane			1,1-Dichloroethene			1,1-Dichloroethane			Chloroethane			Methylene chloride			Trifluorotrichloroethane (CFC-113)		
Designation **EN04-1**	EN04-1S	8	8/8/2016	EN041S160808	Summa Canister	19.5	0.5	0	1.0	ug/m3	<	1.4	U	-	7.3	-	<	0.79	U	<	0.79	U	<	0.51	U	-	2.7	J	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
Monitoring Well **EN-094**	EN04-1S	8	8/14/2017	EN041S170814	Summa Canister	20.5	0.3	0	1.0	ug/m3	<	1.0	U	-	6.9	-	<	1.0	U	<	1.0	U	<	1.0	U	-	2.8	J	<	1.0	U	<	1.0	U	<	1.0	U	-	3.5	J	<	2.0	U
	EN04-1S Dup	8	8/14/2017	DU920170814	Summa Canister	20.5	0.3	0	1.0	ug/m3	-	2.2	J	-	7.6	-	<	1.0	U	<	1.0	U	<	1.0	U	-	2.9	J	<	1.0	U	<	1.0	U	<	1.0	U	-	11	-	<	2.0	U
	EN04-1S	8	8/20/2018	DUZ033180820	Summa Canister	19.8	0.4	0	1.0	ug/m3	-	1.7	J	-	6.7	-	<	1.0	U	<	1.0	U	<	1.0	U	-	3.0	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
	EN04-1S	8	8/20/2018	EN041S180820	Summa Canister	19.8	0.4	0	1.0	ug/m3	-	3.4	J	-	6.1	-	<	1.0	U	<	1.0	U	<	1.0	U	-	2.7	J	<	1.0	U	<	1.0	U	<	1.0	U	-	4.1	-	<	2.0	U
	EN04-1D	23	8/8/2016	EN041D160808	Summa Canister	19.6	0.3	0	1.0	ug/m3	<	1.4	U	-	79	-	<	0.79	U	<	0.79	U	<	0.51	U	-	15	-	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
	EN04-1D	23	8/14/2017	EN041D170814	Summa Canister	19.6	0.2	0	1.0	ug/m3	<	1.0	U	-	66	-	<	1.0	U	<	1.0	U	<	1.0	U	-	17	-	<	1.0	U	<	1.0	U	<	1.0	U	-	2.3	J	<	2.0	U
	EN04-1D	23	8/20/2018	EN041D180820	Summa Canister	19.3	0.3	0	1.0	ug/m3	-	2.0	J	-	50	-	<	0.79	U	<	0.79	U	<	0.51	U	-	12	-	<	0.79	U	<	0.81	U	<	0.53	U	-	5.2	-	<	3.8	U
Designation **EN04-2**	EN04-2S	8	8/8/2016	EN042S160808	Summa Canister	19.3	0.3	0	1.0	ug/m3	-	3.7	J	-	16	-	<	0.79	U	<	0.79	U	<	0.51	U	-	4.5	J	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
Monitoring Well **EN-450;EN-091A**	EN04-2S	8	8/14/2017	EN042S170814	Summa Canister	21	0	0	1.0	ug/m3	-	2.5	J	-	17	-	<	1.0	U	<	1.0	U	<	1.0	U	-	7.8	-	<	1.0	U	-	2.2	J	<	1.0	U	-	3.5	J	<	2.0	U
	EN04-2S	8	8/20/2018	EN042S180820	Summa Canister	20.8	0.2	0	1.0	ug/m3	-	2.6	J	-	9.7	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.8	J	<	1.0	U	<	1.0	U	<	1.0	U	-	1.6	J	<	2.0	U
	EN04-2D	20	8/8/2016	EN042D160808	Summa Canister	19.6	0.1	0	1.0	ug/m3	-	13	-	-	65	-	-	2.3	J	<	0.79	U	<	0.51	U	-	17	-	<	0.79	U	-	3	J	<	0.53	U	-	1.1	J	<	3.8	U
	EN04-2D	20	8/14/2017	EN042D170814	Summa Canister	20.9	0.1	0	1.0	ug/m3	-	10	-	-	61	-	-	1.5	J	<	1.0	U	<	1.0	U	-	19	-	<	1.0	U	-	4.9	-	<	1.0	U	-	3.9	-	<	2.0	U
	EN04-2D	20	8/20/2018	EN042D180820	Summa Canister	21	0.2	0	1.0	ug/m3	-	12	-	-	62	-	-	1.6	J	<	1.0	U	<	1.0	U	-	15	-	<	1.0	U	-	7.2	-	<	1.0	U	-	1.3	J	<	2.0	U
Designation **EN04-3**	EN04-3S	8	8/8/2016	EN043S160808	Summa Canister	19.6	0.3	0	1.0	ug/m3	-	1.4	J	<	1.1	U	<	0.79	U	<	0.79	U	<	0.51	U	<	1.1	U	<	0.79	U	<	0.81	U	-	3.5	-	-	1.7	J	<	3.8	U
Monitoring Well **EN-203**	EN04-3S	8	8/14/2017	EN043S170814	Summa Canister	20.8	0.2	0	1.0	ug/m3	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	-	3.5	J	<	2.0	U
	EN04-3S	8	8/20/2018	EN043S180820	Summa Canister	20.7	0.2	0	1.0	ug/m3	<	1.0	U	-	3.3	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
	EN04-3D	19	8/8/2016	EN043D160808	Summa Canister	19.4	0.3	0	1.0	ug/m3	<	1.4	U	<	1.1	U	<	0.79	U	<	0.79	U	<	0.51	U	<	1.1	U	<	0.79	U	<	0.81	U	<	0.53	U	-	2.8	J	<	3.8	U
	EN04-3D	19	8/14/2017	EN043D170814	Summa Canister	20.9	0.1	0	1.0	ug/m3	<	1.0	U	-	11	-	-	3.3	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	-	2.4	J	<	2.0	U
	EN04-3D	19	8/20/2018	EN043D180820	Summa Canister	21	0	0	1.0	ug/m3	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
Designation **EN04-4**	EN04-4S	8	8/11/2016	EN044S160811	Summa Canister	17.9	2.3	0	1.0	ug/m3	-	2.1	J	<	1.1	U	<	0.79	U	<	0.79	U	<	0.51	U	-	2.5	J	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
Monitoring Well **EN-022**	EN04-4S Dup	8	8/11/2016	EN044SDUP160811	Summa Canister	17.9	2.3	0	1.0	ug/m3	-	2.3	J	<	1.1	U	<	0.79	U	<	0.79	U	<	0.51	U	-	2.4	J	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
	EN04-4S	8	8/16/2017	EN044S170816	Summa Canister	17.3	2.4	0	1.3	ug/m3	<	1.3	U	<	1.3	U	<	1.3	U	<	1.3	U	<	1.3	U	-	2.4	J	<	1.3	U	<	1.3	U	<	1.3	U	-	3.4	J	<	2.5	U
	EN04-4S Dup	8	8/16/2017	DU1145170816	Summa Canister	17.3	2.4	0	1.0	ug/m3	-	1.4	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	-	2.5	J	<	1.0	U	<	1.0	U	<	1.0	U	-	4.8	-	<	2.0	U
	EN04-4S	8	8/23/2018	EN044S180823	Summa Canister	20.9	0.1	0	1.0	ug/m3	-	2.0	J	-	1.2	J	<	1.0	U	<	1.0	U	<	1.0	U	-	2.2	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
	EN04-4S	8	8/23/2018	EN044SDUP180823	Summa Canister	20.9	0.1	0	1.0	ug/m3	-	2.0	J	-	1.8	J	<	1.0	U	<	1.0	U	<	1.0	U	-	3.5	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
	EN04-4D	17	8/11/2016	EN044D160811	Summa Canister	18.6	1.9	0	2.6	ug/m3	-	4.1	J	-	2.9	J	<	2.1	U	<	2.1	U	<	1.3	U	-	3.8	J	<	2.1	U	<	2.1	U	<	1.4	U	<	1.8	U	<	10	U
	EN04-4D	17	8/16/2017	EN044D170816	Summa Canister	17.4	1.9	0	1.0	ug/m3	<	1.0	U	-	1.9	J	<	1.0	U	<	1.0	U	<	1.0	U	-	3.6	J	<	1.0	U	<	1.0	U	<	1.0	U	-	2.7	J	<	2.0	U
	EN04-4D	17	8/23/2018	EN044D180823	Summa Canister	17.9	2.1	0	1.0	ug/m3	<	1.0	U	-	2.7	J	<	1.0	U	<	1.0	U	<	1.0	U	-	4.8	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
Designation **EN04-5**	EN04-5S	8	8/10/2016	EN045S160810	Summa Canister	18.2	2.7	0	1.0	ug/m3	-	4.1	J	-	150	-	<	0.79	U	<	0.79	U	<	0.51	U	-	9.9	-	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
Monitoring Well **EN-459A**	EN04-5S Dup	8	8/10/2016	DU940160810	Summa Canister	18.2	2.7	0	1.0	ug/m3	-	4.3	J	-	160	-	<	0.79	U	<	0.79	U	<	0.51	U	-	9.8	-	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
	EN04-5S	8	8/17/2017	EN045S170817	Summa Canister	18.0	2.1	0	1.0	ug/m3	-	4.8	J	-	120	-	<	1.0	U	<	1.0	U	<	1.0	U	-	9.4	-	<	1.0	U	<	1.0	U	<	1.0	U	-	11	-	<	2.0	U
	EN04-5S Dup	8	8/17/2017	DU1062170817	Summa Canister	18.0	2.1	0	1.0	ug/m3	-	2.3	J	-	120	-	<	1.0	U	<	1.0	U	<	1.0	U	-	10	-	<	1.0	U	<	1.0	U	<	1.0	U	-	3.2	J	<	2.0	U
	EN04-5S	8	8/22/2018	EN045S180822	Summa Canister	17.0	2.6	0	1.0	ug/m3	-	2.7	J	-	80	-	<	1.0	U	<	1.0	U	<	1.0	U	-	5.4	J	<	1.0	U	<	1.0	U	<	1.0	U	-	1.4	J	<	1.0	U
	EN04-5S	8	8/22/2018	EN045SDUP180822	Summa Canister	17.0	2.6	0	1.0	ug/m3	-	2.8	J	-	87	-	<	1.0	U	<	1.0	U	<	1.0	U	-	5.9	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.2	J	<	1.0	U
	EN04-5D	34	8/10/2016	EN045D160810	Summa Canister	19.3	1.2	0	1.0	ug/m3	<	1.4	U	-	180	-	<	0.79	U	<	0.79	U	<	0.51	U	-	59	-	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
	EN04-5D	34	8/17/2017	EN045D170817	Summa Canister	18.9	1.2	0	1.0	ug/m3	<	1.0	U	-	160	-	<	1.0	U	<	1.0	U	<	1.0	U	-	58	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.8	J	<	2.0	U
	EN04-5D	34	8/22/2018	EN045D180822	Summa Canister	18.3	1.6	0	1.0	ug/m3	<	2.0	U	-	77	-	<	1.0	U	<	1.0	U	<	1.0	U	-	45	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.1	J	<	1.0	U
Designation **EN04-6**	EN04-6S	8	8/11/2016	EN046S160811	Summa Canister	18.9	1.3	0	1.0	ug/m3	<	1.4	U	<	1.1	U	<	0.79	U	<	0.79	U	<	0.51	U	<	1.1	U	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
Monitoring Well **EN-310**	EN04-6S Dup	8	8/11/2016	EN046SDUP160811	Summa Canister	18.9	1.3	0	1.0	ug/m3	<	1.4	U	<	1.1	U	<	0.79	U	<	0.79	U	<	0.51	U	<	1.1	U	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
	EN04-6S	8	8/16/2017	EN046S170816	Summa Canister	19.0	1.7	0	1.0	ug/m3	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	-	4.3	-	<	2.0	U
	EN04-6S	8	8/23/2018	EN046S180823	Summa Canister	18.8	1.6	0	1.0	ug/m3	<	2.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	-	0.92	J	<	1.0	U
	EN04-6D	27	8/11/2016	EN046D160811	Summa Canister	19.8	0.9	0	1.0	ug/m3	<	1.4	U	-	1.5	J	-	5.1	-	<	0.79	U	<	0.51	U	<	1.1	U	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
	EN04-6D	27	8/16/2017	EN046D170816	Summa Canister	19.8	0.8	0	1.0	ug/m3	<	1.0	U	-	1.4	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	-	5.1	-	<	2.0	U
	EN04-6D	27	8/23/2018	EN046D180823	Summa Canister	19.5	1.6	0	1.0	ug/m3	<	2.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U

Table C.1
Summary of Analytical Laboratory Data - Soil Vapor
Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation		Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene			Trichloroethene			cis-1,2-Dichloroethene			trans-1,2-Dichloroethene			Vinyl chloride			1,1,1-Trichloroethane			1,1-Dichloroethene			1,1-Dichloroethane			Chloroethane			Methylene chloride			Trifluorotrichloroethane (CFC-113)		
Designation	**EN04-7**	EN04-7S	8	8/10/2016	EN047S160810	Summa Canister	18.9	1.2	0	1.0	ug/m3	-	29	-	-	6.1	-	<	0.79	U	<	0.79	U	<	0.51	U	-	2.6	J	<	0.79	U	<	0.81	U	<	0.53	U	-	2.3	J	<	3.8	U
Monitoring Well	**EN-311**	EN04-7S	8	8/17/2017	EN047S170817	Summa Canister	18.7	1.4	0	1.0	ug/m3	-	15	-	-	2.8	J	<	1.0	U	<	1.0	U	<	1.0	U	-	1.4	J	<	1.0	U	<	1.0	U	<	1.0	U	-	1.4	J	<	2.0	U
		EN04-7S	8	8/22/2018	EN047S180822	Summa Canister	17.7	1.9	0	1.0	ug/m3	-	14	-	-	2.8	J	<	1.0	U	<	1.0	U	<	1.0	U	-	1.7	J	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U	<	1.0	U
		EN04-7D	34	8/10/2016	EN047D160810	Summa Canister	19.1	1.2	0	1.0	ug/m3	-	7.6	-	-	710	-	-	2.1	J	<	0.79	U	<	0.51	U	-	100	-	<	0.79	U	-	1.7	J	<	0.53	U	<	0.69	U	<	3.8	U
		EN04-7D	34	8/17/2017	EN047D170817	Summa Canister	18.3	1.1	0	1.0	ug/m3	-	9.2	-	-	240	-	<	1.0	U	<	1.0	U	<	1.0	U	-	63	-	<	1.0	U	-	0.84	J	<	1.0	U	-	1.4	J	<	2.0	U
		EN04-7D	34	8/22/2018	EN047D180822	Summa Canister	19.1	1.1	0	1.0	ug/m3	-	5.9	J	-	140	-	<	1.0	U	<	1.0	U	<	1.0	U	-	62	-	<	1.0	U	-	0.89	J	<	1.0	U	-	0.85	J	<	2.0	U
Designation	**EN04-9**	EN04-9S	8	8/9/2016	EN049S160809	Summa Canister	8.4	3.9	0	20	ug/m3	-	220	-	-	4900	-	-	45	J	<	16	U	<	10	U	-	7000	-	-	1100	-	-	110	-	<	11	U	<	14	U	-	1400	
Monitoring Well	**EN-278;EN-279**	EN04-9S Dup	8	8/9/2016	DU1324160809	Summa Canister	8.4	3.9	0	20	ug/m3	-	220	-	-	3400	-	-	42	J	<	16	U	<	10	U	-	6900	-	-	1100	-	-	110	-	<	11	U	<	14	U	-	1400	
		EN04-9S	8	8/14/2017	EN049S170814	Summa Canister	10.7	3.8	0	100	ug/m3	-	160	J	-	8400	-	-	140	J	<	79	U	<	51	U	-	14000	-	-	1300	-	-	740	-	<	53	U	-	310	J	-	650	J
		EN04-9S Dup	8	8/14/2017	DU978170814	Summa Canister	10.7	3.8	0	25	ug/m3	-	140	J	-	5200	-	-	60	J	<	20	U	<	13	U	-	5300	-	-	650	-	-	330	-	<	13	U	-	34	J	-	260	J
		EN04-9S	8	8/20/2018	EN049S180820	Summa Canister	17	1.3	0	10	ug/m3	-	94	-	-	4800	-	-	22	J	<	10	U	<	10	U	-	1100	-	-	23	J	-	39	J	<	10	U	<	10	U	<	20	U
		EN04-9S	8	8/20/2018	EN049SDUP180820	Summa Canister	17	1.3	0	10	ug/m3	-	120	-	-	7200	-	-	26	J	<	10	U	<	10	U	-	1400	-	-	27	J	-	51	-	<	10	U	<	10	U	<	20	U
		EN04-9D	20	8/9/2016	EN049D160809	Summa Canister	7.3	5.7	0	100	ug/m3	-	840	-	-	13000	-	-	2600	-	<	79	U	<	51	U	-	50000	-	-	6400	-	-	8900	-	<	53	U	-	440	-	-	1400	J
		EN04-9D	20	8/14/2017	EN049D170814	Summa Canister	7.6	6.1	0	100	ug/m3	-	900	-	-	20000	-	-	4400	-	<	79	U	<	51	U	-	27000	-	-	7400	-	-	17000	-	<	53	U	-	510	-	-	1200	J
		EN04-9D	20	8/20/2018	EN049D180820	Summa Canister	16.7	2.8	0	40	ug/m3	-	840	-	-	9500	-	-	1100	-	<	40	U	<	40	U	-	7400	-	-	580	-	-	3900	-	<	40	U	<	40	U	<	80	U
Designation	**EN04-10**	EN04-10S	8	8/9/2016	EN0410S160809	Summa Canister	13.9	5.9	0	2	ug/m3	-	310	-	-	20000	-	-	2000	J	-	25	-	<	0.77	U	-	10000	-	-	3100	J	-	1700	J	-	3.6	J	-	30	-	-	4600	
Monitoring Well	**EN-077**	EN04-10S	8	8/15/2017	EN0410S170815	Summa Canister	13.7	5.0	0	200	ug/m3	-	480	J	-	53000	-	-	5200	-	<	160	U	<	100	U	-	51000	-	-	12000	-	-	11000	-	<	110	U	-	280	J	-	2400	J
		EN04-10S	8	8/20/2018	EN0410S180820	Summa Canister	13.7	5.1	0	200	ug/m3	-	450	J	-	40000	-	-	2100	-	<	200	U	<	200	U	-	29000	-	-	5200	-	-	7700	-	<	200	U	<	2000	U	-	1000	J
		EN04-10D	20	8/9/2016	EN0410D160809	Summa Canister	14.1	5.2	0	40	ug/m3	-	130	J	-	6900	-	-	1000	-	<	32	U	<	20	U	-	9800	-	-	2400	-	-	1700	-	<	21	U	-	98	J	-	830	
		EN04-10D	20	8/15/2017	EN0410D170815	Summa Canister	14.1	4.2	0	200	ug/m3	-	430	J	-	36000	-	-	6600	-	<	160	U	<	100	U	-	62000	-	-	15000	-	-	17000	-	<	110	U	-	380	J	-	3200	
		EN04-10D	20	8/20/2018	EN0410D180820	Summa Canister	14	4.6	0	400	ug/m3	-	430	-	-	29000	-	-	3200	-	-	38	-	-	16	-	-	35000	-	-	7100	-	-	13000	-	-	6.4	-	-	4.3	-	-	1300	
Designation	**EN04-11**	EN04-11S	8	2/25/2016	EN0411S022516	Summa Canister	20.8	0.2	0	1.0	ug/m3	-	18	-	-	17	-	<	0.79	U	<	0.79	U	<	0.51	U	-	1.6	J	<	0.79	U	<	0.81	U	<	0.53	U	<	0.69	U	<	3.8	U
Monitoring Well	**EN-215;EN-215B**	EN04-11S	8	8/9/2016	EN0411S160809	Summa Canister	19.2	1	0	1.0	ug/m3	-	1.4	J	-	21	-	-	2.4	J	<	0.79	U	<	0.51	U	-	9.5	-	<	0.79	U	-	1.7	J	<	0.53	U	-	11	-	<	3.8	U
		EN04-11S	8	2/16/2017	EN0411S170216	Summa Canister	21.4	0.3	0	1.0	ug/m3	<	1.0	U	-	14	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.1	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
		EN04-11S	8	8/15/2017	EN0411S170815	Summa Canister	19.6	0.9	0	1.0	ug/m3	-	2.7	J	-	38	-	<	1.0	U	<	1.0	U	<	1.0	U	-	7.8	-	<	1.0	U	<	1.0	U	<	1.0	U	-	3.4	J	<	2.0	U
		EN04-11S	8	2/20/2018	EN0411S180220	Summa Canister	21.0	0.1	0	1.0	ug/m3	<	1.0	U	-	7.8	-	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
		EN04-11S	8	8/20/2018	EN0411S180820	Summa Canister	19.6	0.9	0	1.0	ug/m3	-	3.4	J	-	38	-	<	1.0	U	<	1.0	U	<	1.0	U	-	4.4	J	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
		EN04-11D	21	2/25/2016	EN0411D022516	Summa Canister	20.8	0.4	0	1.0	ug/m3	-	42	-	-	1400	-	-	8.3	-	<	0.79	U	<	0.51	U	-	75	-	<	0.79	U	-	1.1	J	<	0.53	U	<	0.69	U	<	3.8	U
		EN04-11D	21	8/9/2016	EN0411D160809	Summa Canister	19.6	0.5	0	10	ug/m3	-	47	J	-	1300	-	-	8.7	J	<	7.9	U	<	5.1	U	-	61	-	<	7.9	U	<	8.1	U	<	5.3	U	<	6.9	U	<	38	U
		EN04-11D	21	2/16/2017	EN0411D170216	Summa Canister	21.3	0.6	0	1.0	ug/m3	-	7.3	-	-	1200	-	-	4.6	-	<	1.0	U	<	1.0	U	-	58	-	<	1.0	U	<	1.0	U	<	1.0	U	<	1.0	U	<	2.0	U
		EN04-11D	21	8/15/2017	EN0411D170815	Summa Canister	19.4	0.5	0	1.0	ug/m3	-	27	-	-	1300	-	-	6.3	-	<	1.0	U	<	1.0	U	-	72	-	<	1.0	U	-	1.1	J	<	1.0	U	-	3.4	J	<	2.0	U
		EN04-11D	21	2/20/2018	EN0411D180220	Summa Canister	20.9	0.2	0	1.0	ug/m3	-	18	-	-	680	-	-	3.9	J	<	1.0	U	<	1.0	U	-	41	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.4	J	<	2.0	U
		EN04-11D	21	8/20/2018	EN0411D180820	Summa Canister	19.8	0.4	0	1.0	ug/m3	-	32	-	-	750	-	-	4.4	-	<	1.0	U	<	1.0	U	-	41	-	<	1.0	U	<	1.0	U	<	1.0	U	-	1.4	J	<	2.0	U
		EN10-11D	30	8/9/2016	EN1011D160809	Summa Canister	-	-	-	2.7	ug/m3	-	15	J	-	49	-	-	9.8	J	<	2.1	U	<	1.4	U	-	24	-	<	2.1	U	-	11	-	<	1.4	U	-	13	-	-	19	J
		EN10-11D	30	8/23/2018	EN1011D180823	Summa Canister	19.8	0.4	0	1.0	ug/m3	-	20	-	-	98	-	-	13	-	<	1.0	U	<	1.0	U	-	110	-	<	1.0	U	-	4.2	-	<	1.0	U	-	1.2	J	-	9	

Table C.1
Summary of Analytical Laboratory Data - Soil Vapor
Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation	Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethene	1,1-Dichloroethane	Chloroethane	Methylene chloride	Trifluorotrichloroethane (CFC-113)
Designation **EN04-12**	EN04-12S	8	2/25/2016	EN0412S022516	Summa Canister	19.8	1.2	0	1.0	ug/m3	< 1.4 U	- 170 -	< 0.79 U	< 0.79 U	< 0.51 U	- 7.7 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-214A**	EN04-12S	8	2/16/2017	EN0412S170216	Summa Canister	20.5	1.5	0	1.0	ug/m3	< 1.0 U	- 9.4 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 1.4 J	< 2.0 U
	EN04-12S	8	8/14/2017	EN0412S170814	Summa Canister	15.8	3.8	0	1.0	ug/m3	< 1.0 U	- 350 -	< 1.0 U	< 1.0 U	< 1.0 U	- 24 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.8 J	< 2.0 U
	EN04-12S	8	2/20/2018	EN0412S180220	Summa Canister	20	0.7	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.9 -	< 2.0 U
	EN04-12S	8	8/20/2018	EN0412S180820	Summa Canister	17.1	3.2	0	1.0	ug/m3	- 1.6 J	- 280 -	< 1.0 U	< 1.0 U	< 1.0 U	- 11 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-12D	19	2/25/2016	EN0412D022516	Summa Canister	19.9	1.3	0	1.0	ug/m3	< 1.4 U	- 270 -	< 0.79 U	< 0.79 U	< 0.51 U	- 11 -	< 0.79 U	< 0.81 U	< 0.53 U	- 2.3 J	< 3.8 U
	EN04-12D	19	8/9/2016	EN0412D160809	Summa Canister	17.8	3.2	0	1.0	ug/m3	- 1.8 J	- 540 -	< 0.79 U	< 0.79 U	< 0.51 U	- 15 -	< 0.79 U	< 0.81 U	< 0.53 U	- 0.96 J	< 3.8 U
	EN04-12D	19	8/9/2016	EN0412S160809	Summa Canister	17	3.1	0	1.0	ug/m3	- 2 J	- 780 -	- 7 -	< 0.79 U	< 0.51 U	- 38 -	- 9.8 -	- 5.1 -	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-12D	19	2/16/2017	EN0412D170216	Summa Canister	20.7	1.5	0	1.0	ug/m3	- 4.1 J	- 230 -	< 1.0 U	< 1.0 U	< 1.0 U	- 7.3 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-12D	19	8/14/2017	EN0412D170814	Summa Canister	15.5	3.7	0	1.0	ug/m3	- 1.4 J	- 430 -	< 1.0 U	< 1.0 U	< 1.0 U	- 25 -	< 1.0 U	< 1.0 U	< 1.0 U	- 1.5 J	< 2.0 U
	EN04-12D	19	2/20/2018	EN0412D180220	Summa Canister	19.9	0.9	0	1.0	ug/m3	< 1.0 U	- 57 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.3 J	< 1.0 U	< 1.0 U	< 1.0 U	- 2.2 J	< 2.0 U
	EN04-12D	19	8/20/2018	EN0412D180820	Summa Canister	16.9	3.3	0	1.0	ug/m3	- 2.0 J	- 290 -	< 1.0 U	< 1.0 U	< 1.0 U	- 9.8 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
Designation **EN04-13**	EN04-13S	8	8/11/2016	EN0413S160811	Summa Canister	18.1	3.1	0	2.5	ug/m3	< 3.4 U	- 23 -	< 2 U	< 2 U	< 1.3 U	- 4 J	< 2 U	< 2 U	< 1.3 U	< 1.7 U	< 9.6 U
Monitoring Well **EN-449**	EN04-13S Dup	8	8/11/2016	EN0413SDUP160811	Summa Canister	18.1	3.1	0	2.0	ug/m3	< 2.7 U	- 25 -	< 1.6 U	< 1.6 U	< 1 U	- 3.7 J	< 1.6 U	< 1.6 U	< 1.1 U	< 1.4 U	< 7.7 U
	EN04-13S	8	8/16/2017	EN0413S170816	Summa Canister	20	0.8	0	1.0	ug/m3	< 1.0 U	- 16 -	< 1.0 U	< 1.0 U	< 1.0 U	- 1.9 J	< 1.0 U	< 1.0 U	< 1.0 U	- 4.6 -	< 2.0 U
	EN04-13S	8	8/23/2018	EN0413S180823	Summa Canister	17.6	2.7	0	1.0	ug/m3	- 6.0 J	- 150 -	< 1.0 U	< 1.0 U	< 1.0 U	- 19 -	< 1.0 U	< 1.0 U	- 0.64 J	- 1.1 J	< 1.0 U
	EN04-13D	30	8/11/2016	EN0413D160811	Summa Canister	19.2	1.8	0	1.0	ug/m3	- 1.8 J	- 130 -	< 0.79 U	< 0.79 U	< 0.51 U	- 14 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-13D	30	8/16/2017	EN0413D170816	Summa Canister	18.7	2.7	0	1.0	ug/m3	< 1.0 U	- 53 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.9 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.7 J	< 2.0 U
	EN04-13D	30	8/23/2018	EN0413D180823	Summa Canister	17.5	3.3	0	1.0	ug/m3	< 2.0 U	- 140 -	< 1.0 U	< 1.0 U	< 1.0 U	- 14 -	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
Designation **EN04-14**	EN04-14S	8	8/10/2016	EN0414S160810	Summa Canister	18.4	2.5	0	1.0	ug/m3	< 1.4 U	- 14 -	< 0.79 U	< 0.79 U	< 0.51 U	- 5 J	< 0.79 U	< 0.81 U	< 0.53 U	- 37 -	< 3.8 U
Monitoring Well **EN-462**	EN04-14S	8	8/17/2017	EN0414S170817	Summa Canister	17.9	2.8	0	1.0	ug/m3	< 1.0 U	- 11 -	< 1.0 U	< 1.0 U	< 1.0 U	- 5.5 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.3 J	< 2.0 U
	EN04-14S	8	8/23/2018	EN0414S180823	Summa Canister	17	3.5	0	1.0	ug/m3	< 1.0 U	- 11 -	< 1.0 U	< 1.0 U	< 1.0 U	- 5.3 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-14D	34	8/10/2016	EN0414D160810	Summa Canister	18.6	2	0	1.0	ug/m3	< 1.4 U	- 74 -	< 0.79 U	< 0.79 U	< 0.51 U	- 5.4 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-14D	34	8/17/2017	EN0414D170817	Summa Canister	17.7	2.8	0	1.0	ug/m3	- 32 -	- 39 -	- 5.7 -	< 1.0 U	< 1.0 U	- 3.9 J	< 1.0 U	< 1.0 U	- 0.79 J	- 2.1 J	< 2.0 U
	EN04-14D	34	8/23/2018	EN0414D180823	Summa Canister	17	3.7	0	1.0	ug/m3	< 1.0 U	- 13 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.0 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
Designation **EN04-15**	EN04-15S	8	8/8/2016	EN0415S160808	Summa Canister	18.9	1.7	0	1.0	ug/m3	- 1.8 J	- 5.6 -	- 0.82 J	< 0.79 U	< 0.51 U	- 3.4 J	< 0.79 U	< 0.81 U	< 0.53 U	- 1.7 J	< 3.8 U
Monitoring Well **EN-162**	EN04-15S	8	8/15/2017	EN0415S170815	Summa Canister	17.8	1.5	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.8 -	< 2.0 U
	EN04-15S Dup	8	8/15/2017	DU985170815	Summa Canister	17.8	1.5	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3 -	- 3 J	< 2.0 U
	EN04-15S	8	8/21/2018	EN0415S180821	Summa Canister	18.5	1.6	0	1.0	ug/m3	- 1.7 J	- 6.8 -	- 4.7 -	< 1.0 U	< 1.0 U	- 12 -	- 5.3 -	- 8.9 -	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-15S	8	8/21/2018	EN0415SDUP180821	Summa Canister	18.5	1.6	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.0 J	< 1.0 U	< 2.0 U
	EN04-15D	30	8/8/2016	EN0415D160808	Summa Canister	18.9	1.7	0	1.0	ug/m3	- 1.6 J	- 9.8 -	- 0.92 J	< 0.79 U	< 0.51 U	- 5.1 J	< 0.79 U	- 0.84 J	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-15D	30	8/15/2017	EN0415D170815	Summa Canister	17.2	1.8	0	1.0	ug/m3	- 1.6 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.6 J	< 2.0 U
	EN04-15D	30	8/21/2018	EN0415D180821	Summa Canister	18.4	1.7	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.4 J	< 1.0 U
Designation **EN04-16**	EN04-16S	8	8/8/2016	EN0416S160808	Summa Canister	18.5	2.4	0	1.0	ug/m3	- 4 J	- 2.2 J	< 0.79 U	< 0.79 U	< 0.51 U	- 1.4 J	< 0.79 U	< 0.81 U	- 0.54 J	- 49 -	< 3.8 U
Monitoring Well **EN-206**	EN04-16S	8	8/15/2017	EN0416S170815	Summa Canister	18.5	2.3	0	1.0	ug/m3	- 2.3 J	- 3.3 J	< 1.0 U	< 1.0 U	< 1.0 U	- 2.3 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.8 J	< 2.0 U
	EN04-16S	8	8/21/2018	EN0416S180821	Summa Canister	17.4	3.3	0	1.0	ug/m3	- 1.8 J	- 3.4 J	< 1.0 U	< 1.0 U	< 1.0 U	- 2.6 J	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-16D	34	8/8/2016	EN0416D160808	Summa Canister	18.3	2.7	0	1.0	ug/m3	< 1.4 U	- 2.6 J	< 0.79 U	< 0.79 U	< 0.51 U	- 1.3 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-16D	34	8/15/2017	EN0416D170815	Summa Canister	18.6	2.2	0	1.0	ug/m3	< 1.0 U	- 1.8 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.7 J	< 2.0 U
	EN04-16D	34	8/21/2018	EN0416D180821	Summa Canister	18	3.2	0	1.0	ug/m3	< 2.0 U	- 1.2 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U

Table C.1
Summary of Analytical Laboratory Data - Soil Vapor
Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation	Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethene	1,1-Dichloroethane	Chloroethane	Methylene chloride	Trifluorotrichloroethane (CFC-113)
Designation **EN04-17**	EN04-17S	8	8/10/2016	EN0417S160810	Summa Canister	17.2	1.8	0	1.0	ug/m3	< 1.4 U	- 190 -	< 0.79 U	< 0.79 U	< 0.51 U	- 6.8 -	< 0.79 U	< 0.81 U	< 0.53 U	- 24 -	< 3.8 U
Monitoring Well **EN-401**	EN04-17S Dup	8	8/10/2016	DU1169160810	Summa Canister	17.2	1.8	0	2.5	ug/m3	< 3.4 U	- 210 -	< 2 U	< 2 U	< 1.3 U	- 7.6 J	< 2 U	< 2 U	< 1.3 U	< 1.7 U	< 9.6 U
	EN04-17S	8	8/16/2017	EN0417S170816	Summa Canister	20.7	1.0	0	1.0	ug/m3	< 1.0 U	- 180 -	< 1.0 U	< 1.0 U	< 1.0 U	- 6.1 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.9 J	< 2.0 U
	EN04-17S Dup	8	8/16/2017	DU922170816	Summa Canister	20.7	1.0	0	1.0	ug/m3	< 1.0 U	- 150 -	< 1.0 U	< 1.0 U	< 1.0 U	- 7.4 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.6 -	< 2.0 U
	EN04-17S	8	8/21/2018	EN0417S180821	Summa Canister	19.3	0.3	0	1.0	ug/m3	< 2.0 U	- 150 -	< 1.0 U	< 1.0 U	< 1.0 U	- 6.2 -	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-17D	28	8/10/2016	EN0417D160810	Summa Canister	16.8	2.3	0	1.0	ug/m3	< 1.4 U	- 1.5 J	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-17D	28	8/16/2017	EN0417D170816	Summa Canister	21.6	0.4	0	1.0	ug/m3	< 1.0 U	- 1.3 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.2 J	< 2.0 U
	EN04-17D	28	8/21/2018	EN0417D180821	Summa Canister	19.9	0.9	0	1.0	ug/m3	< 2.0 U	- 1.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN10-17D	34	8/16/2017	EN1017D170816	Summa Canister	22.5	0	0	1.0	ug/m3	- 4 J	- 240 -	- 13 -	< 1.0 U	< 1.0 U	- 130 -	< 1.0 U	- 1.9 J	< 1.0 U	- 2.3 J	< 2.0 U
	EN10-17D	34	8/21/2018	EN1017D180821	Summa Canister	20.4	0.2	0	1.0	ug/m3	- 3.1 J	- 130 -	- 8.5 -	< 1.0 U	< 1.0 U	- 170 -	< 1.0 U	- 1.9 J	< 1.0 U	- 1.3 J	- 4.7 J
Designation **EN04-18**	EN04-18S	8	8/9/2016	EN0418S160809	Summa Canister	17.3	1.8	0	1.0	ug/m3	- 1.6 J	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	- 14 -	< 3.8 U
Monitoring Well **EN-217A**	EN04-18S	8	8/16/2017	EN0418S170816	Summa Canister	19.8	1.1	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.8 -	< 2.0 U
	EN04-18S	8	8/22/2018	EN0418S180822	Summa Canister	18.7	1.4	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-18D	31	8/9/2016	EN0418D160809	Summa Canister	17.2	1.6	0	1.0	ug/m3	- 7.5 -	- 580 -	- 3.9 J	< 0.79 U	< 0.51 U	- 51 -	< 0.79 U	- 1.1 J	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-18D	31	8/16/2017	EN0418D170816	Summa Canister	20	0.6	0	1.0	ug/m3	- 3.2 J	- 220 -	- 1.4 J	< 1.0 U	< 1.0 U	- 20 -	< 1.0 U	< 1.0 U	< 1.0 U	- 4.1 -	< 2.0 U
	EN04-18D	31	8/22/2018	EN0418D180822	Summa Canister	19.5	0.3	0	1.0	ug/m3	- 7.0 J	- 440 -	- 1.9 J	< 1.0 U	< 1.0 U	- 34 -	< 1.0 U	- 0.57 J	< 1.0 U	- 4.3 J	- 1.0 J
Designation **EN04-19**	EN04-19S	8	8/10/2016	EN0419S160810	Summa Canister	18.6	2.6	0	1.0	ug/m3	< 1.4 U	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	- 15 -	< 3.8 U
Monitoring Well **EN-426**	EN04-19S	8	8/16/2017	EN0419S170816	Summa Canister	19.9	1.5	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 4.9 -	< 2.0 U
	EN04-19D	8	8/22/2018	EN0419S180822	Summa Canister	19.1	1.7	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-19D	29.5	8/10/2016	EN0419D160810	Summa Canister	18.2	2.3	0	2.5	ug/m3	- 7.7 J	- 290 -	- 5.8 J	< 2 U	< 1.3 U	- 48 -	< 2 U	< 2 U	< 1.3 U	< 1.7 U	< 9.6 U
	EN04-19D	29.5	8/16/2017	EN0419D170816	Summa Canister	19.4	0.9	0	1.0	ug/m3	- 2.8 J	- 240 -	- 6.1 -	< 1.0 U	< 1.0 U	- 29 -	< 1.0 U	- 1.5 J	< 1.0 U	- 3.5 -	< 2.0 U
	EN04-19D	29.5	8/22/2018	EN0419D180822	Summa Canister	19.4	0.9	0	1.0	ug/m3	- 2.4 J	- 210 -	- 6 -	< 1.0 U	< 1.0 U	- 32 -	< 1.0 U	- 1.3 J	< 1.0 U	- 1.3 J	< 2.0 U
Designation **EN04-20**	EN04-20S	8	8/10/2016	EN0420S160810	Summa Canister	19.2	1.8	0	1.0	ug/m3	< 1.4 U	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	- 13 -	< 3.8 U
Monitoring Well **EN-207**	EN04-20S	8	8/16/2017	EN0420S170816	Summa Canister	19.9	2.2	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.9 -	< 2.0 U
	EN04-20S	8	8/22/2018	EN0420S180822	Summa Canister	17.5	2.9	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-20S Dup	8	8/22/2018	DUZ044180822	Summa Canister	17.5	2.9	0	1.0	ug/m3	< 2.0 U	< 1.0 U	- 12 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-20D	36	8/10/2016	EN0420D160810	Summa Canister	19.3	1.6	0	1.0	ug/m3	< 1.4 U	- 85 -	< 0.79 U	< 0.79 U	< 0.51 U	- 8.9 -	< 0.79 U	< 0.81 U	< 0.53 U	- 20 -	< 3.8 U
	EN04-20D	36	8/16/2017	EN0420D170816	Summa Canister	20.2	1.1	0	1.0	ug/m3	< 1.0 U	- 130 -	< 1.0 U	< 1.0 U	< 1.0 U	- 8 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.8 J	< 2.0 U
	EN04-20D	36	8/22/2018	EN0420D180822	Summa Canister	19.7	0.9	0	1.0	ug/m3	< 2.0 U	- 53 -	< 1.0 U	< 1.0 U	< 1.0 U	- 4.9 J	< 1.0 U	< 1.0 U	< 1.0 U	- 29 -	< 1.0 U
Designation **EN04-21**	EN04-21S	7.5	8/10/2016	EN0421S160810	Summa Canister	19.8	2.3	0	1.0	ug/m3	< 1.4 U	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-468**	EN04-21S	7.5	8/16/2017	EN0421S170816	Summa Canister	17.1	4.2	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.4 J	< 2.0 U
	EN04-21S	7.5	8/22/2018	EN0421S180822	Summa Canister	19.5	0.7	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-21D	23	8/10/2016	EN0421D160810	Summa Canister	19.7	2.1	0	1.0	ug/m3	- 22 -	- 16 -	< 0.79 U	< 0.79 U	< 0.51 U	- 5.7 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-21D	23	8/16/2017	EN0421D170816	Summa Canister	16.6	4.2	0	1.0	ug/m3	< 1.0 U	- 1.5 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 3.9 -	< 2.0 U
	EN04-21D	23	8/22/2018	EN0421D180822	Summa Canister	17.4	3.5	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
Designation **EN04-22**	EN04-22S	8	8/8/2016	EN0422S160808	Summa Canister	20	0.7	0	4.0	ug/m3	< 5.4 U	- 100 -	- 4.1 J	< 3.2 U	< 2 U	- 9.3 J	< 3.2 U	< 3.2 U	< 2.1 U	< 2.8 U	< 15 U
Monitoring Well **EN-080;EN-393**	EN04-22S	8	8/15/2017	EN0422S170815	Summa Canister	14.4	2.8	0	1.0	ug/m3	- 3.4 J	- 370 -	- 9.3 -	- 1.8 J	< 1.0 U	- 67 -	< 1.0 U	- 2.9 J	< 1.0 U	- 6.6 -	- 13 J
	EN04-22S	8	8/21/2018	EN0422S180821	Summa Canister	14.7	3.9	0	1.3	ug/m3	- 4.9 J	- 490 -	- 5 -	< 1.3 U	< 1.3 U	- 49 -	< 1.3 U	- 1.0 J	< 1.3 U	- 1.0 J	- 11 J
	EN04-22D	16	8/8/2016	EN0422D160808	Summa Canister	19.9	0.7	0	1.0	ug/m3	< 1.4 U	- 25 -	< 0.79 U	< 0.79 U	< 0.51 U	- 2.4 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-22D	16	8/15/2017	EN0422D170815	Summa Canister	14.5	2.4	0	1.0	ug/m3	- 6 J	- 150 -	- 4 -	< 1.0 U	< 1.0 U	- 29 -	< 1.0 U	< 1.0 U	< 1.0 U	- 9.7 -	- 15 J
	EN04-22D	16	8/21/2018	EN0422D180821	Summa Canister	14.8	3.8	0	1.0	ug/m3	- 4.1 J	- 330 -	- 8.3 -	- 0.90 J	< 1.0 U	- 60 -	- 7.9 -	- 12 -	< 1.0 U	< 1.0 U	- 13 J

Table C.1
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Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation	Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethene	1,1-Dichloroethane	Chloroethane	Methylene chloride	Trifluorotrichloroethane (CFC-113)
Designation **EN04-23**	EN04-23S	8	8/8/2016	EN0423S160808	Summa Canister	19.6	1.1	0	1.0	ug/m3	< 1.4 U	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	- 3.8 -	- 39 -	< 3.8 U
Monitoring Well **EN-174**	EN04-23S	8	8/15/2017	EN0423S170815	Summa Canister	16.4	1.8	0	1.0	ug/m3	< 1.0 U	- 2.7 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 5.5 -	< 2.0 U
	EN04-23S	8	8/21/2018	EN0423S180821	Summa Canister	16.4	4.1	0	1.0	ug/m3	< 2.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 1.5 J	< 1.0 U
	EN04-23D	23	8/8/2016	EN0423D160808	Summa Canister	19.3	1.2	0	1.0	ug/m3	- 12 -	- 340 -	- 42 -	- 3.8 J	< 0.51 U	- 1.9 J	< 0.79 U	- 7.1 -	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-23D	23	8/15/2017	EN0423D170815	Summa Canister	17	1.4	0	1.0	ug/m3	- 11 -	- 360 -	- 37 -	- 4.1 -	< 1.0 U	- 2.1 J	< 1.0 U	- 6.9 -	< 1.0 U	- 7.1 -	< 2.0 U
	EN04-23D	23	8/21/2018	EN0423D180821	Summa Canister	19	1.6	0	1.0	ug/m3	- 7.9 J	- 290 -	- 24 -	- 3.0 J	< 1.0 U	- 2.2 J	< 1.0 U	- 4.4 -	< 1.0 U	- 1.1 J	- 0.98 J
Designation **EN04-25**	EN04-25S	8	8/9/2016	EN0425S160809	Summa Canister	16.9	3.2	0	1.0	ug/m3	- 3.9 J	- 4.8 J	< 0.79 U	< 0.79 U	< 0.51 U	- 3.4 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-395**	EN04-25S Dup	8	8/9/2016	DU1314160809	Summa Canister	16.9	3.2	0	1.0	ug/m3	- 3.5 J	- 3.3 J	< 0.79 U	< 0.79 U	< 0.51 U	- 1.6 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-25S	8	8/15/2017	EN0425S170815	Summa Canister	18.1	2.7	0	1.0	ug/m3	- 3.2 J	- 1.6 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.4 J	< 1.0 U	< 1.0 U	< 1.0 U	- 2.6 J	< 2.0 U
	EN04-25S Dup	8	8/15/2017	DU956170815	Summa Canister	18.1	2.7	0	1.0	ug/m3	- 4.6 J	- 1.6 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.4 J	< 1.0 U	< 1.0 U	< 1.0 U	- 5.5 -	< 2.0 U
	EN04-25S	8	8/21/2018	EN0425S180821	Summa Canister	16.1	3.3	0	1.0	ug/m3	- 3.7 J	- 2.1 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.4 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-25S Dup	8	8/21/2018	DUZ040180821	Summa Canister	16.1	3.3	0	1.0	ug/m3	- 3.4 J	- 1.6 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-25D	17.5	8/9/2016	EN0425D160809	Summa Canister	20	0.9	0	1.0	ug/m3	- 2 J	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-25D	17.5	8/15/2017	EN0425D170815	Summa Canister	18.8	1.9	0	1.0	ug/m3	- 1.8 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.7 J	< 2.0 U
	EN04-25D	17.5	8/21/2018	EN0425D180821	Summa Canister	17.1	2.8	0	1.0	ug/m3	- 2.3 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
Designation **EN04-26**	EN04-26S	8	8/9/2016	EN0426S160809	Summa Canister	19.7	0.9	0	1.0	ug/m3	- 11 -	- 650 -	< 0.79 U	< 0.79 U	< 0.51 U	- 32 -	< 0.79 U	< 0.81 U	< 0.53 U	- 11 -	< 3.8 U
Monitoring Well **EN-304**	EN04-26S	8	8/15/2017	EN0426S170815	Summa Canister	19.4	0	0	1.0	ug/m3	- 12 -	- 530 -	< 1.0 U	< 1.0 U	< 1.0 U	- 39 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.1 J	< 2.0 U
	EN04-26S	8	8/21/2018	EN0426S180821	Summa Canister	19.9	0.8	0	1.0	ug/m3	- 7.2 -	- 440 -	< 1.0 U	< 1.0 U	< 1.0 U	- 35 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-26D	14	8/9/2016	EN0426D160809	Summa Canister	19.6	0.7	0	1.0	ug/m3	- 3.9 J	- 280 -	< 0.79 U	< 0.79 U	< 0.51 U	- 14 -	< 0.79 U	< 0.81 U	< 0.53 U	- 9.3 -	< 3.8 U
	EN04-26D	14	8/15/2017	EN0426D170815	Summa Canister	19.6	0.7	0	10	ug/m3	< 10 U	- 900 -	< 10 U	< 10 U	< 10 U	- 51 J	< 10 U	< 10 U	< 10 U	< 10 U	< 20 U
	EN04-26D	14	8/21/2018	EN0426D180821	Summa Canister	19.8	0.9	0	1.0	ug/m3	- 10 -	- 900 -	< 1.0 U	< 1.0 U	< 1.0 U	- 56 -	< 1.0 U	< 1.0 U	< 1.0 U	- 4.6 J	< 2.0 U
Designation **EN04-27**	EN04-27S	8	8/9/2016	EN0427S160809	Summa Canister	14.2	4.3	0	1.0	ug/m3	- 91 -	- 340 -	< 0.79 U	< 0.79 U	< 0.51 U	- 84 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-417A**	EN04-27S	8	8/15/2017	EN0427S170815	Summa Canister	18.2	1.4	0	1.0	ug/m3	- 78 -	- 340 -	< 1.0 U	< 1.0 U	< 1.0 U	- 120 -	< 1.0 U	< 1.0 U	< 1.0 U	- 5.7 -	< 2.0 U
	EN04-27S	8	8/21/2018	EN0427S180821	Summa Canister	12.6	4.7	0	1.0	ug/m3	- 82 -	- 360 -	< 1.0 U	< 1.0 U	< 1.0 U	- 120 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
Designation **EN07-28**	EN07-28S	7	8/9/2016	EN0728S160809	Summa Canister	19.4	0.6	0	1.0	ug/m3	- 240 -	- 8.6 -	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-387A**	EN07-28S	7	8/15/2017	EN0728S170815	Summa Canister	20.9	0.3	0	1.0	ug/m3	- 130 -	- 5.5 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 1.5 J	< 2.0 U
	EN07-28S	7	8/21/2018	ENO728S180821	Summa Canister	19.9	0.5	0	1.0	ug/m3	- 150 -	- 5.3 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN07-28D	19	8/9/2016	EN0728D160809	Summa Canister	9.4	7.3	0	10	ug/m3	- 1400 -	- 37 -	- 5.5 -	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN07-28D	19	8/15/2017	EN0728D170815	Summa Canister	18.3	2.0	0	1.0	ug/m3	- 600 -	- 35 -	- 9.7 -	- 1.3 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.9 J	< 2.0 U
	EN07-28D	19	8/21/2018	ENO728D180821	Summa Canister	17	3.0	0	1.0	ug/m3	- 730 -	- 36 -	- 5.5 -	- 0.84 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
Designation **EN04-29;EN05-29**	EN05-29S	8	8/9/2016	EN0529S160809	Summa Canister	17.8	2.6	0	1.0	ug/m3	- 2.6 J	- 260 -	< 0.79 U	< 0.79 U	< 0.51 U	- 35 -	< 0.79 U	< 0.81 U	- 1.3 J	< 0.69 U	< 3.8 U
Monitoring Well **EN-437**	EN05-29S	8	2/15/2017	EN0529S170215	Summa Canister	20.5	0.6	0	1.0	ug/m3	- 2.9 J	- 50 -	< 1.0 U	< 1.0 U	< 1.0 U	- 7 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN05-29S	8	8/14/2017	EN0429S170814	Summa Canister	17.7	1.5	0	1.0	ug/m3	- 1.9 J	- 220 -	< 1.0 U	< 1.0 U	< 1.0 U	- 44 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2 J	< 2.0 U
	EN05-29S	8	2/20/2018	EN0529S180220	Summa Canister	20.7	0.5	0	1.0	ug/m3	< 1.0 U	- 26 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.9 J	< 1.0 U	< 1.0 U	< 1.0 U	- 2.2 J	< 2.0 U
	EN05-29S	8	8/20/2018	EN0529S180820	Summa Canister	17.6	1.8	0	1.0	ug/m3	- 2.9 J	- 270 -	< 1.0 U	< 1.0 U	< 1.0 U	- 27 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-29D	20	2/25/2016	EN0429D022516	Summa Canister	20.3	0.7	0	1.0	ug/m3	< 1.4 U	- 120 -	< 0.79 U	< 0.79 U	< 0.51 U	- 14 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-29D	20	8/9/2016	EN0429D160809	Summa Canister	17.9	2.5	0	1.0	ug/m3	- 2.9 J	- 370 -	< 0.79 U	< 0.79 U	< 0.51 U	- 40 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-29D	20	2/15/2017	EN0429D170215	Summa Canister	20.5	0.6	0	1.0	ug/m3	- 3.2 J	- 63 -	< 1.0 U	< 1.0 U	< 1.0 U	- 6.7 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-29D	20	8/14/2017	EN0429D170814	Summa Canister	17	2.0	0	1.0	ug/m3	- 2.1 J	- 370 -	< 1.0 U	< 1.0 U	< 1.0 U	- 60 -	< 1.0 U	< 1.0 U	- 0.75 J	- 1.3 J	< 2.0 U
	EN04-29D	20	2/20/2018	EN0429D180220	Summa Canister	20.3	0.3	0	1.0	ug/m3	< 1.0 U	- 28 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.0 J	< 1.0 U	< 1.0 U	< 1.0 U	- 0.99 J	< 2.0 U
	EN04-29D	20	8/20/2018	EN0429D180820	Summa Canister	17.9	1.9	0	1.0	ug/m3	- 2.3 J	- 310 -	< 1.0 U	< 1.0 U	< 1.0 U	- 41 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.4 J	< 2.0 U

Table C.1
Summary of Analytical Laboratory Data - Soil Vapor
Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation	Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethene	1,1-Dichloroethane	Chloroethane	Methylene chloride	Trifluorotrichloroethane (CFC-113)
Designation **EN04-30**	EN04-30S	9	2/25/2016	EN0430S022516	Summa Canister	20.8	0.2	0	1.0	ug/m3	< 1.4 U	- 180 -	- 1.1 J	< 0.79 U	< 0.51 U	- 3.7 J	< 0.79 U	< 0.81 U	< 0.53 U	- 1.1 J	< 3.8 U
Monitoring Well **EN-092A;EN-438**	EN04-30S Dup	9	2/25/2016	DU1331022516	Summa Canister	20.8	0.2	0	1.0	ug/m3	- 1.6 J	- 350 -	- 1.1 J	< 0.79 U	< 0.51 U	- 4.1 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-30S	9	8/8/2016	EN0430S160808	Summa Canister	19.4	0.3	0	10	ug/m3	< 14 U	- 2300 -	< 7.9 U	< 7.9 U	< 5.1 U	- 39 J	< 7.9 U	< 8.1 U	< 5.3 U	< 6.9 U	< 38 U
	EN04-30S	9	2/15/2017	EN0430S170215	Summa Canister	21.2	0.4	0	1.0	ug/m3	- 4.6 J	- 840 -	< 1.0 U	< 1.0 U	< 1.0 U	- 9.3 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30S Dup	9	2/15/2017	DU1213170215	Summa Canister	21.2	0.4	0	1.0	ug/m3	- 1.5 J	- 490 -	< 1.0 U	< 1.0 U	< 1.0 U	- 9.6 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30S	9	8/14/2017	EN0430S170814	Summa Canister	19.1	0.9	0	10	ug/m3	< 10 U	- 1700 -	< 10 U	< 10 U	< 10 U	- 39 J	< 10 U	< 10 U	< 10 U	< 10 U	< 20 U
	EN04-30S	9	2/20/2018	EN0430S180220	Summa Canister	21	0.1	0	1.0	ug/m3	< 1.0 U	- 220 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30S	9	2/20/2018	DU1206180220	Summa Canister	21	0.1	0	1.0	ug/m3	< 1.0 U	- 230 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30S	9	8/20/2018	EN0430S180820	Summa Canister	20.7	0.3	0	1.0	ug/m3	- 6.0 J	- 2200 -	- 2.5 J	< 1.0 U	< 1.0 U	- 15 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30D	20	2/25/2016	EN0430D022516	Summa Canister	20.2	0.5	0	1.0	ug/m3	- 28 -	- 760 -	- 6.6 -	< 0.79 U	< 0.51 U	- 61 -	< 0.79 U	- 18 -	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-30D	20	8/8/2016	EN0430D160808	Summa Canister	19.4	0.2	0	10	ug/m3	- 51 J	- 980 -	- 9.6 J	< 7.9 U	< 5.1 U	- 120 -	< 7.9 U	- 15 J	< 5.3 U	< 6.9 U	< 38 U
	EN04-30D	20	2/15/2017	EN0430D170215	Summa Canister	21.3	0.8	0	1.0	ug/m3	- 22 -	- 330 -	- 3.7 J	< 1.0 U	< 1.0 U	- 53 -	< 1.0 U	- 2.6 J	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30D	20	8/14/2017	EN0430D170814	Summa Canister	19	0.9	0	10	ug/m3	- 29 J	- 720 -	< 10 U	< 10 U	< 10 U	- 94 -	< 10 U	- 22 J	< 10 U	< 10 U	< 20 U
	EN04-30D	20	2/20/2018	EN0430D180220	Summa Canister	21	0.5	0	1.0	ug/m3	- 18 -	- 480 -	- 3.4 J	< 1.0 U	< 1.0 U	- 39 -	< 1.0 U	- 3.9 J	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-30D	20	8/20/2018	EN0430D180820	Summa Canister	20.74	0.6	0	1.0	ug/m3	- 22 -	- 710 -	- 5.9 -	< 1.0 U	< 1.0 U	- 63 -	< 1.0 U	- 3.7 J	< 1.0 U	< 1.0 U	- 4.0 J
Designation **EN04-31**	EN04-31S	10	8/8/2016	EN0431S160808	Summa Canister	19.3	0.1	0	1.0	ug/m3	- 30 -	- 1.5 J	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	- 0.78 J	- 5.2 -	< 3.8 U
Monitoring Well **EN-453**	EN04-31S	10	8/14/2017	EN0431S170814	Summa Canister	20.8	0	0	1.0	ug/m3	< 1.0 U	- 1.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.2 J	< 2.0 U
	EN04-31S	10	8/20/2018	EN0431S180820	Summa Canister	20.9	0	0	1.0	ug/m3	- 1.4 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 0.86 J	< 2.0 U
	EN04-31D	19	8/8/2016	EN0431D160808	Summa Canister	19.2	0.2	0	1.0	ug/m3	< 1.4 U	- 5.2 J	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-31D	19	8/20/2018	EN0431D180820	Summa Canister	20.8	0.1	0	1.0	ug/m3	- 1.9 J	- 99 -	- 2.5 J	< 1.0 U	< 1.0 U	- 11 -	< 1.0 U	- 1.6 J	< 1.0 U	- 1.2 J	< 2.0 U
Designation **EN04-32**	EN04-32S	8	2/25/2016	EN0432S022516	Summa Canister	20.5	0.5	0	1.0	ug/m3	< 1.4 U	- 150 -	< 0.79 U	< 0.79 U	< 0.51 U	- 12 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-457A;EN-457B**	EN04-32S	8	8/10/2016	EN0432S160810	Summa Canister	18.8	1.5	0	1.0	ug/m3	- 4.7 J	- 620 -	< 0.79 U	< 0.79 U	< 0.51 U	- 35 -	< 0.79 U	< 0.81 U	< 0.53 U	- 1.3 J	< 3.8 U
	EN04-32S	8	2/16/2017	EN0432S170216	Summa Canister	21	0.8	0	1.0	ug/m3	- 2 J	- 110 -	< 1.0 U	< 1.0 U	< 1.0 U	- 6.6 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.7 J	< 2.0 U
	EN04-32S	8	8/16/2017	EN0432S170816	Summa Canister	18.6	1.3	0	1.0	ug/m3	- 5.2 J	- 610 -	< 1.0 U	< 1.0 U	< 1.0 U	- 35 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.8 J	< 2.0 U
	EN04-32S	8	2/20/2018	EN0432S180220	Summa Canister	20.7	0.3	0	1.0	ug/m3	< 1.0 U	- 65 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.9 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-32S	8	8/23/2018	EN0432S180823	Summa Canister	18.7	1.4	0	1.0	ug/m3	- 2.1 J	- 200 -	- 1.9 J	< 1.0 U	< 1.0 U	- 5.6 -	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U	< 1.0 U
	EN04-32D	18	2/25/2016	EN0432D022516	Summa Canister	20.4	0.8	0	1.0	ug/m3	- 2.5 J	- 670 -	- 1.6 J	< 0.79 U	< 0.51 U	- 51 -	< 0.79 U	- 3.2 J	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-32D	18	8/10/2016	EN0432D160810	Summa Canister	19.1	1.1	0	1.0	ug/m3	- 2.8 J	- 540 -	- 1.2 J	< 0.79 U	< 0.51 U	- 63 -	< 0.79 U	- 3.2 J	< 0.53 U	< 0.69 U	< 3.8 U
	EN04-32D	18	2/16/2017	EN0432D170216	Summa Canister	21.2	0.7	0	1.0	ug/m3	- 2.4 J	- 6.7 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-32D	18	8/16/2017	EN0432D170816	Summa Canister	18.5	1.0	0	1.0	ug/m3	- 4.2 J	- 490 -	- 1.7 J	< 1.0 U	< 1.0 U	- 45 -	< 1.0 U	- 2.1 J	< 1.0 U	- 2.2 J	< 2.0 U
	EN04-32D	18	2/20/2018	EN0432D180220	Summa Canister	20.7	0.4	0	1.0	ug/m3	- 1.9 J	- 230 -	< 1.0 U	< 1.0 U	< 1.0 U	- 24 -	< 1.0 U	- 0.93 J	< 1.0 U	< 1.0 U	< 2.0 U
	EN04-32D	18	8/23/2018	EN0432D180823	Summa Canister	19.2	1.0	0	1.0	ug/m3	< 2.0 U	- 230 -	< 1.0 U	< 1.0 U	< 1.0 U	- 23 -	< 1.0 U	- 0.70 J	< 1.0 U	- 1.5 J	- 1.2 J
Designation **EN05-33**	EN05-33S	7.5	8/8/2016	EN0533S160808	Summa Canister	19.1	1.1	0	1.0	ug/m3	- 22 -	- 28 -	< 0.79 U	< 0.79 U	< 0.51 U	- 4.8 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-162**	EN05-33S	7.5	8/16/2017	EN0533S170816	Summa Canister	19.4	0.7	0	1.0	ug/m3	- 20 -	- 16 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.1 J	< 1.0 U	< 1.0 U	< 1.0 U	- 3.9 -	< 2.0 U
	EN05-33S	7.5	8/21/2018	EN0533S180821	Summa Canister	19.5	0.7	0	1.0	ug/m3	- 25 -	- 16 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.5 J	< 1.0 U	< 1.0 U	- 2.6 J	< 1.0 U	< 1.0 U
	EN05-33D	32	8/8/2016	EN0533D160808	Summa Canister	19.8	0.6	0	10	ug/m3	- 160 -	- 2400 -	< 7.9 U	< 7.9 U	< 5.1 U	- 110 -	< 7.9 U	< 8.1 U	< 5.3 U	< 6.9 U	< 38 U
	EN05-33D	32	8/16/2017	EN0533D170816	Summa Canister	19.8	0.6	0	1.0	ug/m3	- 57 -	- 1000 -	< 1.0 U	< 1.0 U	< 1.0 U	- 44 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.7 J	< 2.0 U
	EN05-33D	32	8/21/2018	EN0533D180821	Summa Canister	19.5	0.5	0	1.0	ug/m3	- 42 -	- 760 -	< 1.0 U	< 1.0 U	< 1.0 U	- 39 -	< 1.0 U	< 1.0 U	< 1.0 U	- 1.5 J	< 1.0 U
Designation **EN05-34**	EN05-34S	8	8/9/2016	EN0534S160809	Summa Canister	18.6	1.6	0	1.0	ug/m3	- 3.3 J	- 9.2 -	< 0.79 U	< 0.79 U	< 0.51 U	- 2.5 J	< 0.79 U	< 0.81 U	< 0.53 U	- 69 -	< 3.8 U
Monitoring Well **EN-417A**	EN05-34S	8	8/15/2017	EN0534S170815	Summa Canister	20.4	0.1	0	1.0	ug/m3	- 5.7 J	- 8.7 -	< 1.0 U	< 1.0 U	< 1.0 U	- 3.4 J	< 1.0 U	< 1.0 U	- 1.1 J	- 8.8 -	< 2.0 U
	EN05-34S	8	8/21/2018	EN0534S180821	Summa Canister	18.5	1.9	0	1.0	ug/m3	- 4.0 J	- 7.1 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.6 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.1 J	< 2.0 U
	EN05-34D	13.5	8/9/2016	EN0534D160809	Summa Canister	18.7	1.4	0	1.0	ug/m3	- 26 -	- 150 -	< 0.79 U	< 0.79 U	< 0.51 U	- 23 -	< 0.79 U	< 0.81 U	< 0.53 U	- 4.9 -	- 26
	EN05-34D	13.5	8/15/2017	EN0534D170815	Summa Canister	20.5	0	0	1.0	ug/m3	- 17 -	- 110 -	< 1.0 U	< 1.0 U	< 1.0 U	- 21 -	< 1.0 U	< 1.0 U	< 1.0 U	- 1.4 J	< 2.0 U
	EN05-34D	13.5	8/21/2018	EN0534D180821	Summa Canister	18.8	1.4	0	1.0	ug/m3	- 18 -	- 95 -	- 0.81 J	< 1.0 U	< 1.0 U	- 16 -	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U

Table C.1
Summary of Analytical Laboratory Data - Soil Vapor
Annual Report - Soil Vapor Monitoring
Comprehensive Operations, Maintenance, Monitoring Program
Endicott, New York

SV Mon Point Designation	Sampling Point Designation	Sampling Depth	Sampling Date	Field Sample ID	Sample Type	O_2 (%)	CO_2 (%)	CH_4 (%)	Dilution Factor	Units of VOC Results	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride	1,1,1-Trichloroethane	1,1-Dichloroethene	1,1-Dichloroethane	Chloroethane	Methylene chloride	Trifluorotrichloroethane (CFC-113)
Designation **EN06-35**	EN06-35S	8	8/10/2016	EN0635S160810	Summa Canister	19.4	1.5	0	1.0	ug/m3	< 1.4 U	- 2.4 J	< 0.79 U	< 0.79 U	< 0.51 U	- 1.6 J	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-460**	EN06-35S	8	8/16/2017	EN0635S170816	Summa Canister	19.2	1.9	0	1.0	ug/m3	< 1.0 U	- 1.3 J	- 1.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 4.4 -	< 2.0 U
	EN06-35S	8	8/22/2018	EN0635S180822	Summa Canister	19	1.8	0	1.0	ug/m3	< 1.0 U	- 1.5 J	< 1.0 U	< 1.0 U	< 1.0 U	- 1.8 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN06-35D	34	8/10/2016	EN0635D160810	Summa Canister	19.2	1.2	0	1.0	ug/m3	< 1.4 U	- 93 -	< 0.79 U	< 0.79 U	< 0.51 U	- 20 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN06-35D	34	8/16/2017	EN0635D170816	Summa Canister	18.8	1.2	0	1.0	ug/m3	< 1.0 U	- 69 -	< 1.0 U	< 1.0 U	< 1.0 U	- 14 -	< 1.0 U	< 1.0 U	< 1.0 U	- 2.9 J	< 2.0 U
	EN06-35D	34	8/22/2018	EN0635D180822	Summa Canister	19.6	1.0	0	1.0	ug/m3	< 1.0 U	- 44 -	< 1.0 U	< 1.0 U	< 1.0 U	- 11 -	< 1.0 U	< 1.0 U	< 1.0 U	- 1.3 J	< 2.0 U
Designation **EN06-36**	EN06-36S	8	8/10/2016	EN0636S160810	Summa Canister	19.5	1.5	0	1.0	ug/m3	- 2.3 J	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	- 11 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-459A;EN-460A**	EN06-36S	8	8/17/2017	EN0636S170817	Summa Canister	19.3	1.4	0	1.0	ug/m3	- 2.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 6.5 -	< 1.0 U	< 1.0 U	< 1.0 U	- 4.8 -	< 2.0 U
	EN06-36S	8	8/22/2018	EN0636S180822	Summa Canister	18	1.6	0	1.0	ug/m3	- 3.8 J	- 2.9 J	< 1.0 U	< 1.0 U	< 1.0 U	- 8.9 -	< 1.0 U	< 1.0 U	< 1.0 U	- 4.9 -	< 2.0 U
	EN06-36D	33	8/10/2016	EN0636D160810	Summa Canister	20	0.6	0	1.0	ug/m3	< 1.4 U	- 78 -	< 0.79 U	< 0.79 U	< 0.51 U	- 67 -	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
	EN06-36D	33	8/17/2017	EN0636D170817	Summa Canister	19.7	0.6	0	1.0	ug/m3	< 1.0 U	- 46 -	< 1.0 U	< 1.0 U	< 1.0 U	- 88 -	< 1.0 U	< 1.0 U	< 1.0 U	- 0.93 J	< 2.0 U
	EN06-36D	33	8/22/2018	EN0636D180822	Summa Canister	19.5	1	0	1.0	ug/m3	< 1.0 U	- 67 -	< 1.0 U	< 1.0 U	< 1.0 U	- 85 -	< 1.0 U	< 1.0 U	< 1.0 U	- 1.4 J	< 2.0 U
Designation **EN06-37**	EN06-37S	8	8/9/2016	EN0637S160809	Summa Canister	17.4	2.8	0	1.0	ug/m3	< 1.4 U	< 1.1 U	< 0.79 U	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	< 0.69 U	< 3.8 U
Monitoring Well **EN-387;EN-394**	EN06-37S	8	8/15/2017	EN0637S170815	Summa Canister	19.5	2.1	0	1.0	ug/m3	< 1.0 U	- 4.7 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.1 J	< 2.0 U
	EN06-37S	8	8/21/2018	ENO637S180821	Summa Canister	17.4	2.9	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	EN06-37D	21	8/9/2016	EN0637D160809	Summa Canister	17.6	3.2	0	1.0	ug/m3	- 16 -	- 19 -	- 2.2 J	< 0.79 U	< 0.51 U	< 1.1 U	< 0.79 U	< 0.81 U	< 0.53 U	- 1.3 J	< 3.8 U
	EN06-37D	21	8/15/2017	EN0637D170815	Summa Canister	18.8	2.1	0	1.0	ug/m3	- 11 -	- 13 -	- 2.1 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 2.3 J	< 2.0 U
	EN06-37D	21	8/21/2018	ENO637D180821	Summa Canister	17.9	2.5	0	1.0	ug/m3	- 13 -	- 13 -	- 1.6 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
Equipment Blanks	Equipment Blank	-	2/20/2018	EB1319180220	Summa Canister	-	-	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
	Equipment Blank	-	8/20/2018	EQB1145180820	Summa Canister	-	-	0	1.0	ug/m3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	- 1.2 J	< 2.0 U

Notes:
1. This table is a summary of the data associated with the program of long-term soil vapor monitoring conducted as part of the Comprehensive Operations, Management, and Monitoring Program associated with IBM's activities in Endicott, New York. The work is being conducted as a required component of Administrative Order on Consent executed by IBM and the State of New York on August 4, 2004. The long-term soil vapor monitoring program is being conducted in accordance with SHA's "Soil Vapor Monitoring Plan", of September 2004. Refer to the report text for additional details.
2. The vapor samples were collected on the dates noted using evacuated canisters. Samples were collected by Groundwater Sciences Corporation of Harrisburg, Pennsyvania and analyzed by Eurofins Lancaster Laboratories of Lancaster, Pennsylvania for the same list of compouds using EPA TO-15 method. The data are reported by the laboratory with the following flags: B= analyte detected in the associated laboratory method blank, J=denotes an estimated value indicating that the compound was detected, but below the limit of quantitation. U = compound was not detected at the specified limit of quantitation.
3. This table is a summary of the soil vapor monitoring abbreviated to recent years. Data reported were collected in routine monitoring events during the 2016 to 2018 calendar years.

APPENDIX C.2

ANALYTICAL LABORATORY REPORTS

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

IBM Corporate Env Affairs
8976 Wellington Road
Manassas VA 20109

Report Date: February 28, 2018 16:27

Project: IBM

Account #: 12618
Group Number: 1912272
PO Number: 5005117671
Release Number: NON-ROUTINE
State of Sample Origin: NY

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To GSC

Attn: Scott Morgan

Respectfully Submitted,

Nicole L. Maljovec
Manager

(717) 556-7259

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
EN0412D180220 Composite Air	02/20/2018 14:35 - 02/20/2018 15:35	9472504
EN0429D180220 Composite Air	02/20/2018 09:54 - 02/20/2018 10:50	9472505
EN0411S180220 Composite Air	02/20/2018 11:33 - 02/20/2018 12:33	9472506
EN0411D180220 Composite Air	02/20/2018 11:40 - 02/20/2018 12:40	9472507
EN0432D180220 Composite Air	02/20/2018 13:00 - 02/20/2018 14:00	9472508
EN0529S180220 Composite Air	02/20/2018 09:29 - 02/20/2018 10:29	9472509
EN0430D180220 Composite Air	02/20/2018 08:40 - 02/20/2018 09:40	9472510

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **EN0412D180220 Composite Air**
SummaCan# 981
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472504
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 14:35 through 02/20/2018 15:35

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.64 J	0.20	2.2 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.43 J	0.20	2.3 J	1.1	1
05298	Trichloroethene	79-01-6	11	0.20	57	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 15:11	Alexander D Sechrist	1

Sample Description: **EN0429D180220 Composite Air**
SummaCan# 984
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472505
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 09:54 through 02/20/2018 10:50

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.28 J	0.20	0.99 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.55 J	0.20	3.0 J	1.1	1
05298	Trichloroethene	79-01-6	5.2	0.20	28	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 15:41	Alexander D Sechrist	1

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Analysis Report

Sample Description: **EN0411S180220 Composite Air**
SummaCan# 992
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472506
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 11:33 through 02/20/2018 12:33

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	1.5	0.20	7.8	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 16:12	Alexander D Sechrist	1

Sample Description: **EN0411D180220 Composite Air**
SummaCan# 1079
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472507
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 11:40 through 02/20/2018 12:40

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.99 J	0.20	3.9 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.39 J	0.20	1.4 J	0.69	1
05298	Tetrachloroethene	127-18-4	2.7	0.20	18	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	7.5	0.20	41	1.1	1
05298	Trichloroethene	79-01-6	130	2.0	680	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 16:42	Alexander D Sechrist	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 21:19	Alexander D Sechrist	10

Sample Description: **EN0432D180220 Composite Air**
SummaCan# 1098
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472508
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 13:00 through 02/20/2018 14:00

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	0.23 J	0.20	0.93 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.29 J	0.20	1.9 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	4.3	0.20	24	1.1	1
05298	Trichloroethene	79-01-6	43	0.20	230	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 17:13	Alexander D Sechrist	1

Sample Description: **EN0529S180220 Composite Air**
SummaCan# 1146
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472509
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 09:29 through 02/20/2018 10:29

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.64 J	0.20	2.2 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.72 J	0.20	3.9 J	1.1	1
05298	Trichloroethene	79-01-6	4.8	0.20	26	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 17:43	Alexander D Sechrist	1

Sample Description: **EN0430D180220 Composite Air**
SummaCan# 1213
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472510
ELLE Group #: 1912272
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 08:40 through 02/20/2018 09:40

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	0.97 J	0.20	3.9 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.85 J	0.20	3.4 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	2.7	0.20	18	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	7.2	0.20	39	1.1	1
05298	Trichloroethene	79-01-6	90	2.0	480	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 18:14	Alexander D Sechrist	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 21:49	Alexander D Sechrist	10

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Group Number: 1912272
Reported: 02/28/2018 16:27

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ppb(v)	MDL ppb(v)	Result ug/m3	MDL ug/m3
Batch number: F1805830AA	Sample number(s): 9472504-9472510			
Chloroethane	N.D.	0.20	N.D.	0.53
1,1-Dichloroethane	N.D.	0.20	N.D.	0.81
1,1-Dichloroethene	N.D.	0.20	N.D.	0.79
cis-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
trans-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
Freon 113	N.D.	0.50	N.D.	3.8
Methylene Chloride	N.D.	0.20	N.D.	0.69
Tetrachloroethene	N.D.	0.20	N.D.	1.4
1,1,1-Trichloroethane	N.D.	0.20	N.D.	1.1
Trichloroethene	N.D.	0.20	N.D.	1.1
Vinyl Chloride	N.D.	0.20	N.D.	0.51

LCS/LCSD

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: F1805830AA	Sample number(s): 9472504-9472510								
Chloroethane	10	9.82	10	10.29	98	103	76-129	5	25
1,1-Dichloroethane	10	9.96	10	10.19	100	102	74-129	2	25
1,1-Dichloroethene	10	9.75	10	10.29	97	103	70-129	5	25
cis-1,2-Dichloroethene	10	9.53	10	10.03	95	100	76-126	5	25
trans-1,2-Dichloroethene	10	9.67	10	10.32	97	103	77-128	7	25
Freon 113	10	9.15	10	9.48	91	95	66-119	4	25
Methylene Chloride	10	11.15	10	11.74	112	117	69-128	5	25
Tetrachloroethene	10	10.22	10	10	102	100	68-123	2	25
1,1,1-Trichloroethane	10	9.54	10	9.56	95	96	74-122	0	25
Trichloroethene	10	10.14	10	9.99	101	100	76-118	2	25
Vinyl Chloride	10	10.79	10	11.05	108	111	75-130	2	25

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P####### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

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Quality Control Summary

Client Name: IBM Corporate Env Affairs Group Number: 1912272
Reported: 02/28/2018 16:27

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P####### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Summa Canister Field Test Data/Chain of Custody

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Acct. # 12618 Group # 191272 Sample # 94725O4-510 Bottle Order (SCR) # 219832

For Eurofins Lancaster Laboratories Environmental use only

Client Information

Client: Groundwater Sciences Corp Account #

Project Name/#: IBM

Project Manager: Scott Morgan P.O. #

Sampler: Kelly Devine Quote #

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? (Yes) No

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient	45	45	29	1
Maximum	48	48	29	1
Minimum	41	41	29	1

Analyses Requested

EPA TO - 15 SIM Comments | EPA 18 | ☐ MTBE ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15 SIM Comments
EN04120180220	14:35	15:35	30	9	47	47	958032	981	1	14.2	X
EN04290180220	9:54	10:50	28	1	44	44	581410	984	1	14.0	
EN04110180220	11:33	12:33	30	11.5	44	44	301068	962	1	14.0	
EN04110180220	11:40	12:40	29	6.5	44	44	958116	1019	1	14.0	
EN04320180220	13:00	14:00	28.5	2	45	45	710623	1098	1	14.0	
EN05295180220	9:29	10:29	26	6	44	44	336657	1146	1	14.1	
EN04300180220	8:40	9:40	29	6.5	44	44	958072	1213	1	14.2	

Instructions/QC Requirements & Comments

PCE, TCE, 1,1 DCE, Cis 1,2 DCE, Trans 1,2 DCE, VC, TCA, 1,1 DCA
Chloroethane, MeCl, Freon 113

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Fed Ex	2/13/18	Kelly Devine	2-14-18	Kelly Devine	2-21-18 1530		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 2/23/18 820

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Sample Administration Receipt Documentation Log

Doc Log ID: 209199

Group Number(s):

Client: Groundwater Sciences Corp

1912772

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	02/23/2018 8:20
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	NY		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	Yes
Extra Samples:	No	Flow Controller Quantity:	12
Discrepancy in Container Qty on COC:	No	Air Quality Returns:	No

Unpacked by Wyatt Shiffler (12792) at 08:40 on 02/23/2018

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Lancaster, PA 17605-2425

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

IBM Corporate Env Affairs
8976 Wellington Road
Manassas VA 20109

Report Date: February 28, 2018 16:28

Project: IBM

Account #: 12618
Group Number: 1912278
PO Number: 5005117671
Release Number: NON-ROUTINE
State of Sample Origin: NY

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To GSC

Attn: Scott Morgan

Respectfully Submitted,

Nicole L. Maljovec
Manager

(717) 556-7259

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
EB1319180220 Composite Air	02/20/2018 14:57 - 02/20/2018 15:57	9472527
EN0412S180220 Composite Air	02/20/2018 14:28 - 02/20/2018 15:28	9472528
EN0432S180220 Composite Air	02/20/2018 12:54 - 02/20/2018 13:54	9472529
DU1206180220 Composite Air	02/20/2018 08:35 - 02/20/2018 10:35	9472530
EN0430S180220 Composite Air	02/20/2018 08:35 - 02/20/2018 10:35	9472531

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **EB1319180220 Composite Air**
SummaCan# 1319
IBM

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 14:57 through 02/20/2018 15:57

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472527
ELLE Group #: 1912278
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 18:45	Alexander D Sechrist	1

Sample Description: **EN0412S180220 Composite Air**
SummaCan# 1001
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472528
ELLE Group #: 1912278
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 14:28 through 02/20/2018 15:28

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	1.1	0.20	3.9	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 19:17	Alexander D Sechrist	1

Sample Description: **EN0432S180220 Composite Air**
SummaCan# 1169
IBM

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472529
ELLE Group #: 1912278
Matrix: Air

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 12:54 through 02/20/2018 13:54

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.52 J	0.20	2.9 J	1.1	1
05298	Trichloroethene	79-01-6	12	0.20	65	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 19:48	Alexander D Sechrist	1

Sample Description: **DU1206180220 Composite Air**
SummaCan# 1206
IBM

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 08:35 through 02/20/2018 10:35

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472530
ELLE Group #: 1912278
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.38 J	0.20	2.1 J	1.1	1
05298	Trichloroethene	79-01-6	43	0.20	230	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 20:18	Alexander D Sechrist	1

Sample Description: **EN0430S180220 Composite Air**
SummaCan# 1305
IBM

Project Name: **IBM**

Submittal Date/Time: 02/23/2018 08:20
Collection Date/Time: 02/20/2018 08:35 through 02/20/2018 10:35

IBM Corporate Env Affairs
ELLE Sample #: AQ 9472531
ELLE Group #: 1912278
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.39 J	0.20	2.1 J	1.1	1
05298	Trichloroethene	79-01-6	41	0.20	220	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1805830AA	02/27/2018 20:49	Alexander D Sechrist	1

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Quality Control Summary

Client Name: IBM Corporate Env Affairs
Group Number: 1912278
Reported: 02/28/2018 16:28

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ppb(v)	MDL ppb(v)	Result ug/m3	MDL ug/m3
Batch number: F1805830AA	Sample number(s): 9472527-9472531			
Chloroethane	N.D.	0.20	N.D.	0.53
1,1-Dichloroethane	N.D.	0.20	N.D.	0.81
1,1-Dichloroethene	N.D.	0.20	N.D.	0.79
cis-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
trans-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
Freon 113	N.D.	0.50	N.D.	3.8
Methylene Chloride	N.D.	0.20	N.D.	0.69
Tetrachloroethene	N.D.	0.20	N.D.	1.4
1,1,1-Trichloroethane	N.D.	0.20	N.D.	1.1
Trichloroethene	N.D.	0.20	N.D.	1.1
Vinyl Chloride	N.D.	0.20	N.D.	0.51

LCS/LCSD

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: F1805830AA	Sample number(s): 9472527-9472531								
Chloroethane	10	9.82	10	10.29	98	103	76-129	5	25
1,1-Dichloroethane	10	9.96	10	10.19	100	102	74-129	2	25
1,1-Dichloroethene	10	9.75	10	10.29	97	103	70-129	5	25
cis-1,2-Dichloroethene	10	9.53	10	10.03	95	100	76-126	5	25
trans-1,2-Dichloroethene	10	9.67	10	10.32	97	103	77-128	7	25
Freon 113	10	9.15	10	9.48	91	95	66-119	4	25
Methylene Chloride	10	11.15	10	11.74	112	117	69-128	5	25
Tetrachloroethene	10	10.22	10	10	102	100	68-123	2	25
1,1,1-Trichloroethane	10	9.54	10	9.56	95	96	74-122	0	25
Trichloroethene	10	10.14	10	9.99	101	100	76-118	2	25
Vinyl Chloride	10	10.79	10	11.05	108	111	75-130	2	25

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P####### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

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Quality Control Summary

Client Name: IBM Corporate Env Affairs Group Number: 1912278
Reported: 02/28/2018 16:28

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.
P####### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Summa Canister Field Test Data/Chain of Custody

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Acct. # 12618 Group # 1912278 For Eurofins Lancaster Laboratories Environmental use only Sample # 9472527.531 Bottle Order (SCR) # 219832

Client Information

Client: Groundwater Science Corp Account #:

Project Name/#: IBM

Project Manager: Scott Morgan P.O. #:

Sampler: Kelly Devine Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? (Yes) No

EDD Required? (Yes) No

	Temperature (F) Start	Temperature (F) Stop	Pressure ("Hg) Start	Pressure ("Hg) Stop
Ambient	45	45	29	1
Maximum	47	47	29	1
Minimum	41	41	29	1

Analyses Requested

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	Interior Temp. (F) (Start)	Interior Temp. (F) (Stop)	Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15 See list on other COC	EPA 18 ☐ MTBE	EPA 25 (select range below) ☐ BTEX	Helium as tracer	O2/CO2	Library Search	
EB1319180220	14:57	15:57	30	9.5	47	47	309001	1319	1	14.2	X						
ENV418S180220	14:28	15:28	30	7	47	47	675035	1001	1	14.0							
ENV432S180220	12:54	13:54	28	2.5	45	45	664782	1169	1	14.1							
~~ENV430S180220RD~~	8:35	10:35	29	1	44	44	236751	1206	1	7.0							
ENV430S180220	8:35	10:35	30	6	44	44	710622	1305	1	7.0	↓						
DUP20618022O																	

Instructions/QC Requirements & Comments

See list on other chain

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Kelly Devine	2-20-18 1314						
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 2/23/18 820

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Sample Administration Receipt Documentation Log

Doc Log ID: 209199

Group Number(s):

Client: Groundwater Sciences Corp

1912278

Delivery and Receipt Information

Delivery Method:	UPS	Arrival Timestamp:	02/23/2018 8:20
Number of Packages:	2	Number of Projects:	1
State/Province of Origin:	NY		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	Yes
Extra Samples:	No	Flow Controller Quantity:	12
Discrepancy in Container Qty on COC:	No	Air Quality Returns:	No

Unpacked by Wyatt Shiffler (12792) at 08:40 on 02/23/2018

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Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mg**	milligram(s)
C	degrees Celsius	**mL**	milliliter(s)
cfu	colony forming units	**MPN**	Most Probable Number
CP Units	cobalt-chloroplatinate units	**N.D.**	non-detect
F	degrees Fahrenheit	**ng**	nanogram(s)
g	gram(s)	**NTU**	nephelometric turbidity units
IU	International Units	**pg/L**	picogram/liter
kg	kilogram(s)	**RL**	Reporting Limit
L	liter(s)	**TNTC**	Too Numerous To Count
lb.	pound(s)	**µg**	microgram(s)
m3	cubic meter(s)	**µL**	microliter(s)
meq	milliequivalents	**umhos/cm**	micromhos/cm

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

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Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

IBM Corporate Env Affairs
8976 Wellington Road
Manassas VA 20109

Report Date: September 05, 2018 19:12

Project: IBM Endicott

Account #: 12618
Group Number: 1980311
PO Number: 5005117671
Release Number: NON-ROUTINE
State of Sample Origin: NY

Electronic Copy To GSC

Attn: Scott Morgan

Respectfully Submitted,

Nicole L. Maljovec
Manager

(717) 556-7259

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . Historical copies may be requested through your project manager.

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SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
ENO41S180820 Air	08/20/2018 08:47 - 08/20/2018 10:29	9771565
DUZ033180820 Air	08/20/2018 08:47 - 08/20/2018 10:29	9771566
ENO41D180820 Air	08/20/2018 09:05 - 08/20/2018 10:05	9771567
EQB1145180820 Air	08/20/2018 13:31 - 08/20/2018 14:50	9771568
ENO431S180820 Air	08/20/2018 11:26 - 08/20/2018 12:26	9771569
ENO431D180820 Air	08/20/2018 11:31 - 08/20/2018 12:31	9771570
ENO42S180820 Air	08/20/2018 13:17 - 08/20/2018 14:10	9771571
ENO42D180820 Air	08/20/2018 13:24 - 08/20/2018 14:24	9771572
ENO430S180820 Air	08/20/2018 15:26 - 08/20/2018 16:24	9771573
ENO430D180820 Air	08/20/2018 15:29 - 08/20/2018 16:29	9771574
ENO43S180820 Air	08/20/2018 16:57 - 08/20/2018 17:57	9771575
ENO43D180820 Air	08/20/2018 16:59 - 08/20/2018 17:59	9771576
ENO427S180821 Air	08/21/2018 07:07 - 08/21/2018 08:07	9771577
ENO534S180821 Air	08/21/2018 07:11 - 08/21/2018 08:11	9771578
ENO534D180821 Air	08/21/2018 07:18 - 08/21/2018 08:18	9771579
ENO426S180821 Air	08/21/2018 07:24 - 08/21/2018 08:08	9771580
ENO426D180821 Air	08/21/2018 07:28 - 08/21/2018 08:28	9771581
ENO425S180821 Air	08/21/2018 09:30 - 08/21/2018 11:30	9771582
ENO425D180821 Air	08/21/2018 09:43 - 08/21/2018 10:43	9771583
DUZ040180821 Air	08/21/2018 09:30 - 08/21/2018 11:30	9771584
EQB1040180821 Air	08/21/2018 09:47 - 08/21/2018 10:52	9771585
ENO637S180821 Air	08/21/2018 12:52 - 08/21/2018 13:52	9771586
ENO637D180821 Air	08/21/2018 12:56 - 08/21/2018 13:56	9771587
ENO728S180821 Air	08/21/2018 13:10 - 08/21/2018 14:10	9771588
ENO728D180821 Air	08/21/2018 13:15 -	9771589

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Client Sample Description	Sample Collection Date/Time	ELLE#
ENO417S180821 Air	08/21/2018 14:15 - 08/21/2018 14:55	9771590
ENO417D180821 Air	08/21/2018 15:00 - 08/21/2018 15:55	9771591
EN1017D180821 Air	08/21/2018 15:45 - 08/21/2018 16:00	9771592
ENO420S180822 Air	08/22/2018 06:47 - 08/22/2018 08:47	9771593
DUZ044180822 Air	08/22/2018 06:47 - 08/22/2018 08:47	9771594
ENO420D180822 Air	08/22/2018 06:58 - 08/22/2018 07:58	9771595
EQZ029180822 Air	08/22/2018 07:02 - 08/22/2018 08:02	9771596
ENO418S180822 Air	08/22/2018 09:29 - 08/22/2018 10:29	9771597
ENO418D180822 Air	08/22/2018 09:37 - 08/22/2018 10:57	9771598
ENO421S180822 Air	08/22/2018 - 08/22/2018	9771599
ENO421D180822 Air	08/22/2018 - 08/22/2018	9771600
ENO419S180822 Air	08/22/2018 - 08/22/2018	9771601
ENO419D180822 Air	08/22/2018 - 08/22/2018	9771602
ENO49S180820 Air	08/20/2018 09:08 - 08/20/2018 11:08	9771603
ENO49SDUP180820 Air	08/20/2018 09:08 - 08/20/2018 11:08	9771604
ENO49D180820 Air	08/20/2018 09:45 - 08/20/2018 10:35	9771605
ENO529S180820 Air	08/20/2018 11:40 - 08/20/2018 12:40	9771606
ENO429D180820 Air	08/20/2018 11:45 - 08/20/2018 12:45	9771607
ENO412S180820 Air	08/20/2018 13:03 - 08/20/2018 14:03	9771608
ENO412D180820 Air	08/20/2018 13:09 - 08/20/2018 14:09	9771609
ENO411S180820 Air	08/20/2018 14:32 - 08/20/2018 15:32	9771610
ENO411D180820 Air	08/20/2018 14:45 - 08/20/2018 15:45	9771611
ENO410S180820 Air	08/20/2018 16:00 - 08/20/2018 17:00	9771612
ENO410D180820 Air	08/20/2018 16:10 - 08/20/2018 17:10	9771613
ENO422S180821 Air	08/21/2018 10:35 - 08/21/2018 11:25	9771614
ENO422D180821 Air	08/21/2018 10:43 -	9771615

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Client Sample Description	Sample Collection Date/Time	ELLE#
ENO415S180821 Air	08/21/2018 11:43 08/21/2018 12:11 - 08/21/2018 14:11	9771616

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

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Analysis Report

Sample Description: **ENO41S180820 Air**
SummaCan# Z032
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 08:47 through 08/20/2018 10:29

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771565
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	1.2	0.20	4.1	0.69	1
05298	Tetrachloroethene	127-18-4	0.50 J	0.20	3.4 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.50 J	0.20	2.7 J	1.1	1
05298	Trichloroethene	79-01-6	1.1	0.20	6.1	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 20:00	Jacob E Bailey	1

Sample Description: **DUZ033180820 Air**
SummaCan# Z033
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 08:47 through 08/20/2018 10:29

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771566
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.25 J	0.20	1.7 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.55 J	0.20	3.0 J	1.1	1
05298	Trichloroethene	79-01-6	1.2	0.20	6.7	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 20:27	Jacob E Bailey	1

Sample Description: **ENO41D180820 Air**
SummaCan# 1210
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 09:05 through 08/20/2018 10:05

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771567
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	1.5	0.20	5.2	0.69	1
05298	Tetrachloroethene	127-18-4	0.29 J	0.20	2.0 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.1	0.20	12	1.1	1
05298	Trichloroethene	79-01-6	9.3	0.20	50	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 20:53	Jacob E Bailey	1

Sample Description: **EQB1145180820 Air**
SummaCan# 1195
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 13:31 through 08/20/2018 14:50

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771568
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.34 J	0.20	1.2 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 21:20	Jacob E Bailey	1

Sample Description: **ENO431S180820 Air**
SummaCan# 1168
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 11:26 through 08/20/2018 12:26

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771569
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.25 J	0.20	0.86 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.20 J	0.20	1.4 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 21:46	Jacob E Bailey	1

Sample Description: **ENO431D180820 Air**
SummaCan# 951
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771570
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 11:31 through 08/20/2018 12:31

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	0.40 J	0.20	1.6 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.63 J	0.20	2.5 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.35 J	0.20	1.2 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.28 J	0.20	1.9 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.0	0.20	11	1.1	1
05298	Trichloroethene	79-01-6	18	0.20	99	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 22:13	Jacob E Bailey	1

Sample Description: **ENO42S180820 Air**
SummaCan# 980
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771571
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 13:17 through 08/20/2018 14:10

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.46 J	0.20	1.6 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.39 J	0.20	2.6 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.34 J	0.20	1.8 J	1.1	1
05298	Trichloroethene	79-01-6	1.8	0.20	9.7	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 22:40	Jacob E Bailey	1

Sample Description: **ENO42D180820 Air**
SummaCan# 924
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771572
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 13:24 through 08/20/2018 14:24

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	1.8	0.20	7.2	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.41 J	0.20	1.6 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.37 J	0.20	1.3 J	0.69	1
05298	Tetrachloroethene	127-18-4	1.8	0.20	12	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.7	0.20	15	1.1	1
05298	Trichloroethene	79-01-6	12	0.20	62	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 23:06	Jacob E Bailey	1

Sample Description: **ENO430S180820 Air**
SummaCan# Z025
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 15:26 through 08/20/2018 16:24

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771573
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.64 J	0.20	2.5 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.89 J	0.20	6.0 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.7	0.20	15	1.1	1
05298	Trichloroethene	79-01-6	410	2.0	2,200	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/28/2018 23:33	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/29/2018 08:53	Jacob E Bailey	10

Sample Description: **ENO430D180820 Air**
SummaCan# Z027
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771574
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 15:29 through 08/20/2018 16:29

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	0.92 J	0.20	3.7 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	1.5	0.20	5.9	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	0.52 J	0.50	4.0 J	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	3.2	0.20	22	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	11	0.20	63	1.1	1
05298	Trichloroethene	79-01-6	130	2.0	710	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/29/2018 00:00	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824030AA	08/29/2018 09:17	Jacob E Bailey	10

Sample Description: **ENO43S180820 Air**
SummaCan# Z022
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 16:57 through 08/20/2018 17:57

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771575
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	0.61 J	0.20	3.3 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 15:54	Jacob E Bailey	1

Sample Description: **ENO43D180820 Air**
SummaCan# Z023
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 16:59 through 08/20/2018 17:59

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771576
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 16:20	Jacob E Bailey	1

Sample Description: **ENO427S180821 Air**
SummaCan# Z020
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 07:07 through 08/21/2018 08:07

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771577
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	12	0.20	82	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	23	0.20	120	1.1	1
05298	Trichloroethene	79-01-6	67	0.20	360	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 16:50	Jacob E Bailey	1

Sample Description: **ENO534S180821 Air**
SummaCan# Z016
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 07:11 through 08/21/2018 08:11

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771578
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.32 J	0.20	1.1 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.60 J	0.20	4.0 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.48 J	0.20	2.6 J	1.1	1
05298	Trichloroethene	79-01-6	1.3	0.20	7.1	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 17:39	Jacob E Bailey	1

Sample Description: **ENO534D180821 Air**
SummaCan# Z018
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 07:18 through 08/21/2018 08:18

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771579
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.20 J	0.20	0.81 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	2.7	0.20	18	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.9	0.20	16	1.1	1
05298	Trichloroethene	79-01-6	18	0.20	95	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 18:14	Jacob E Bailey	1

Sample Description: **ENO426S180821 Air**
SummaCan# Z019
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 07:24 through 08/21/2018 08:08

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771580
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	1.1	0.20	7.2	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	6.4	0.20	35	1.1	1
05298	Trichloroethene	79-01-6	83	2.0	440	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 18:42	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 19:05	Jacob E Bailey	10

Sample Description: **ENO426D180821 Air**
SummaCan# Z024
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 07:28 through 08/21/2018 08:28

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771581
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	0.60 J	0.50	4.6 J	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	1.5	0.20	10	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	10	0.20	56	1.1	1
05298	Trichloroethene	79-01-6	170	2.0	900	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 19:31	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 19:56	Jacob E Bailey	10

Sample Description: **ENO425S180821 Air**
SummaCan# Z039
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 09:30 through 08/21/2018 11:30

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771582
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.55 J	0.20	3.7 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.26 J	0.20	1.4 J	1.1	1
05298	Trichloroethene	79-01-6	0.40 J	0.20	2.1 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 20:23	Jacob E Bailey	1

Sample Description: **ENO425D180821 Air**
SummaCan# 1049
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 09:43 through 08/21/2018 10:43

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771583
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.34 J	0.20	2.3 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 20:49	Jacob E Bailey	1

Sample Description: **DUZ040180821 Air**
SummaCan# Z040
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 09:30 through 08/21/2018 11:30

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771584
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.50 J	0.20	3.4 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.21 J	0.20	1.1 J	1.1	1
05298	Trichloroethene	79-01-6	0.31 J	0.20	1.6 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 21:16	Jacob E Bailey	1

Sample Description: **EQB1040180821 Air**
SummaCan# 1040
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 09:47 through 08/21/2018 10:52

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771585
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.25 J	0.20	0.85 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 21:42	Jacob E Bailey	1

Sample Description: **ENO637S180821 Air**
SummaCan# Z017
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 12:52 through 08/21/2018 13:52

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771586
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	N.D.	0.20	N.D.	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 22:09	Jacob E Bailey	1

Sample Description: **ENO637D180821 Air**
SummaCan# 1062
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 12:56 through 08/21/2018 13:56

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771587
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	0.41 J	0.20	1.6 J	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	1.8	0.20	13	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	2.4	0.20	13	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 22:36	Jacob E Bailey	1

Sample Description: **ENO728S180821 Air**
SummaCan# Z021
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 13:10 through 08/21/2018 14:10

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771588
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	22	0.20	150	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	0.99 J	0.20	5.3 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 23:05	Jacob E Bailey	1

Sample Description: **ENO728D180821 Air**
SummaCan# 1043
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 13:15 through 08/21/2018 14:15

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771589
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	1.4	0.20	5.5	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	0.21 J	0.20	0.84 J	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	110	2.0	730	14	10
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.20	N.D.	1.1	1
05298	Trichloroethene	79-01-6	6.7	0.20	36	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824130AA	08/29/2018 23:31	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 15:42	Jacob E Bailey	10

Sample Description: **ENO417S180821 Air**
SummaCan# 1320
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 14:55 through 08/21/2018 15:55

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771590
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	1.1	0.12	6.2	0.65	1
05298	Trichloroethene	79-01-6	27	0.18	150	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/29/2018 23:47	Jacob E Bailey	1

Sample Description: **ENO417D180821 Air**
SummaCan# 993
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 15:00 through 08/21/2018 16:00

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771591
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	0.20 J	0.18	1.1 J	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 00:17	Jacob E Bailey	1

Sample Description: **EN1017D180821 Air**
SummaCan# 968
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 15:45 through 08/21/2018 16:45

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771592
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	0.46 J	0.089	1.9 J	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	2.1	0.12	8.5	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	0.61 J	0.11	4.7 J	0.84	1
05298	Methylene Chloride	75-09-2	0.36 J	0.25	1.3 J	0.87	1
05298	Tetrachloroethene	127-18-4	0.46 J	0.25	3.1 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	31	0.12	170	0.65	1
05298	Trichloroethene	79-01-6	25	0.18	130	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 00:48	Jacob E Bailey	1

Sample Description: **ENO420S180822 Air**
SummaCan# Z043
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 06:47 through 08/22/2018 08:47

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771593
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 01:19	Jacob E Bailey	1

Sample Description: **DUZ044180822 Air**
SummaCan# Z044
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 06:47 through 08/22/2018 08:47

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771594
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	3.0	0.12	12	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 01:50	Jacob E Bailey	1

Sample Description: **ENO420D180822 Air**
SummaCan# Z026
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 06:58 through 08/22/2018 07:58

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771595
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	8.3	0.25	29	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	0.89 J	0.12	4.9 J	0.65	1
05298	Trichloroethene	79-01-6	9.9	0.18	53	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 02:21	Jacob E Bailey	1

Sample Description: **EQZ029180822 Air**
SummaCan# Z029
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 07:02 through 08/22/2018 08:02

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771596
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	1.1 J	0.25	3.8 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 02:52	Jacob E Bailey	1

Sample Description: **ENO418S180822 Air**
SummaCan# Z031
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 09:29 through 08/22/2018 10:29

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771597
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 03:22	Jacob E Bailey	1

Sample Description: **ENO418D180822 Air**
SummaCan# Z030
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771598
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 09:37 through 08/22/2018 10:57

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	0.14 J	0.089	0.57 J	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	0.47 J	0.12	1.9 J	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	0.13 J	0.11	1.0 J	0.84	1
05298	Methylene Chloride	75-09-2	1.2 J	0.25	4.3 J	0.87	1
05298	Tetrachloroethene	127-18-4	1.0 J	0.25	7.0 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	6.3	0.12	34	0.65	1
05298	Trichloroethene	79-01-6	83	1.8	440	9.7	10
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 08:36	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 09:06	Jacob E Bailey	10

Sample Description: **ENO421S180822 Air**
SummaCan# Z011
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 through 08/22/2018

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771599
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 09:37	Jacob E Bailey	1

Sample Description: **ENO421D180822 Air**
SummaCan# 1016
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 through 08/22/2018

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771600
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 10:08	Jacob E Bailey	1

Sample Description: **ENO419S180822 Air**
SummaCan# 1015
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 through 08/22/2018

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771601
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824130BA	08/30/2018 10:38	Jacob E Bailey	1

Sample Description: **ENO419D180822 Air**
SummaCan# 975
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/22/2018 through 08/22/2018

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771602
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	0.32 J	0.20	1.3 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	1.5	0.20	6.0	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.38 J	0.20	1.3 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.35 J	0.20	2.4 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	5.8	0.20	32	1.1	1
05298	Trichloroethene	79-01-6	38	0.20	210	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 16:08	Jacob E Bailey	1

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Analysis Report

Sample Description: **ENO49S180820 Air**
SummaCan# Z034
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 09:08 through 08/20/2018 11:08

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771603
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	2.0	N.D.	5.3	10
05298	1,1-Dichloroethane	75-34-3	9.6 J	2.0	39 J	8.1	10
05298	1,1-Dichloroethene	75-35-4	5.9 J	2.0	23 J	7.9	10
05298	cis-1,2-Dichloroethene	156-59-2	5.7 J	2.0	22 J	7.9	10
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	2.0	N.D.	7.9	10
05298	Freon 113	76-13-1	N.D.	5.0	N.D.	38	10
05298	Methylene Chloride	75-09-2	N.D.	2.0	N.D.	6.9	10
05298	Tetrachloroethene	127-18-4	14	2.0	94	14	10
05298	1,1,1-Trichloroethane	71-55-6	200	2.0	1,100	11	10
05298	Trichloroethene	79-01-6	890	4.0	4,800	21	20
05298	Vinyl Chloride	75-01-4	N.D.	2.0	N.D.	5.1	10

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 16:31	Jacob E Bailey	10
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 18:13	Jacob E Bailey	20

Sample Description: **ENO49SDUP180820 Air**
SummaCan# Z037
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771604
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 09:08 through 08/20/2018 11:08

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	2.0	N.D.	5.3	10
05298	1,1-Dichloroethane	75-34-3	13	2.0	51	8.1	10
05298	1,1-Dichloroethene	75-35-4	6.9 J	2.0	27 J	7.9	10
05298	cis-1,2-Dichloroethene	156-59-2	6.4 J	2.0	26 J	7.9	10
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	2.0	N.D.	7.9	10
05298	Freon 113	76-13-1	N.D.	5.0	N.D.	38	10
05298	Methylene Chloride	75-09-2	N.D.	2.0	N.D.	6.9	10
05298	Tetrachloroethene	127-18-4	18	2.0	120	14	10
05298	1,1,1-Trichloroethane	71-55-6	260	2.0	1,400	11	10
05298	Trichloroethene	79-01-6	1,300	8.0	7,200	43	40
05298	Vinyl Chloride	75-01-4	N.D.	2.0	N.D.	5.1	10

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 16:56	Jacob E Bailey	10
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 18:36	Jacob E Bailey	40

Sample Description: **ENO49D180820 Air**
SummaCan# Z002
IBM ENDICOTT

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771605
ELLE Group #: 1980311
Matrix: Air

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 09:45 through 08/20/2018 10:35

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	8.0	N.D.	21	40
05298	1,1-Dichloroethane	75-34-3	970	8.0	3,900	32	40
05298	1,1-Dichloroethene	75-35-4	150	8.0	580	32	40
05298	cis-1,2-Dichloroethene	156-59-2	290	8.0	1,100	32	40
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	8.0	N.D.	32	40
05298	Freon 113	76-13-1	N.D.	20	N.D.	150	40
05298	Methylene Chloride	75-09-2	N.D.	8.0	N.D.	28	40
05298	Tetrachloroethene	127-18-4	120	8.0	840	54	40
05298	1,1,1-Trichloroethane	71-55-6	1,400	8.0	7,400	44	40
05298	Trichloroethene	79-01-6	1,800	40	9,500	210	200
05298	Vinyl Chloride	75-01-4	N.D.	8.0	N.D.	20	40

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 17:19	Jacob E Bailey	40
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 19:06	Jacob E Bailey	200

Sample Description: **ENO529S180820 Air**
SummaCan# Z001
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 11:40 through 08/20/2018 12:40

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771606
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.43 J	0.20	2.9 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	5.0	0.20	27	1.1	1
05298	Trichloroethene	79-01-6	51	0.20	270	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 17:58	Jacob E Bailey	1

Sample Description: **ENO429D180820 Air**
SummaCan# Z003
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 11:45 through 08/20/2018 12:45

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771607
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.70 J	0.20	2.4 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.33 J	0.20	2.3 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	7.5	0.20	41	1.1	1
05298	Trichloroethene	79-01-6	57	0.20	310	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 18:24	Jacob E Bailey	1

Sample Description: **ENO412S180820 Air**
SummaCan# 995
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 13:03 through 08/20/2018 14:03

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771608
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.23 J	0.20	1.6 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.0	0.20	11	1.1	1
05298	Trichloroethene	79-01-6	52	0.20	280	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 18:59	Jacob E Bailey	1

Sample Description: **ENO412D180820 Air**
SummaCan# Z012
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 13:09 through 08/20/2018 14:09

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771609
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.30 J	0.20	2.0 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	1.8	0.20	9.8	1.1	1
05298	Trichloroethene	79-01-6	55	0.20	290	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 19:26	Jacob E Bailey	1

Sample Description: **ENO411S180820 Air**
SummaCan# 967
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 14:32 through 08/20/2018 15:32

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771610
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.50 J	0.20	3.4 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.80 J	0.20	4.4 J	1.1	1
05298	Trichloroethene	79-01-6	7.0	0.20	38	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 20:17	Jacob E Bailey	1

Sample Description: **ENO411D180820 Air**
SummaCan# Z014
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 14:45 through 08/20/2018 15:45

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771611
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	1.1	0.20	4.4	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.39 J	0.20	1.4 J	0.69	1
05298	Tetrachloroethene	127-18-4	4.8	0.20	32	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	7.4	0.20	41	1.1	1
05298	Trichloroethene	79-01-6	140	2.0	750	11	10
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 20:43	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 21:08	Jacob E Bailey	10

Sample Description: **ENO410S180820 Air**
SummaCan# Z015
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 16:00 through 08/20/2018 17:00

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771612
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	40	N.D.	110	200
05298	1,1-Dichloroethane	75-34-3	1,900	40	7,700	160	200
05298	1,1-Dichloroethene	75-35-4	1,300	40	5,200	160	200
05298	cis-1,2-Dichloroethene	156-59-2	530	40	2,100	160	200
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	40	N.D.	160	200
05298	Freon 113	76-13-1	140 J	100	1,000 J	770	200
05298	Methylene Chloride	75-09-2	N.D.	1,000	N.D.	3,500	200
05298	Tetrachloroethene	127-18-4	66 J	40	450 J	270	200
05298	1,1,1-Trichloroethane	71-55-6	5,300	40	29,000	220	200
05298	Trichloroethene	79-01-6	7,500	40	40,000	210	200
05298	Vinyl Chloride	75-01-4	N.D.	40	N.D.	100	200

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 21:33	Jacob E Bailey	200

Sample Description: **ENO410D180820 Air**
SummaCan# 1333
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/20/2018 16:10 through 08/20/2018 17:10

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771613
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	2.4	0.20	6.4	0.53	1
05298	1,1-Dichloroethane	75-34-3	3,200	80	13,000	320	400
05298	1,1-Dichloroethene	75-35-4	1,800	80	7,100	320	400
05298	cis-1,2-Dichloroethene	156-59-2	800	80	3,200	320	400
05298	trans-1,2-Dichloroethene	156-60-5	9.6	0.20	38	0.79	1
05298	Freon 113	76-13-1	180	5.0	1,300	38	10
05298	Methylene Chloride	75-09-2	1.2	0.20	4.3	0.69	1
05298	Tetrachloroethene	127-18-4	64	2.0	430	14	10
05298	1,1,1-Trichloroethane	71-55-6	6,500	80	35,000	440	400
05298	Trichloroethene	79-01-6	5,400	80	29,000	430	400
05298	Vinyl Chloride	75-01-4	6.1	0.20	16	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 21:59	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 22:24	Jacob E Bailey	10
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 19:30	Jacob E Bailey	400

Sample Description: **ENO422S180821 Air**
SummaCan# Z013
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 10:35 through 08/21/2018 11:25

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771614
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.25	N.D.	0.66	1.25
05298	1,1-Dichloroethane	75-34-3	0.26 J	0.25	1.0 J	1.0	1.25
05298	1,1-Dichloroethene	75-35-4	N.D.	0.25	N.D.	0.99	1.25
05298	cis-1,2-Dichloroethene	156-59-2	1.3	0.25	5.0	0.99	1.25
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.25	N.D.	0.99	1.25
05298	Freon 113	76-13-1	1.4 J	0.63	11 J	4.8	1.25
05298	Methylene Chloride	75-09-2	0.29 J	0.25	1.0 J	0.87	1.25
05298	Tetrachloroethene	127-18-4	0.72 J	0.25	4.9 J	1.7	1.25
05298	1,1,1-Trichloroethane	71-55-6	8.9	0.25	49	1.4	1.25
05298	Trichloroethene	79-01-6	92	2.5	490	13	12.5
05298	Vinyl Chloride	75-01-4	N.D.	0.25	N.D.	0.64	1.25

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 19:57	Jacob E Bailey	1.25
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 20:21	Jacob E Bailey	12.5

Sample Description: **ENO422D180821 Air**
SummaCan# Z006
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 10:43 through 08/21/2018 11:43

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771615
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	3.0	0.20	12	0.81	1
05298	1,1-Dichloroethene	75-35-4	2.0	0.20	7.9	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	2.1	0.20	8.3	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	0.23 J	0.20	0.90 J	0.79	1
05298	Freon 113	76-13-1	1.7 J	0.50	13 J	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.61 J	0.20	4.1 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	11	0.20	60	1.1	1
05298	Trichloroethene	79-01-6	62	0.20	330	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 23:16	Jacob E Bailey	1

Sample Description: **ENO415S180821 Air**
SummaCan# Z045
IBM ENDICOTT

Project Name: **IBM Endicott**

Submittal Date/Time: 08/24/2018 09:30
Collection Date/Time: 08/21/2018 12:11 through 08/21/2018 14:11

IBM Corporate Env Affairs
ELLE Sample #: AQ 9771616
ELLE Group #: 1980311
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	2.2	0.20	8.9	0.81	1
05298	1,1-Dichloroethene	75-35-4	1.3	0.20	5.3	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	1.2	0.20	4.7	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.26 J	0.20	1.7 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.3	0.20	12	1.1	1
05298	Trichloroethene	79-01-6	1.3	0.20	6.8	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824230AA	08/30/2018 23:42	Jacob E Bailey	1

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Group Number: 1980311
Reported: 09/05/2018 19:12

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ppb(v)	MDL ppb(v)	Result ug/m3	MDL ug/m3
Batch number: E1824030AA	Sample number(s): 9771565-9771574			
Chloroethane	N.D.	0.19	N.D.	0.50
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31
Batch number: E1824130AA	Sample number(s): 9771575-9771589			
Chloroethane	N.D.	0.19	N.D.	0.50
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31
Batch number: E1824230AA	Sample number(s): 9771589,9771602-9771613,9771615-9771616			
Chloroethane	N.D.	0.19	N.D.	0.50
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31
Batch number: E1824330AA	Sample number(s): 9771603-9771605,9771613-9771614			
Chloroethane	N.D.	0.19	N.D.	0.50

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Reported: 09/05/2018 19:12

Group Number: 1980311

Method Blank (continued)

Analysis Name	Result ppb(v)	MDL ppb(v)	Result ug/m3	MDL ug/m3
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31
Batch number: F1824130BA	Sample number(s): 9771590-9771601			
Chloroethane	N.D.	0.19	N.D.	0.50
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31

LCS/LCSD

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: E1824030AA	Sample number(s): 9771565-9771574								
Chloroethane	10	10.75	10	9.40	107	94	76-129	13	25
1,1-Dichloroethane	10	10.77	10	9.60	108	96	74-129	12	25
1,1-Dichloroethene	10	10	10	9.30	100	93	70-129	7	25
cis-1,2-Dichloroethene	10	9.95	10	8.94	99	89	76-126	11	25
trans-1,2-Dichloroethene	10	10.71	10	9.45	107	94	77-128	12	25
Freon 113	10	10.7	10	9.49	107	95	66-119	12	25
Methylene Chloride	10	11.92	10	10.83	119	108	69-128	10	25
Tetrachloroethene	10	11.07	10	9.86	111	99	68-123	12	25
1,1,1-Trichloroethane	10	10.58	10	9.37	106	94	74-122	12	25
Trichloroethene	10	10.12	10	9.10	101	91	76-118	11	25
Vinyl Chloride	10	10.84	10	9.58	108	96	75-130	12	25
Batch number: E1824130AA	Sample number(s): 9771575-9771589								

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Group Number: 1980311
Reported: 09/05/2018 19:12

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloroethane	10	11.07	10	10.11	111	101	76-129	9	25
1,1-Dichloroethane	10	11	10	9.97	110	100	74-129	10	25
1,1-Dichloroethene	10	10.28	10	9.63	103	96	70-129	7	25
cis-1,2-Dichloroethene	10	10.11	10	9.33	101	93	76-126	8	25
trans-1,2-Dichloroethene	10	10.85	10	10.1	108	101	77-128	7	25
Freon 113	10	11.19	10	9.80	112	98	66-119	13	25
Methylene Chloride	10	12.52	10	11.02	125	110	69-128	13	25
Tetrachloroethene	10	11.79	10	10.56	118	106	68-123	11	25
1,1,1-Trichloroethane	10	11.06	10	9.97	111	100	74-122	10	25
Trichloroethene	10	10.71	10	9.65	107	96	76-118	10	25
Vinyl Chloride	10	10.86	10	10.1	109	101	75-130	7	25
Batch number: E1824230AA	Sample number(s): 9771589,9771602-9771613,9771615-9771616								
Chloroethane	10	10.96	10	10.99	110	110	76-129	0	25
1,1-Dichloroethane	10	10.67	10	10.92	107	109	74-129	2	25
1,1-Dichloroethene	10	9.90	10	10.28	99	103	70-129	4	25
cis-1,2-Dichloroethene	10	10.02	10	10.29	100	103	76-126	3	25
trans-1,2-Dichloroethene	10	10.58	10	10.71	106	107	77-128	1	25
Freon 113	10	10.47	10	10.55	105	105	66-119	1	25
Methylene Chloride	10	11.86	10	12	119	120	69-128	1	25
Tetrachloroethene	10	11.72	10	11.34	117	113	68-123	3	25
1,1,1-Trichloroethane	10	10.7	10	10.88	107	109	74-122	2	25
Trichloroethene	10	10.38	10	10.13	104	101	76-118	3	25
Vinyl Chloride	10	10.65	10	10.96	106	110	75-130	3	25
Batch number: E1824330AA	Sample number(s): 9771603-9771605,9771613-9771614								
Chloroethane	10	10.65	10	11.13	106	111	76-129	4	25
1,1-Dichloroethane	10	10.43	10	11.06	104	111	74-129	6	25
1,1-Dichloroethene	10	8.96	10	10.57	90	106	70-129	16	25
cis-1,2-Dichloroethene	10	9.05	10	10.03	91	100	76-126	10	25
trans-1,2-Dichloroethene	10	9.89	10	11.06	99	111	77-128	11	25
Freon 113	10	10.38	10	10.56	104	106	66-119	2	25
Methylene Chloride	10	11.77	10	12.2	118	122	69-128	4	25
Tetrachloroethene	10	11.44	10	11.78	114	118	68-123	3	25
1,1,1-Trichloroethane	10	10.6	10	11.06	106	111	74-122	4	25
Trichloroethene	10	10.4	10	10.55	104	105	76-118	1	25
Vinyl Chloride	10	9.92	10	11.39	99	114	75-130	14	25
Batch number: F1824130BA	Sample number(s): 9771590-9771601								
Chloroethane	10	11.06	10	10.96	111	110	76-129	1	25
1,1-Dichloroethane	10	10.13	10	10.2	101	102	74-129	1	25
1,1-Dichloroethene	10	9.87	10	10.57	99	106	70-129	7	25
cis-1,2-Dichloroethene	10	9.86	10	9.82	99	98	76-126	0	25
trans-1,2-Dichloroethene	10	10.16	10	10.44	102	104	77-128	3	25
Freon 113	10	9.16	10	9.33	92	93	66-119	2	25

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Reported: 09/05/2018 19:12

Group Number: 1980311

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Methylene Chloride	10	11.46	10	11.51	115	115	69-128	0	25
Tetrachloroethene	10	9.87	10	9.97	99	100	68-123	1	25
1,1,1-Trichloroethane	10	9.76	10	9.74	98	97	74-122	0	25
Trichloroethene	10	10.62	10	10.48	106	105	76-118	1	25
Vinyl Chloride	10	11.63	10	11.65	116	117	75-130	0	25

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 1980311 Sample # 977154S-16 Bottle Order (SCR) # _____

For Eurofins Lancaster Laboratories Environmental use only

Client Information

Client: Groundwater Sciences Corp Account #:

Project Name/#: IBM ENDICOTT

Project Manager: SCOTT MORGAN P.O. #:

Sampler: SCOTT MORGAN / KELLY DEVINE Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | EPA 18 | ☐ MTBE ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	Exterior Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	TO-15	EPA 18	MTBE/BTEX	EPA 25	Helium	O2/CO2	Library Search
EN041S 180820	8/20/18 0847	8/20/18 1029	29	1	62	62	958145	2032	1		X						
DUZ033180820	8/20/18 0847	8/20/18 1029	30	11	62	62	900136	2033	1								
EN041D180820	8/20/18 0905	8/20/18 1005	27	6	62	62	958141	1210	1								
EQB1195180820	8/20/18 1331	8/20/18 1450	30	10	62	62	824857	1195	1								
EN043S 180820	8/20/18 1126	8/20/18 1226	27.5	5	70	70	252295	1168	1								
EN043D 180820	8/20/18 1131	8/20/18 1231	28	3.5	70	70	675036	951	1								
EN042S 180820	8/20/18 1317	8/20/18 1410	27	1	74	74	252293	980	1								
EN042D 180820	8/20/18 1324	8/20/18 1424	29	5	74	74	958121	924	1								
EN430S 180820	8/20/18 1526	8/20/18 1624	29	1	76	76	958112	2025	1								
EN430D 180820	8/20/18 1529	8/20/18 1629	30	6	76	76	710597	2027	1								
EN043S 180820	8/20/18 1657	8/20/18 1757	29	5	76	76	958119	2022	1								

Instructions/QC Requirements & Comments

See attached list

EPA 25 (check one)

☐ C1 - C4 ☐ C2 - C10

☐ C1 - C10 ☐ C4 - C10 (GRO)

☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
	8/23/18 13:00						
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 8-24-18

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12018 Group # 1980311 Sample # 9771568-16 (For Eurofins Lancaster Laboratories Environmental use only) Bottle Order (SCR) # _____

Client Information

Client: Groundwater Sciences Corp. Account #:

Project Name/#: IBM ENDICOTT

Project Manager: SCOTT MORGAN P.O. #:

Sampler: SCOTT MORGAN / KELLY DEVINE Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | EPA 18 | ☐ BTEX ☐ MTBE | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	Exterior Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	BTEX	MTBE	EPA 25	Helium as tracer	O2/CO2	Library Search
EN043D180820	8/20/18 1659	8/20/18 1759	30	5	76	76	824845	2023	1		Y							
EN0427S 180821	8/21/18 0707	8/21/18 0807	30	14	68	68	710626	2020	1									
EN0534S 180821	8/21/18 0711	8/21/18 0811	28.5	5	68	68	369014	2016	1									
EN0534D 180821	8/21/18 0718	8/21/18 0818	29	5	68	68	710531	2018	1									
EN0426S 180821	8/21/18 0724	8/21/18 0824	29	14	68	68	958069	2019	1									
EN0426D 180821	8/21/18 0728	8/21/18 0828	30	5	68	68	958126	2024	1									
EN0425S 180821	8/21/18 0930	8/21/18 1130	29	5	69	69	415336	2039	1									
EN0425D 180821	8/21/18 0943	8/21/18 1043	30	9	69	69	337854	1049	1									
DUP040 180821	8/21/18 0930	8/21/18 1130	30	5	69	69	507743	2040	1									
EQB040 180821	8/21/18 0947	8/21/18 1052	30	16	69	69	958117	1040	1									
EN063S 180821	8/21/18 1252	8/21/18 1352	29	7	69	69	217753	2017	1		↓							

Instructions/QC Requirements & Comments

See attached list

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time: 8/22/18 1:00	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 8-24-18 930

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 1980311 Sample # 9771565-16 (For Eurofins Lancaster Laboratories Environmental use only) Bottle Order (SCR) # _____

Client Information

Client: GROUNDWATER SCIENCES CORP. Account #:

Project Name/#: IBM ENDICOTT

Project Manager: SCOTT MORGAN P.O. #:

Sampler: SCOTT MORGAN / KELLY DEVINE Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | EPA 18 | ☐ BTEX ☐ MTBE | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	EXTERIOR Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	BTEX	MTBE	EPA 25	Helium as tracer	O2/CO2	Library Search
EN0637D180821	8/21/18 1256	8/21/18 1356	30	5	69	69	316846	1062	1		X							
EN0728S180821	8/21/18 1310	8/21/18 1410	28	13	69	69	304037	2021	1									
EN0728D180821	8/21/18 1315	8/21/18 1415	29	6	69	69	930826	1043	1									
EN0417S180821	8/21/18 1455	8/21/18 1555	28	7.5	69	69	152710	1320	1									
EN0417D180821	8/21/18 1500	8/21/18 1600	28	8	69	69	716591	993	1									
EN0117D180821	8/21/18 1545	8/21/18 1645	29	12	69	69	958032	968	1									
EN0420S180822	8/22/18 0647	8/22/18 0847	30	6	69	69	301068	Z043	1									
DUZ044180822	8/22/18 0647	8/22/18 0847	30	3	69	69	339238	Z044	1									
EN0420D180822	8/22/18 0658	8/22/18 0758	26	16	69	69	900069	Z026	1									
EQZ029180822	8/22/18 0702	8/22/18 0802	30	6.5	69	69	900145	Z029	1									
EN0418S180822	8/22/18 0929	8/22/18 1029	29	5	71	71	507696	Z031	1									

Instructions/QC Requirements & Comments

see attached list

EPA 25 (check one)

☐ C1 - C4 ☐ C2 - C10

☐ C1 - C10 ☐ C4 - C10 (GRO)

☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 8-24-18 931

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 1980311 For Eurofins Lancaster Laboratories Environmental use only Sample # 9771565-16 Bottle Order (SCR) # _____

Client Information

Client: GROUNDWATER SCIENCE CORP. Account #:

Project Name/#: IBM ENDICOTT

Project Manager: SCOTT MORGAN P.O. #:

Sampler: SCOTT MORGAN / KELLY DEVINE Quote #:

Name of state where samples were collected:

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | EPA 18 | ☐ MTBE | ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	Exter Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	MTBE	BTEX	EPA 25	Helium as tracer	O2/CO2	Library Search
EN0418D180822	8/22/18 0937	8/22/18 1037	29	5	74	71	339291	2030	1		X							
EN0421S180822	8/22/18	8/22/18	30	0.21	74	74	305762	2011	1									
EN0421D180822	8/22/18	8/22/18	29	5	74	74	336710	1016	1									
EN0419S180822	8/22/18	8/22/18	27	5	74	74	415271	1015	1									
EN0419D180822	8/22/18	8/22/18	30	9	74	74	484610	975	1									
EN0493180822	8/22/18 [illegible]	8/22/18 11:09	28.5	17	70	70	668910	2034	1									
EN0495Dup180822	9:08	11:09	29	6	70	70	301015	2037	1									
EN0499180822	9:35	10:35	30	1.5	70	70	710624	2002	1									
EN0595180822	11:40	13:40	29	5	70	70	958168	2007	1									
EN0429D180822	11:45	13:45	28	7	70	70	878461	2003	1									
EN0411S180822	13:03	14:03	30	4.5	70	70	967	2036	1									

Instructions/QC Requirements & Comments

See attached list

EPA 25 (check one)

☐ C1 - C4 ☐ C2 - C10

☐ C1 - C10 ☐ C4 - C10 (GRO)

☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 8-24-18

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 1980311 For Eurofins Lancaster Laboratories Environmental use only Sample # 9791565-16 Bottle Order (SCR) # _____

Client Information

Client: Groundwater Sciences Corp Account #:

Project Name/#: IBM Endicott

Project Manager: Scott Morgan P.O. #:

Sampler: K Devine Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | EPA 18 ☐ MTBE | ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	exterior Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	BTEX	MTBE	EPA 25	Helium as tracer	O2/CO2	Library Search
EN04120180830	8-20-18 17:09	8-20-18 14:24	30	7	70	70	551137	2012	1		X							
EN04113180830	14:32	15:32	28	5	70	70	236759	967	1									
EN04110180830	14:45	15:45	28	6	70	70	716895	2014	1									
EN04105180830	16:00	17:00	30	6	70	70	958054	2015	1									
EN04130180830	16:10	17:10	27	5.5	70	70	336746	1333	1									
EN04225180831	8-21-18 10:35	8-21-18 11:35	30	13.5	70	70	336825	2043	1									
EN04220180831	10:42	11:43	28	4	70	70	958145	2006	1									
EN04153180831	13:14	14:11	29	5	70	70	848493	2045	1									

Instructions/QC Requirements & Comments

See attached 1.3+

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time: 8-23-18 13:14	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 8/24/18

PCE

TCE

1,1 DCE

CIS 1,2 DCE

TRANS 1,2 DCE

VC

TCA

1,1 DCA

CHLOROETHANE

MeCl,

Freon 113

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Sample Administration Receipt Documentation Log

Doc Log ID: 225168

Group Number(s): 1980311

Client: Groundwater Sciences Corp.

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	08/24/2018 9:30
Number of Packages:	8	Number of Projects:	1
State/Province of Origin:	NY		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	No
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	Yes
Extra Samples:	No	Flow Controller Quantity:	52
Discrepancy in Container Qty on COC:	No	Air Quality Returns:	No

Unpacked by Melvin Sanchez (8943) at 16:41 on 08/24/2018

Sample ID Discrepancy Details

Sample ID on COC	Sample ID on Label	Comments
ENO412S180820 SUMMA # 967	ENO412S180820 SUMMA # 995	

2425 New Holland Pike
Lancaster, PA 17605-2425

T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

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ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

IBM Corporate Env Affairs
8976 Wellington Road
Manassas VA 20109

Report Date: September 05, 2018 19:17

Project: IBM Endicott

Account #: 12618
Group Number: 1980471
PO Number: 5005117671
Release Number: NON-ROUTINE
State of Sample Origin: NY

Electronic Copy To GSC

Attn: Scott Morgan

Respectfully Submitted,

Nicole L. Maljovec
Manager

(717) 556-7259

To view our laboratory's current scopes of accreditation please go to http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/ . Historical copies may be requested through your project manager.

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-6766 • www.EurofinsUS.com/LancLabsEnv

SAMPLE INFORMATION

Client Sample Description	Sample Collection Date/Time	ELLE#
EN0415SDUP180821 Air	08/21/2018 12:11 - 08/21/2018 14:11	9772675
EN0415D180821 Air	08/21/2018 12:17 - 08/21/2018 13:17	9772676
EN0533S180821 Air	08/21/2018 13:32 - 08/21/2018 14:32	9772677
EN0533D180821 Air	08/21/2018 13:41 - 08/21/2018 14:41	9772678
EN0416S180821 Air	08/21/2018 14:47 - 08/21/2018 15:47	9772679
EN0416D180821 Air	08/21/2018 14:53 - 08/21/2018 15:53	9772680
EN0423S180821 Air	08/21/2018 16:05 - 08/21/2018 17:05	9772681
EN0423D180821 Air	08/21/2018 16:10 - 08/21/2018 17:10	9772682
EN045S180822 Air	08/22/2018 09:11 - 08/22/2018 11:11	9772683
EN045SDUP180822 Air	08/22/2018 09:11 - 08/22/2018 11:11	9772684
EN045D180822 Air	08/22/2018 10:13 - 08/22/2018 11:13	9772685
EN047S180822 Air	08/22/2018 10:33 - 08/22/2018 11:33	9772686
EN047D180822 Air	08/22/2018 10:37 - 08/22/2018 11:37	9772687
EN0635S180822 Air	08/22/2018 11:56 - 08/22/2018 12:56	9772688
EN0635D180822 Air	08/22/2018 12:43 - 08/22/2018 13:43	9772689
EN0636S180822 Air	08/22/2018 13:15 - 08/22/2018 14:15	9772690
EN0636D180822 Air	08/22/2018 13:21 - 08/22/2018 14:21	9772691
EN0414S180823 Air	08/23/2018 07:32 - 08/23/2018 08:32	9772692
EN044S180823 Air	08/23/2018 07:19 - 08/23/2018 09:19	9772693
EN044SDUP180823 Air	08/23/2018 07:19 - 08/23/2018 09:19	9772694
EN0414D180823 Air	08/23/2018 07:36 - 08/23/2018 08:36	9772695
EN044D180823 Air	08/23/2018 08:03 - 08/23/2018 09:03	9772696
EN0432S180823 Air	08/23/2018 09:32 - 08/23/2018 10:32	9772697
EN0432D180823 Air	08/23/2018 09:37 - 08/23/2018 10:37	9772698
EN046S180823 Air	08/23/2018 09:52 -	9772699

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Client Sample Description	Sample Collection Date/Time	ELLE#
EN046D180823 Air	08/23/2018 10:52 08/23/2018 09:57 - 08/23/2018 10:57	9772700
EN1011D180823 Air	08/23/2018 10:10 - 08/23/2018 11:10	9772701
EN0413S180823 Air	08/23/2018 13:13 - 08/23/2018 14:13	9772702
EN0413D180823 Air	08/23/2018 13:20 - 08/23/2018 14:20	9772703
EQB180823 Air	08/23/2018 13:30 - 08/23/2018 14:30	9772704

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: **EN0415SDUP180821 Air**
SummaCan# Z038
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 12:11 through 08/21/2018 14:11

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772675
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.58 J	0.25	2.0 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/30/2018 21:03	Jacob E Bailey	1

Sample Description: **EN0415D180821 Air**
SummaCan# Z010
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 12:17 through 08/21/2018 13:17

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772676
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.97 J	0.25	3.4 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/30/2018 21:34	Jacob E Bailey	1

Sample Description: **EN0533S180821 Air**
SummaCan# Z005
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 13:32 through 08/21/2018 14:32

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772677
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.75 J	0.25	2.6 J	0.87	1
05298	Tetrachloroethene	127-18-4	3.7	0.25	25	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	0.64 J	0.12	3.5 J	0.65	1
05298	Trichloroethene	79-01-6	2.9	0.18	16	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/30/2018 22:04	Jacob E Bailey	1

Sample Description: **EN0533D180821 Air**
SummaCan# Z009
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 13:41 through 08/21/2018 14:41

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772678
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.44 J	0.25	1.5 J	0.87	1
05298	Tetrachloroethene	127-18-4	6.2	0.25	42	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	7.1	0.12	39	0.65	1
05298	Trichloroethene	79-01-6	140	1.8	760	9.7	10
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/30/2018 22:35	Jacob E Bailey	1
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/30/2018 23:06	Jacob E Bailey	10

Sample Description: **EN0416S180821 Air**
SummaCan# Z004
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 14:47 through 08/21/2018 15:47

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772679
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	0.27 J	0.25	1.8 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	0.48 J	0.12	2.6 J	0.65	1
05298	Trichloroethene	79-01-6	0.64 J	0.18	3.4 J	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/30/2018 23:37	Jacob E Bailey	1

Sample Description: **EN0416D180821 Air**
SummaCan# Z007
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 14:53 through 08/21/2018 15:53

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772680
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	0.23 J	0.18	1.2 J	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 00:07	Jacob E Bailey	1

Sample Description: **EN0423S180821 Air**
SummaCan# 978
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 16:05 through 08/21/2018 17:05

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772681
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.42 J	0.25	1.5 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 00:38	Jacob E Bailey	1

Sample Description: **EN0423D180821 Air**
SummaCan# Z008
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/21/2018 16:10 through 08/21/2018 17:10

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772682
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	1.1	0.089	4.4	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	6.2	0.12	24	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	0.75 J	0.086	3.0 J	0.34	1
05298	Freon 113	76-13-1	0.13 J	0.11	0.98 J	0.84	1
05298	Methylene Chloride	75-09-2	0.32 J	0.25	1.1 J	0.87	1
05298	Tetrachloroethene	127-18-4	1.2 J	0.25	7.9 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	0.39 J	0.12	2.2 J	0.65	1
05298	Trichloroethene	79-01-6	54	0.18	290	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 01:09	Jacob E Bailey	1

Sample Description: **EN045S180822 Air**
SummaCan# Z041
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 09:11 through 08/22/2018 11:11

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772683
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.42 J	0.25	1.4 J	0.87	1
05298	Tetrachloroethene	127-18-4	0.40 J	0.25	2.7 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	1.0 J	0.12	5.4 J	0.65	1
05298	Trichloroethene	79-01-6	15	0.18	80	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 01:40	Jacob E Bailey	1

Sample Description: **EN045SDUP180822 Air**
SummaCan# Z042
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 09:11 through 08/22/2018 11:11

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772684
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.35 J	0.25	1.2 J	0.87	1
05298	Tetrachloroethene	127-18-4	0.42 J	0.25	2.8 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	1.1	0.12	5.9	0.65	1
05298	Trichloroethene	79-01-6	16	0.18	87	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 02:11	Jacob E Bailey	1

Sample Description: **EN045D180822 Air**
SummaCan# 1060
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 10:13 through 08/22/2018 11:13

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772685
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.31 J	0.25	1.1 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	8.2	0.12	45	0.65	1
05298	Trichloroethene	79-01-6	14	0.18	77	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 02:42	Jacob E Bailey	1

Sample Description: **EN047S180822 Air**
SummaCan# 1207
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 10:33 through 08/22/2018 11:33

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772686
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	2.1	0.25	14	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	0.31 J	0.12	1.7 J	0.65	1
05298	Trichloroethene	79-01-6	0.53 J	0.18	2.8 J	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824230BA	08/31/2018 03:12	Jacob E Bailey	1

Sample Description: **EN047D180822 Air**
SummaCan# 1145
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 10:37 through 08/22/2018 11:37

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772687
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	0.22 J	0.20	0.89 J	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.24 J	0.20	0.85 J	0.69	1
05298	Tetrachloroethene	127-18-4	0.87 J	0.20	5.9 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	11	0.20	62	1.1	1
05298	Trichloroethene	79-01-6	26	0.20	140	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 20:48	Jacob E Bailey	1

Sample Description: **EN0635S180822 Air**
SummaCan# Z028
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 11:56 through 08/22/2018 12:56

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772688
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.33 J	0.20	1.8 J	1.1	1
05298	Trichloroethene	79-01-6	0.29 J	0.20	1.5 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 21:15	Jacob E Bailey	1

Sample Description: **EN0635D180822 Air**
SummaCan# 1334
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 12:43 through 08/22/2018 13:43

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772689
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.36 J	0.20	1.3 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	2.1	0.20	11	1.1	1
05298	Trichloroethene	79-01-6	8.3	0.20	44	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 21:41	Jacob E Bailey	1

Sample Description: **EN0636S180822 Air**
SummaCan# 1309
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 13:15 through 08/22/2018 14:15

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772690
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	1.4	0.20	4.9	0.69	1
05298	Tetrachloroethene	127-18-4	0.55 J	0.20	3.8 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	1.6	0.20	8.9	1.1	1
05298	Trichloroethene	79-01-6	0.53 J	0.20	2.9 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 22:12	Jacob E Bailey	1

Sample Description: **EN0636D180822 Air**
SummaCan# 1205
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/22/2018 13:21 through 08/22/2018 14:21

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772691
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	0.42 J	0.20	1.4 J	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	16	0.20	85	1.1	1
05298	Trichloroethene	79-01-6	13	0.20	67	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 22:43	Jacob E Bailey	1

Sample Description: **EN0414S180823 Air**
SummaCan# 1096
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 07:32 through 08/23/2018 08:32

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772692
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.98 J	0.20	5.3 J	1.1	1
05298	Trichloroethene	79-01-6	2.1	0.20	11	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 23:09	Jacob E Bailey	1

Sample Description: **EN044S180823 Air**
SummaCan# Z054
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 07:19 through 08/23/2018 09:19

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772693
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.30 J	0.20	2.0 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.41 J	0.20	2.2 J	1.1	1
05298	Trichloroethene	79-01-6	0.23 J	0.20	1.2 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	08/31/2018 23:36	Jacob E Bailey	1

Sample Description: **EN044SDUP180823 Air**
SummaCan# Z055
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 07:19 through 08/23/2018 09:19

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772694
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	0.29 J	0.20	2.0 J	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.64 J	0.20	3.5 J	1.1	1
05298	Trichloroethene	79-01-6	0.34 J	0.20	1.8 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	09/01/2018 00:04	Jacob E Bailey	1

Sample Description: **EN0414D180823 Air**
SummaCan# 971
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 07:36 through 08/23/2018 08:36

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772695
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.55 J	0.20	3.0 J	1.1	1
05298	Trichloroethene	79-01-6	2.5	0.20	13	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	09/01/2018 00:30	Jacob E Bailey	1

Sample Description: **EN044D180823 Air**
SummaCan# 1010
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 08:03 through 08/23/2018 09:03

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772696
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.20	N.D.	0.53	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.20	N.D.	0.81	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.20	N.D.	0.79	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.20	N.D.	0.79	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.20	N.D.	0.79	1
05298	Freon 113	76-13-1	N.D.	0.50	N.D.	3.8	1
05298	Methylene Chloride	75-09-2	N.D.	0.20	N.D.	0.69	1
05298	Tetrachloroethene	127-18-4	N.D.	0.20	N.D.	1.4	1
05298	1,1,1-Trichloroethane	71-55-6	0.88 J	0.20	4.8 J	1.1	1
05298	Trichloroethene	79-01-6	0.51 J	0.20	2.7 J	1.1	1
05298	Vinyl Chloride	75-01-4	N.D.	0.20	N.D.	0.51	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	E1824330AA	09/01/2018 00:57	Jacob E Bailey	1

Sample Description: **EN0432S180823 Air**
SummaCan# 1315
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 09:32 through 08/23/2018 10:32

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772697
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	0.49 J	0.12	1.9 J	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	0.30 J	0.25	2.1 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	1.0	0.12	5.6	0.65	1
05298	Trichloroethene	79-01-6	38	0.18	200	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824330AA	08/31/2018 22:09	Jacob E Bailey	1

Sample Description: **EN0432D180823 Air**
SummaCan# 956
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 09:37 through 08/23/2018 10:37

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772698
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	0.17 J	0.089	0.70 J	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	0.16 J	0.11	1.2 J	0.84	1
05298	Methylene Chloride	75-09-2	0.44 J	0.25	1.5 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	4.2	0.12	23	0.65	1
05298	Trichloroethene	79-01-6	42	0.18	230	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824330AA	08/31/2018 22:41	Jacob E Bailey	1

Sample Description: **EN046S180823 Air**
SummaCan# 1314
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 09:52 through 08/23/2018 10:52

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772699
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.26 J	0.25	0.92 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824330AA	08/31/2018 23:12	Jacob E Bailey	1

Sample Description: **EN046D180823 Air**
SummaCan# 1161
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 09:57 through 08/23/2018 10:57

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772700
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	N.D.	0.12	N.D.	0.65	1
05298	Trichloroethene	79-01-6	N.D.	0.18	N.D.	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824330AA	08/31/2018 23:42	Jacob E Bailey	1

Sample Description: **EN1011D180823 Air**
SummaCan# 981
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 10:10 through 08/23/2018 11:10

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772701
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	1.0	0.089	4.2	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	3.4	0.12	13	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	1.2	0.11	9.0	0.84	1
05298	Methylene Chloride	75-09-2	0.34 J	0.25	1.2 J	0.87	1
05298	Tetrachloroethene	127-18-4	2.9	0.25	20	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	21	0.12	110	0.65	1
05298	Trichloroethene	79-01-6	18	0.18	98	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824330AA	09/01/2018 00:13	Jacob E Bailey	1

Sample Description: **EN0413S180823 Air**
SummaCan# 969
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 13:13 through 08/23/2018 14:13

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772702
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	0.24 J	0.19	0.64 J	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	0.31 J	0.25	1.1 J	0.87	1
05298	Tetrachloroethene	127-18-4	0.88 J	0.25	6.0 J	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	3.5	0.12	19	0.65	1
05298	Trichloroethene	79-01-6	27	0.18	150	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824330AA	09/01/2018 00:44	Jacob E Bailey	1

Sample Description: **EN0413D180823 Air**
SummaCan# 920
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 13:20 through 08/23/2018 14:20

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772703
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	N.D.	0.19	N.D.	0.50	1
05298	1,1-Dichloroethane	75-34-3	N.D.	0.089	N.D.	0.36	1
05298	1,1-Dichloroethene	75-35-4	N.D.	0.14	N.D.	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	N.D.	0.12	N.D.	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	N.D.	0.11	N.D.	0.84	1
05298	Methylene Chloride	75-09-2	N.D.	0.25	N.D.	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	2.5	0.12	14	0.65	1
05298	Trichloroethene	79-01-6	26	0.18	140	0.97	1
05298	Vinyl Chloride	75-01-4	N.D.	0.12	N.D.	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824730AA	09/04/2018 16:13	Jacob E Bailey	1

Sample Description: **EQB180823 Air**
SummaCan# 991
IBM Endicott

Project Name: **IBM Endicott**

Submittal Date/Time: 08/25/2018 10:05
Collection Date/Time: 08/23/2018 13:30 through 08/23/2018 14:30

IBM Corporate Env Affairs
ELLE Sample #: AQ 9772704
ELLE Group #: 1980471
Matrix: Air

CAT No.	Analysis Name	CAS Number	Final Result	MDL	Final Result	MDL	DF
Volatiles in Air	**EPA TO-15**		**ppb(v)**	**ppb(v)**	**ug/m3**	**ug/m3**	
05298	Chloroethane	75-00-3	11	0.19	28	0.50	1
05298	1,1-Dichloroethane	75-34-3	7.4	0.089	30	0.36	1
05298	1,1-Dichloroethene	75-35-4	0.50 J	0.14	2.0 J	0.56	1
05298	cis-1,2-Dichloroethene	156-59-2	7.1	0.12	28	0.48	1
05298	trans-1,2-Dichloroethene	156-60-5	N.D.	0.086	N.D.	0.34	1
05298	Freon 113	76-13-1	1.0	0.11	7.8	0.84	1
05298	Methylene Chloride	75-09-2	1.2 J	0.25	4.2 J	0.87	1
05298	Tetrachloroethene	127-18-4	N.D.	0.25	N.D.	1.7	1
05298	1,1,1-Trichloroethane	71-55-6	39	0.12	210	0.65	1
05298	Trichloroethene	79-01-6	0.64 J	0.18	3.5 J	0.97	1
05298	Vinyl Chloride	75-01-4	4.1	0.12	10	0.31	1

MDL = Method Detection Limit

Sample Comments

State of New York Certification No. 10670

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
05298	IBM Selected VOCs List- PA	EPA TO-15	1	F1824730AA	09/04/2018 16:43	Jacob E Bailey	1

Quality Control Summary

Client Name: IBM Corporate Env Affairs Group Number: 1980471
Reported: 09/05/2018 19:17

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ppb(v)	MDL ppb(v)	Result ug/m3	MDL ug/m3
Batch number: E1824330AA	Sample number(s): 9772687-9772696			
Chloroethane	N.D.	0.19	N.D.	0.50
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31
Batch number: F1824230BA	Sample number(s): 9772675-9772686			
Chloroethane	N.D.	0.20	N.D.	0.53
1,1-Dichloroethane	N.D.	0.20	N.D.	0.81
1,1-Dichloroethene	N.D.	0.20	N.D.	0.79
cis-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
trans-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
Freon 113	N.D.	0.50	N.D.	3.8
Methylene Chloride	N.D.	0.20	N.D.	0.69
Tetrachloroethene	N.D.	0.20	N.D.	1.4
1,1,1-Trichloroethane	N.D.	0.20	N.D.	1.1
Trichloroethene	N.D.	0.20	N.D.	1.1
Vinyl Chloride	N.D.	0.20	N.D.	0.51
Batch number: F1824330AA	Sample number(s): 9772697-9772702			
Chloroethane	N.D.	0.20	N.D.	0.53
1,1-Dichloroethane	N.D.	0.20	N.D.	0.81
1,1-Dichloroethene	N.D.	0.20	N.D.	0.79
cis-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
trans-1,2-Dichloroethene	N.D.	0.20	N.D.	0.79
Freon 113	N.D.	0.50	N.D.	3.8
Methylene Chloride	N.D.	0.20	N.D.	0.69
Tetrachloroethene	N.D.	0.20	N.D.	1.4
1,1,1-Trichloroethane	N.D.	0.20	N.D.	1.1
Trichloroethene	N.D.	0.20	N.D.	1.1
Vinyl Chloride	N.D.	0.20	N.D.	0.51
Batch number: F1824730AA	Sample number(s): 9772703-9772704			
Chloroethane	N.D.	0.19	N.D.	0.50

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Reported: 09/05/2018 19:17

Group Number: 1980471

Method Blank (continued)

Analysis Name	Result ppb(v)	MDL ppb(v)	Result ug/m3	MDL ug/m3
1,1-Dichloroethane	N.D.	0.089	N.D.	0.36
1,1-Dichloroethene	N.D.	0.14	N.D.	0.56
cis-1,2-Dichloroethene	N.D.	0.12	N.D.	0.48
trans-1,2-Dichloroethene	N.D.	0.086	N.D.	0.34
Freon 113	N.D.	0.11	N.D.	0.84
Methylene Chloride	N.D.	0.25	N.D.	0.87
Tetrachloroethene	N.D.	0.25	N.D.	1.7
1,1,1-Trichloroethane	N.D.	0.12	N.D.	0.65
Trichloroethene	N.D.	0.18	N.D.	0.97
Vinyl Chloride	N.D.	0.12	N.D.	0.31

LCS/LCSD

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: E1824330AA	Sample number(s): 9772687-9772696								
Chloroethane	10	10.65	10	11.13	106	111	76-129	4	25
1,1-Dichloroethane	10	10.43	10	11.06	104	111	74-129	6	25
1,1-Dichloroethene	10	8.96	10	10.57	90	106	70-129	16	25
cis-1,2-Dichloroethene	10	9.05	10	10.03	91	100	76-126	10	25
trans-1,2-Dichloroethene	10	9.89	10	11.06	99	111	77-128	11	25
Freon 113	10	10.38	10	10.56	104	106	66-119	2	25
Methylene Chloride	10	11.77	10	12.2	118	122	69-128	4	25
Tetrachloroethene	10	11.44	10	11.78	114	118	68-123	3	25
1,1,1-Trichloroethane	10	10.6	10	11.06	106	111	74-122	4	25
Trichloroethene	10	10.4	10	10.55	104	105	76-118	1	25
Vinyl Chloride	10	9.92	10	11.39	99	114	75-130	14	25
Batch number: F1824230BA	Sample number(s): 9772675-9772686								
Chloroethane	10	10.83	10	11.29	108	113	76-129	4	25
1,1-Dichloroethane	10	9.81	10	10.15	98	102	74-129	3	25
1,1-Dichloroethene	10	10.07	10	10.46	101	105	70-129	4	25
cis-1,2-Dichloroethene	10	9.82	10	9.85	98	99	76-126	0	25
trans-1,2-Dichloroethene	10	10.22	10	10.49	102	105	77-128	3	25
Freon 113	10	9.05	10	9.10	90	91	66-119	1	25
Methylene Chloride	10	11.18	10	11.49	112	115	69-128	3	25
Tetrachloroethene	10	9.22	10	9.55	92	95	68-123	3	25
1,1,1-Trichloroethane	10	10.07	10	9.71	101	97	74-122	4	25
Trichloroethene	10	9.87	10	10.15	99	101	76-118	3	25
Vinyl Chloride	10	11.06	10	11.05	111	111	75-130	0	25
Batch number: F1824330AA	Sample number(s): 9772697-9772702								

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Quality Control Summary

Client Name: IBM Corporate Env Affairs
Reported: 09/05/2018 19:17

Group Number: 1980471

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ppb(v)	LCS Conc ppb(v)	LCSD Spike Added ppb(v)	LCSD Conc ppb(v)	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Chloroethane	10	10.84	10	10.9	108	109	76-129	1	25
1,1-Dichloroethane	10	9.91	10	10.18	99	102	74-129	3	25
1,1-Dichloroethene	10	10	10	10.53	100	105	70-129	5	25
cis-1,2-Dichloroethene	10	9.26	10	10.01	93	100	76-126	8	25
trans-1,2-Dichloroethene	10	9.98	10	10.39	100	104	77-128	4	25
Freon 113	10	9.16	10	9.29	92	93	66-119	1	25
Methylene Chloride	10	11.27	10	11.62	113	116	69-128	3	25
Tetrachloroethene	10	9.69	10	9.51	97	95	68-123	2	25
1,1,1-Trichloroethane	10	9.69	10	9.89	97	99	74-122	2	25
Trichloroethene	10	10.31	10	10.16	103	102	76-118	1	25
Vinyl Chloride	10	10.55	10	11.04	105	110	75-130	5	25
Batch number: F1824730AA	Sample number(s): 9772703-9772704								
Chloroethane	10	10.35	10	10.98	103	110	76-129	6	25
1,1-Dichloroethane	10	9.92	10	10.31	99	103	74-129	4	25
1,1-Dichloroethene	10	10.09	10	10.66	101	107	70-129	5	25
cis-1,2-Dichloroethene	10	9.47	10	9.95	95	100	76-126	5	25
trans-1,2-Dichloroethene	10	10.14	10	10.33	101	103	77-128	2	25
Freon 113	10	9.54	10	9.84	95	98	66-119	3	25
Methylene Chloride	10	10.9	10	11.83	109	118	69-128	8	25
Tetrachloroethene	10	10.12	10	10.87	101	109	68-123	7	25
1,1,1-Trichloroethane	10	10	10	10.34	100	103	74-122	3	25
Trichloroethene	10	10.3	10	10.84	103	108	76-118	5	25
Vinyl Chloride	10	10.77	10	11.19	108	112	75-130	4	25

*- Outside of specification
(1) The result for one or both determinations was less than five times the LOQ.
(2) The unspiked result was more than four times the spike added.

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 196047 For Eurofins Lancaster Laboratories Environmental use only Sample # 9772675-704 Bottle Order (SCR) # _____

Client Information

Client: Groundwater Science Corp Account #:

Project Name/#: JBM Endicott

Project Manager: Scott Morgan P.O. #:

Sampler: K Deme Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | ☐ MTBE | ☐ BTEX | EPA 18 | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	exterior Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15
EN04153DUP180821	8-21-18 13:11	8-21-18 14:14	-28	-5	70	70	415332	2038	1		X
EN04153D180821	13:17	13:17	-28	-8	70	70	339354	2010	1		
EN05333D180821	13:32	14:32	-28	-5	70	70	879110	2005	1		
EN05330D180821	13:41	14:41	-29	-5	70	70	9W016	2009	1		
EN04163D180821	14:47	15:47	-24	-7	70	70	339162	2054	1		
EN04160D180821	14:53	15:53	-28	-5.5	70	70	X34836	2007	1		
EN04233D180821	16:05	17:05	-29	-6.5	70	70	336758	978	1		
EN04230D180821	16:10	17:10	-28	-6	70	70	958053	2018	1		
EN04153D180822	8-22-18 9:11	8-22-18 11:11	-29	-10	70	70	415375	2041	1		
EN04153DUP180822	9:11	11:11	-30	-1.5	70	70	339362	2042	1		
EN04150D180822	10:13	11:13	-29	-13	70	70	185474	1060	1		

Instructions/QC Requirements & Comments

See attached list

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Kelly	8-24-18 15:30						
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
							8-25-18 1005

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 194071 For Eurofins Lancaster Laboratories Environmental use only Sample # 9972675-704 Bottle Order (SCR) #

Client Information

Client: Groundwater Science Corp Account #

Project Name/#: IBM Enlight

Project Manager: Scott Morgan P.O. #

Sampler: K Devine Quote #

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No)

EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | EPA 18 | ☐ MTBE | ☐ BTEX | EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	~~Ext.~~ Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15	EPA 18	MTBE	BTEX	EPA 25	Helium as tracer	O2/CO2	Library Search
EN06475 180822	8/21/18 11:33	8/21/18 11:33	29	4	70	70	849494	1107	1		X							
EN06470 180822	10:37	11:37	28.5	4	70	70	958072	1145	1									
EN06355 180822	11:56	12:56	29	5	70	70	981935	2028	1									
EN06350 180822	12:43	13:43	27.5	2	70	70	355384	1334	1									
EN06365 180822	13:15	14:15	26.5	17	70	70	338069	1309	1									
EN06360 180822	13:31	14:31	28	17	70	70	958124	1205	1									
EN04145 180823	8/23/18 7:32	8/23/18 8:32	29	6	57	57	706000	1096	1									
EN04455 180823	7:19	9:19	30	1	55	55	339040	2034	1									
EN04490 180823	7:19	9:19	30	9	55	55	704000	2035	1									
EN04140 180823	7:36	8:36	28.5	4.5	56	56	966886	571	1									
EN04440 180823	8:03	9:03	28	5	58	58	339395	1010	1									

Instructions/QC Requirements & Comments

See attached list

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time: 8-24-18 13:10	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time: 8-25-18 1005

8-25-18 1005

Summa Canister Field Test Data/Chain of Custody

eurofins | Lancaster Laboratories Environmental

Acct. # 12618 Group # 194991 For Eurofins Lancaster Laboratories Environmental use only Sample # 9772675-704 Bottle Order (SCR) # _____

Client Information

Client: Groundwater Sciences Co Account #:

Project Name/#: IBM Endicott

Project Manager: Scott Morgan P.O. #:

Sampler: K Davis Quote #:

Name of state where samples were collected: NY

Turnaround Time Requested (TAT) (circle one)

(Standard) Rush (specify) _____

Data Package Required? Yes (No) EDD Required? (Yes) No

	Temperature (F)		Pressure ("Hg)	
	Start	Stop	Start	Stop
Ambient				
Maximum				
Minimum				

Analyses Requested

EPA TO - 15 | ☐ EPA 18 ☐ MTBE ☐ BTEX | ☐ EPA 25 (select range below) | Helium as tracer | O2/CO2 | Library Search

Sample Identification	Start Date/Time (24-hour clock)	Stop Date/Time (24-hour clock)	Canister Pressure in Field ("Hg) (Start)	Canister Pressure in Field ("Hg) (Stop)	~~Interior~~ Temp. (F) (Start)	~~Interior~~ Temp. (F) (Stop)	exterior Flow Reg. ID	Can ID	Can Size (L)	Controller Flowrate (mL/min)	EPA TO - 15
EN043S1808J3	8.23.18 9:32	8.23.18 10:32	29	12	58	58	958058	1315	1		X
EN043D1808J3	9:37	10:37	28	15	58	58	824856	956	1		
EN046S1808J3	9:52	10:52	30	4.5	60	60	824855	1314	1		
EN046D1808J3	9:57	10:57	30	7	60	60	958076	1161	1		
EN101D1808J3	10:10	11:10	29	14	65	65	329159	981	1		
EN041S1808J3	13:13	14:13	28	4.5	70	70	356708	969	1		
EN041D1808J3	13:30	14:30	28	4.5	70	70	958031	910	1		
EB01808J3	13:30	14:30	30	11	70	70	151046	991	1		

Instructions/QC Requirements & Comments

see attached list

EPA 25 (check one) ☐ C1 - C4 ☐ C2 - C10 ☐ C1 - C10 ☐ C4 - C10 (GRO) ☐ C2 - C4

Canisters Shipped by:	Date/Time:	Canisters Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
	8.24.18 1300						
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Relinquished by:	Date/Time:	Received by:	Date/Time:
							8-25-18 1000

A # 12618 G # 1980471 S # 9772675-704

PCE

TCE

1,1 DCE

CIS 1,2 DCE

TRANS 1,2 DCE

VC

TCA

1,1 DCA

CHLOROETHANE

MeCl,

Freon 113

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Sample Administration Receipt Documentation Log

Doc Log ID: 225254

Group Number(s): 1980471

Client: Groundwater Sciences Corp.

Delivery and Receipt Information

Delivery Method:	Fed Ex	Arrival Timestamp:	08/25/2018 10:05
Number of Packages:	5	Number of Projects:	1
State/Province of Origin:	WY		

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	No	Sample Date/Times match COC:	Yes
Samples Chilled:	N/A	VOA Vial Headspace ≥ 6mm:	N/A
Paperwork Enclosed:	Yes	Total Trip Blank Qty:	0
Samples Intact:	Yes	Air Quality Samples Present:	Yes
Missing Samples:	No	Air Quality Flow Controllers Present:	Yes
Extra Samples:	No	Flow Controller Quantity:	34
Discrepancy in Container Qty on COC:	No	Air Quality Returns:	Yes
		Summa Canisters:	See Below

Summa Canister Returns: 1042,1212,Z035,Z036

Unpacked by Melvin Sanchez (8943) at 11:24 on 08/25/2018

General Comments: Flow Controllers: 848484, 900029, 710568, 338061 were attached to return Summa Canisters.

2425 New Holland Pike
Lancaster, PA 17605-2425

T : 717-656-2300
F : 717-656-2681
www.LancasterLabs.cor

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	**mL**	milliliter(s)
C	degrees Celsius	**MPN**	Most Probable Number
cfu	colony forming units	**N.D.**	non-detect
CP Units	cobalt-chloroplatinate units	**ng**	nanogram(s)
F	degrees Fahrenheit	**NTU**	nephelometric turbidity units
g	gram(s)	**pg/L**	picogram/liter
IU	International Units	**RL**	Reporting Limit
kg	kilogram(s)	**TNTC**	Too Numerous To Count
L	liter(s)	**µg**	microgram(s)
lb.	pound(s)	**µL**	microliter(s)
m3	cubic meter(s)	**umhos/cm**	micromhos/cm
meq	milliequivalents	**MCL**	Maximum Contamination Limit
mg	milligram(s)		

<	less than
>	greater than
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.
ppb	parts per billion
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as “analyze immediately” are not performed within 15 minutes.

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Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value >= the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column >40%. The lower result is reported.
P^	Concentration difference between the primary and confirmation column > 40%. The higher result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods.
Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.