



**Department of
Environmental
Conservation**

Division of Environmental Remediation

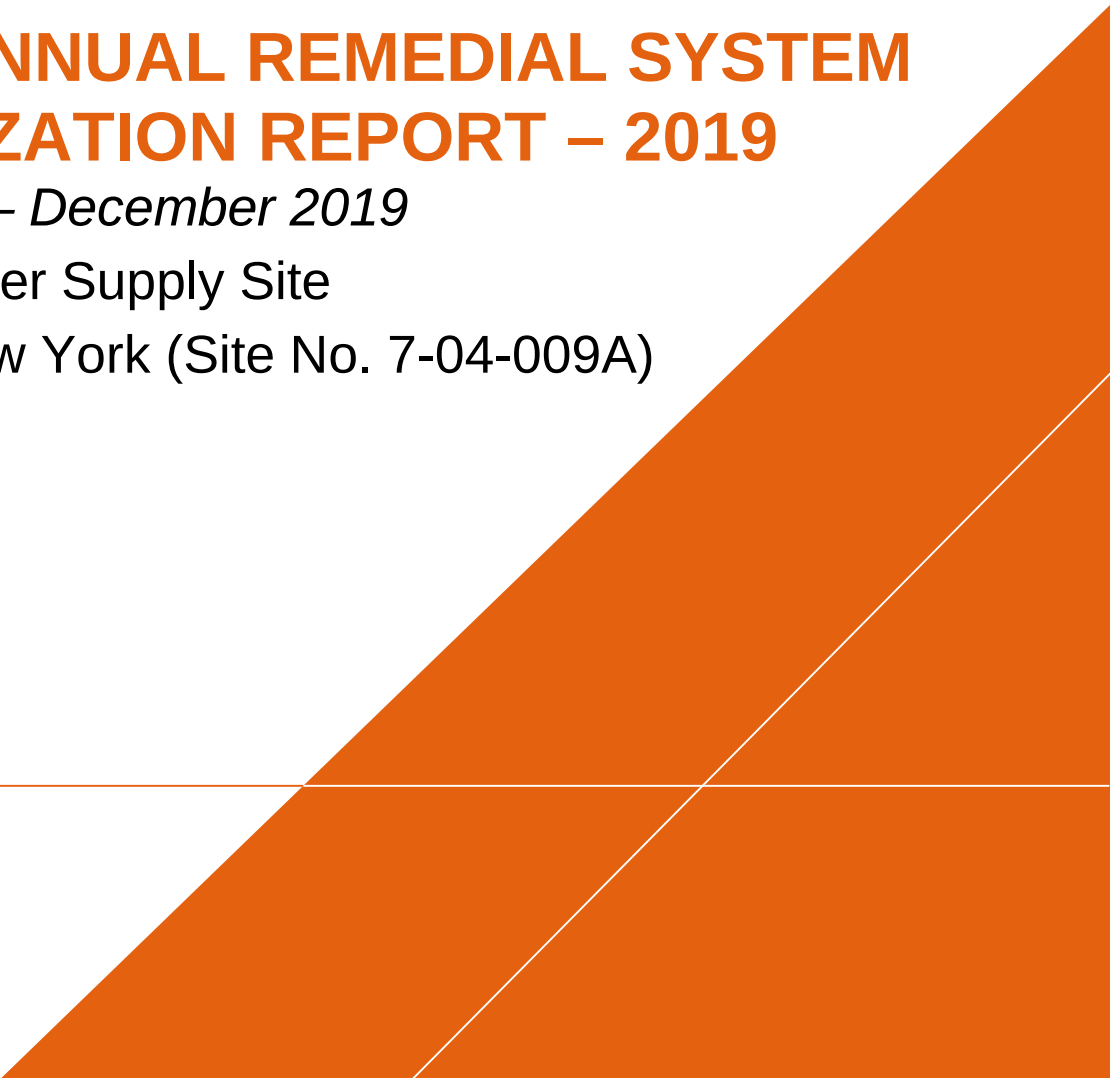
SEMI-ANNUAL REMEDIAL SYSTEM OPTIMIZATION REPORT – 2019

July 2019 – December 2019

Vestal Water Supply Site

Vestal, New York (Site No. 7-04-009A)

February 2020

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Vestal Water Supply Site
Vestal, New York (Site No. 7-04-009A)

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February 28, 2020

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1 INTRODUCTION

The New York State Department of Environmental Conservation (NYSDEC) issued a Work Assignment (# D004443-4) to Arcadis CE, Inc. (Arcadis) for Operation, Maintenance, and Monitoring at the Vestal Water Supply Site (site) in New York State (Site # 7-04-009A) (Figure 1-1).

The NYSDEC is evaluating the efficiency, effectiveness, environmental benefit, and cost of existing environmental remedies by performing a Remedial System Optimization (RSO). The purpose of the RSO is to assess the site's Conceptual Site Model (CSM), provide a summary of the performance of the remedy, document current cleanup practices, provide a summary of progress toward the cleanup goals, and provide recommendations for improvements, if required.

The Well 1-1A groundwater treatment plant was shut down on February 28, 2014 as part of the RSO to evaluate the impacts to groundwater quality while the treatment plant is not operating. In particular, plume migration is being monitored to assess the effects of groundwater withdrawals from the Town of Vestal water supply wells 1-2A and 1-3 on the groundwater plume distribution and migration. In addition, soil and groundwater samples have been collected to further evaluate the horizontal and vertical distribution of VOCs in the area of the site.

The following recommendations that were included in the 4th quarter 2018 RSO report were approved by the NYSDEC via email on March 26, 2019:

- The groundwater sampling frequency has been reduced to occur semi-annually with sampling conducted in the spring (March/April) and fall (September/October) months until remedial activities commence at the source area (ECO International property), located upgradient of the site. The groundwater sampling frequency may be increased when source area remedial activities are initiated.
- The quarterly post-RSO sampling data has demonstrated that there are minimal impacts to groundwater in several areas of the shallow groundwater that are currently included in the monitoring program. This includes several wells that have had no detections of contaminants over several years. Based on these data, the current sample list (Table 1-1) was revised and the following monitoring wells were eliminated from the sampling program: 4009-10, 4009-11A, 4009-13A, and 4009-30A. This recommendation was implemented during the second 2019 semiannual event in September 2019.

This Semiannual Report has been prepared to summarize the July 2019 through December 2019 field activities. The second 2019 semiannual sampling event PDB deployment took place on September 26, 2019 and PDB samples were collected on October 10, 2019.

2 SITE ACTIVITIES

The scope of work for the RSO was designed to provide data for use in evaluation of the existing remedy and to further characterize the nature and extent of contamination in soil and groundwater at the site. The RSO provides information that is being used to assess the efficiency of the remedy and evaluate potential alternative remedial approaches. These data are summarized in the Final Focused Feasibility Study (FFS), which was submitted to the NYSDEC on September 25, 2015.

The basic scope of work included field oversight of subcontractors (i.e., driller and surveyor), preparation of daily field logs, collection of subsurface and surface soil samples, installation of monitoring wells, monitoring well development and hydraulic conductivity testing, measuring groundwater levels, installation of groundwater level data loggers, shut-down of the Well 1-1A groundwater treatment plant for a period of at least one year, collection of groundwater samples from new and existing wells, evaluation of data, and reporting of conclusions and recommendations.

Currently the investigation includes monthly pre-treatment and post treatment (Well 1-3) sampling of the Town of Vestal water supply wells 1-2A and 1-3 and semiannual groundwater sampling. In addition to the above field activities, pre and post-treatment samples were collected from supply Wells 1-2A and 1-3 and analyzed for 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS) during the monthly sampling event in October 2019 per the instructions of the NYSDEC project manager.

2.1 Groundwater Sampling

The semiannual groundwater monitoring is being conducted to evaluate the distribution of the VOC groundwater plume on the north side of NYS Route 17 over time. The sampling includes wells surrounding the Town of Vestal water supply wells 1-2A, 1-3, and 1-1 (Figure 2-1). The sample list followed for the March 2019 sampling event (Table 1-1) was approved by the NYSDEC on January 26, 2017 as part of 2016 RSO recommendations and has been applicable through March 2017 to March 2019. The 2017 revisions included three additional monitoring wells, 4009-7, 4009-8, and 4009-26. These wells were added to the sample list to evaluate whether the ERT source area is the cause of elevated benzene concentrations noted in the data for the past several years. The most recent sample list revision as detailed in Section 1, was approved on March 26, 2019 and was implemented during this reporting period for the first time on September 26, 2019. Monitoring wells 4009-10, 4009-11A, 4009-13A, and 4009-30A, all screened in the shallow groundwater zone, were removed from the sampling list.

Groundwater samples were collected using passive diffusion bags (PDBs) in accordance with the RSO Work Plan. All samples were submitted for analysis of TCL VOCs by USEPA Method 8260 to Eurofins-TestAmerica-Buffalo following chain-of-custody sample handling procedures.

2.1.1 Water Level Data

On September 26, 2019 groundwater levels were measured at all wells to be sampled using an electronic water-level meter. As indicated in Section 1, the Well 1-1A treatment plant continues to be shut down, therefore, groundwater levels are representative of static (non-pumping) conditions. Groundwater levels were used to calculate groundwater elevations and assess groundwater flow conditions across the site. A summary of groundwater elevation data is provided in Table 2-1. Groundwater flow in the shallow and

intermediate groundwater monitoring zones is generally west to northwest and north to northwest in the deep groundwater monitoring zone toward the Susquehanna River.

2.1.2 October 2019 Groundwater Sampling

Groundwater samples were collected using PDBs that were deployed on September 26, 2019 in the wells identified on Table 1-1.

2.1.2.1 October 2019 Groundwater Sampling Results

Groundwater results from the October 2019 groundwater sampling event are provided in Table 2-3, and presented on Figures 2-2 (shallow groundwater), 2-3 (intermediate groundwater), and 2-7 (deep groundwater), respectively. Detected constituents were compared to NYSDEC Technical and Operation Guidance Series (TOGS 1.1.1) Class GA Groundwater Quality Criteria (Class GA Standard). The VOCs detected at the highest concentrations were benzene, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trichloroethene (TCE), and vinyl chloride (VC).

Total VOC results discussed below do not include acetone or methylene chloride results, as these compounds are common laboratory contaminants.

Shallow Groundwater Zone Monitoring Wells

As mentioned in Section 2.1, four shallow monitoring wells were removed from the sampling list. Three shallow groundwater zone monitoring wells were sampled in October 2019. Of the three monitoring wells, two samples (4009-7 and 4009-9) contained VOC concentrations greater than their respective Class GA Standard. The highest concentrations in the shallow zone are consistently observed in monitoring well 4009-7, which is located on the south side of Route 17, downgradient of the source area (ECO International property) (Figure 2-2 and in Table 2-3). A summary of the shallow groundwater zone results is presented below:

- **cis-1,2-DCE** was detected at concentrations greater than its Class GA Standard (5 µg/L) in the groundwater sampled from 4009-7 (31 µg/L) and 4009-9 (21 µg/L).
- **Vinyl chloride** was detected at a concentration greater than its Class GA Standard (2 µg/L) in the groundwater sample from 4009-7 (5.70 µg/L).
- With the exception of an estimated concentration of acetone less than the Class GA Standard, no other VOCs were detected in the shallow groundwater zone monitoring well 4009-16A.

As shown on Figure 2-2, VOCs have not been detected at concentrations greater than the Class GA Standards in samples from monitoring well 4009-16A in the past eight sampling events. VOC concentrations in groundwater samples from wells 4009-7 and 4009-9 have generally been consistent the past eight sampling events, showing slight fluctuations (Figure 2-2).

Intermediate Groundwater Zone Monitoring Wells

Six intermediate groundwater zone monitoring wells were sampled in October 2019. The highest concentrations of VOCs are in the intermediate groundwater zone, downgradient of the source area (ECO

International property) (Figure 2-3 and in Table 2-3). Samples collected from five of the six intermediate groundwater zone monitoring wells contained concentrations that exceeded the Class GA Standards including; 4009-8, 4009-26, 4009-27S, 4009-29S, and 4009-29I. Wells 4009-8 and 4009-26 are located on the south side of NYS Route 17, just west of the source area. Well 4009-29S is on the north side of NYS Route 17, farther downgradient of the source area where higher concentrations are typically reported for the intermediate groundwater zone.

A summary of the results in the intermediate groundwater zone wells is listed below:

- **1,1,1-TCA** was detected at a concentration greater than the Class GA Standard (5 µg/L) in five intermediate wells with groundwater concentrations ranging from 60 µg/L (4009-27S) to 3,300 µg/L (4009-8).
- **1,1-DCA** and **1,1-DCE** were detected at concentrations greater than the Class GA Standard (5 µg/L) in four intermediate wells with groundwater concentrations ranging from 20 µg/L (4009-26) to 100 µg/L (4009-29S) for 1,1-DCA and 1,1-DCE groundwater concentrations ranging from 16 µg/L (4009-26) to 210 µg/L (4009-8).
- **Cis-1,2-DCE** and **TCE** were detected at a concentration greater than the Class GA Standard (5 µg/L) in five intermediate wells with groundwater concentrations ranging from 21 µg/L (4009-27S) to 670 µg/L (4009-8) for cis-1,2-DCE, and TCE groundwater concentrations ranging from 20 µg/L (4009-27S) to 990 µg/L (4009-8).
- **VC** was detected at a concentration greater than the Class GA Standard (2 µg/L) in two intermediate wells with the groundwater concentrations of 140 µg/L (4009-29S) and 81 µg/L (4009-29I).

As shown on Figure 2-3, the majority of the detected analytes in samples from monitoring wells 4009-27S, 4009-27I, and 4009-29I are showing consistent or slightly increasing concentrations over the past eight events. VOC groundwater concentrations in the wells immediately downgradient monitoring of the source area (4009-8, 4009-26, and 4009-29S) continue to fluctuate; however, recent monitoring results are showing an increasing trend as shown on Figures 2-4 through 2-6. These trends will continue to be monitored during the next quarter.

Deep Groundwater Zone Monitoring Wells

Fifteen monitoring wells screened in the deep groundwater zone were sampled in October 2019. All fifteen deep wells monitor the area north of Route 17. Ten monitoring wells screened in the deep groundwater monitoring zone contained concentrations of VOCs that exceeded the Class GA Standards (Figure 2-7, Table 2-3). Of the ten monitoring wells, benzene was the only VOC exceeding a standard in seven of the samples.

A summary of the results in the deep groundwater zone wells is listed below:

- **Benzene** was detected at a concentration greater than the Class GA Standard (1 µg/L) in seven deep wells with groundwater concentrations ranging from 1.20 µg/L (4009-22) to 9.20 µg/L (4009-15).
- **1,1,1-TCA**, **1,1-DCA**, **1,1-DCE**, and **cis-1,2-DCE** were detected at a concentration greater than the Class GA Standard (5 µg/L) in three deep wells with groundwater concentrations ranging from:
 - o 1,1,1-TCA: 51 µg/L (4009-11) to 250 µg/L (Well 1-1)
 - o 1,1-DCA: 15 µg/L (4009-11) to 21 µg/L (Well 1-1)

- o 1,1-DCE: 5.50 µg/L (4009-11) to 32 µg/L (4009-29D)
- o Cis-1,2-DCE: 16 µg/L (4009-11) to 93 µg/L (4009-29D).
- **TCE** and **VC** were detected at a concentration greater than the Class GA Standard (5 µg/L) in two deep wells. TCE concentrations were 71 µg/L (Well 1-1) and 100 µg/L (4009-29D), and VC concentrations were 11 µg/L (4009-11) and 42 µg/L (4009-29D).
- Groundwater samples from five of the fifteen deep groundwater zone monitoring wells were either non-detect or had low-level detections less than their respective Class GA Standards including: 4009-12, 4009-13, 4009-18, 4009-19, and 4009-27D.

As shown in Figure 2-7 there have been no VOC groundwater concentrations exceeding the Class GA Standards in samples from monitoring wells 4009-13, 4009-18, and 4009-27D for the past eight events. The majority of the detected analytes in groundwater samples from monitoring wells 4009-11, 4009-12, 4009-29D, and Well 1-1 are generally consistent with the range of results reported in the last eight events showing some fluctuations.

Summary of Results

Semiannual groundwater monitoring data continue to indicate that there is little change in the shallow and deep groundwater plume distribution and migration since the shutdown of the Well 1-1A groundwater treatment plant. However, intermediate zone monitoring wells immediately downgradient of the source area (wells 4009-8, 4009-26, and 4009-29S) have shown an overall increasing trend in VOC groundwater concentrations over the last two years (Figures 2-4 through 2-6 respectively). With the exception of these wells, total VOCs detected in the groundwater samples collected during the October 2019 sampling event were generally consistent with the range of results reported during the last two years.

Benzene Concentrations in Deep Wells

Benzene has been observed in deep groundwater zone monitoring wells during sampling events over the past several years. Benzene was detected in groundwater samples from seven deep groundwater zone monitoring wells in October 2019 at concentrations that exceeded the Class GA Standard of 1.0 µg/L. Exceedances were observed in groundwater samples collected from monitoring wells 4009-14 (1.30 µg/L), 4009-15 (9.20 µg/L), 4009-16 (4.20 µg/L), 4009-21 (3.70 µg/L), 4009-22 (1.20 µg/L), 4009-28 (2.40 µg/L), and 4009-30 (4.50 µg/L). As shown in Table 2-3, these concentrations are similar to previous sampling results. Benzene concentrations have continued to fluctuate in the central portion of the study area over the past several years in the groundwater samples from five of the deep groundwater zone monitoring wells 4009-14, 4009-15, 4009-16, 4009-21 and more recently 4009-30. Benzene concentrations from groundwater sampled in 4009-22 remain stable but continue to fluctuate in groundwater samples from monitoring wells 4009-11 and 4009-12. During the past two events, benzene concentrations have been either non-detect or less than the Class GA Standard in the groundwater samples collected from 4009-11 and 4009-12.

Benzene continues to not be detected at concentrations greater than the Class GA Standard in the samples collected from the shallow and intermediate zones during the October 2019 sampling event. This includes the three monitoring wells; 4009-7, 4009-8, and 4009-26 which were added to the first quarter 2017 sampling list in an attempt to identify the source of the benzene increases. However, benzene was

not detected at concentrations greater than the Class GA Standard in the samples from those monitoring wells during the 2017, 2018, and 2019 sampling events.

Monitoring Wells in Vicinity of Town of Vestal Supply Wells

Concentrations of VOCs in groundwater samples from the monitoring wells in the vicinity of the Town of Vestal's water supply wells 1-2A and 1-3 (monitoring wells 4009-16/16A, 4009-18, 4009-19, 4009-21, 4009-30/30A) are generally consistent with the previous sampling events. VOCs were not detected at concentrations greater than the Class GA Standards in samples collected from monitoring wells 4009-16A, 4009-18, and 4009-19. Similar to previous sampling results, benzene was detected at a concentration exceeding the Class GA Standard (1.00 µg/L) in samples from wells 4009-16 (4.20 µg/L), 4009-30 (4.50 µg/L), and 4009-21 (3.70 µg/L).

2.1.3 Town of Vestal Municipal Well Sampling

Monthly analytical data are provided by the Town of Vestal Water Superintendent for Well 1-2A and 1-3. Samples were collected on July 22, August 26, September 30, October 28, November 25, and December 20, 2019. Pre-treatment groundwater samples were also collected by Arcadis from the Town of Vestal water supply wells 1-2A and 1-3 and post-treatment samples from Well 1-3 on July 12, August 12, September 26, October 10, November 22, and December 13, 2019. These samples were used to supplement the Town's monthly influent sampling data and to evaluate potential impacts to the Town's water supply wells related to the shutdown of the Well 1-1A treatment plant. Samples were collected in consultation with the Town of Vestal Water District Superintendent and submitted to Eurofins-TestAmerica for analysis of VOCs by USEPA Method 8260. As mentioned in Section 2, pre and post-treatment groundwater samples were collected on October 10, 2019 and analyzed for 1,4-dioxane and PFAS per the instructions of the NYSDEC project manager.

Until April 2018, chlorinated VOCs had not been detected in any of the pre-treatment effluent samples collected from the Town of Vestal water supply wells 1-2A and 1-3 since the RSO evaluation has been implemented through 2017. In April 2018, 1,1,1-TCA was detected at an estimated concentration of 0.29 µg/L in Well 1-3 pre-treatment sample. The Class GA Standard for this compound is 5 µg/L. As part of the RSO contingency plan, Arcadis has continued to collect a post-treatment sample from Well 1-3 since May 2018. With the exception of low concentrations of methylene chloride, which were flagged by the laboratory as being detected in the associated blank, VOCs were not detected in any of the monthly samples for this reporting period (July through December 2019) collected by Arcadis from Well 1-2A, Well 1-3, and Well-1-3 post-treatment. The monthly analytical data provided by the Town of Vestal Water Superintendent for Well 1-2A and 1-3 were also non-detect during three of the six months of this reporting period. Bromoform was detected in samples collected from Well 1-2A and Well 1-3 during the October through the December 2019 sampling events as well as concentrations of dibromochloromethane in Well 1-2A. Concentrations of dibromochloromethane was also detected in samples collected from Well 1-3 during the October and November 2019 sampling events. The detected concentrations did not exceed the Class GA Standard of 50 µg/L for both analytes. As approved by the NYSDEC (May 24, 2018 via email), Arcadis will continue with routine monthly sampling of the pre-treatment (Well 1-2A, 1-3) and post-treatment of Well 1-3. A summary of the monthly analytical data is provided in Table 2-4. Laboratory analytical reporting forms are provided in Appendix A.

In August 2019, the NYSDEC requested the Town of Vestal water supply wells (Wells 1-2A and Well 1-3 pre and post-treatment) be sampled for PFAS and 1,4-dioxane. Samples were collected during the second semiannual event on October 10, 2019. Analytical results are summarized below and in Table 2-5.

Validation of the PFAS and 1,4 dioxane analytical data was performed by Data Validation Services (DVS) to ensure that the quality of the data is sufficient to meet the project objectives. A Data Usability Report (DUSR) was prepared by DVS upon the receipt of the PFAS and 1,4-dioxane data and concluded the analyses were conducted in compliance with the protocols and results are usable as reported. The DUSR is included in Appendix B.

1,4-Dioxane

Concentrations of 1,4-dioxane were not detected in the pre and post-treatment samples from Well1-3 during the October 2019 sampling event. Concentrations of 1,4-dioxane were detected in samples collected from the pre and post- treatment samples from Well 1-2A and Well 1-2A post at concentrations of 0.70 and 0.72 ug/L, respectively, during the October 2019 event. Similar to the June 2017 sampling event, 1,4-dioxane was detected in the pre-treatment sample of Well 1-2A and was not detected in the pre-treatment sample of Well 1-3. Post-treatment samples for Wells 1-2A and 1-3 were not collected during the June 2017 event.

There are currently no federal maximum contaminant level (MCL) for 1,4-dioxane for drinking water.

Per- and Polyfluoroalkyl Substances (PFAS)

Concentrations of PFAS were not detected in the pre and post treatment samples collected from Well 1-2A or Well 1-2A post. Consistent with the June 2017 sampling event, concentrations of PFAS were not detected in the sample collected from pre-treatment Well 1-2A. Well 1-2A post was not sampled during the June 2017 event. As detailed below, several PFAS analytes were detected in the samples collected from the pre and post-treatment samples from Well 1-3 during the October 2019 sampling event:

- Perfluoroheptanoic acid (PFHpA) was detected at estimated concentrations in the pre and post treatment samples at 0.89 nanograms per liter (ng/L) and 0.83 ng/L, respectively.
- Perfluorooctanoic acid (PFOA) was detected at estimated concentrations in the pre and post treatment samples at 1.43 ng/L and 1.18 ng/L, respectively.
- Both perfluorooctanesulfonic acid (PFOS) and perfluorononanoic acid (PFNA) were detected in the pre-treatment sample at estimated concentrations of 1.84 and 0.78 ng/L, respectively.

The United States Environmental Protection Agency (USEPA) is currently using the health-based criteria for drinking water for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) compounds (individually and as a sum) of 70 ng/L. New York State is in the process of finalizing and promulgating the proposed maximum contaminant level (MCL) of 10 ng/L for (PFOA) and 10 ng/L for (PFOS) in drinking water and an MCL of 1.0 parts per billion for 1,4-dioxane.

3 RECOMMENDATIONS

Based on the data presented herein, Arcadis recommends the following:

1. Town of Vestal Wells 1-2A and 1-3 (pre-and post-treatment) should continue to be sampled for VOCs on a monthly basis to supplement the Town's sampling program at least until the final remedy for the source area (ECO International property) is implemented.
2. Semiannual sampling should continue while Well 1-1A treatment plant is shut down. The revised sample list will remain in place during the next sampling event, spring of 2020. As noted herein, the sampling schedule may be revised once the final remedy for the source area is implemented.

4 JANUARY THROUGH JUNE 2020 SCHEDULED ACTIVITIES

Scheduled activities for the next semiannual period are summarized below.

- Monthly sampling at Town of Vestal Wells 1-2A and 1-3 (pre and post treatment).
- Semiannual groundwater sampling (March/April 2020).

TABLES



Table 1-1
Summary of the Groundwater Monitoring Locations

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Well I.D.	2019 Semiannual Monitoring Locations
4009-7	X
4009-8	X
4009-9	X
4009-11	X
4009-12	X
4009-13	X
4009-14	X
4009-15	X
4009-16	X
4009-16A	X
4009-18	X
4009-19	X
4009-21	X
4009-22	X
4009-26	X
4009-27S	X
4009-27I	X
4009-27D	X
4009-28	X
4009-29S	X
4009-29I	X
4009-29D	X
4009-30	X
WELL 1-1	X

Table 2-1
Summary of Groundwater Elevation Data

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Well I.D.	Top of Riser (ft AMSL)	10/5/2017			12/12/2017			3/16/2018			5/31/2018		
		DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)	DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)	DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)	DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)
4009-7	824.27	20.89	NP	803.38	19.29	NP	804.98	17.27	NP	807.00	17.64	NP	806.63
4009-8	824.52	21.79	NP	802.73	20.06	NP	804.46	16.81	NP	807.71	18.36	NP	806.16
4009-9	825.05	22.79	NP	802.26	21.12	NP	803.93	18.09	NP	806.96	19.57	NP	805.48
4009-10	831.31	28.66	NP	802.65	27.23	NP	804.08	26.41	NP	804.90	25.65	NP	805.66
4009-11	830.06	29.19	NP	800.87	26.89	NP	803.17	24.55	NP	805.51	26.65	NP	803.41
4009-11A	830.80	15.26	NP	815.54	17.15	NP	813.65	13.91	NP	816.89	14.54	NP	816.26
4009-12	823.34	21.80	NP	801.54	19.58	NP	803.76	17.23	NP	806.11	18.57	NP	804.77
4009-13	816.28	14.44	NP	801.84	12.35	NP	803.93	8.86	NP	807.42	11.44	NP	804.84
4009-13A	816.17	13.88	NP	802.29	12.02	NP	804.15	9.24	NP	806.93	10.74	NP	805.43
4009-14	820.71	18.94	NP	801.77	16.82	NP	803.89	14.51	NP	806.20	16.87	NP	803.84
4009-15	826.54	25.03	NP	801.51	22.81	NP	803.73	20.49	NP	806.05	22.08	NP	804.46
4009-16	826.72	25.23	NP	801.49	22.94	NP	803.78	20.72	NP	806.00	22.23	NP	804.49
4009-16A	826.84	25.29	NP	801.55	22.91	NP	803.93	20.84	NP	806.00	21.81	NP	805.03
4009-18	834.78	33.10	NP	801.68	30.93	NP	803.85	28.89	NP	805.89	30.27	NP	804.51
4009-19	824.94	23.33	NP	801.61	21.13	NP	803.81	19.05	NP	805.89	20.43	NP	804.51
4009-21	825.02 **	23.46	NP	801.56	21.3	NP	803.72	19.53	NP	805.49	20.63	NP	804.39
4009-22	817.40	11.56	NP	805.84	11.78	NP	805.62	9.93	NP	807.47	10.51	NP	806.89
4009-26	824.31	21.48	NP	802.83	19.73	NP	804.58	16.60	NP	807.71	18.09	NP	806.22
4009-27S	826.19	24.21	NP	801.98	22.12	NP	804.07	19.46	NP	806.73	20.98	NP	805.21
4009-27I	826.03	24.10	NP	801.93	22.01	NP	804.02	19.47	NP	806.56	20.96	NP	805.07
4009-27D	825.87	23.92	NP	801.95	21.84	NP	804.03	19.26	NP	806.61	20.81	NP	805.06
4009-28	821.59	20.13	NP	801.46	17.92	NP	803.67	15.56	NP	806.03	17.16	NP	804.43
4009-29S	825.77	23.95	NP	801.82	21.84	NP	803.93	19.32	NP	806.45	20.83	NP	804.94
4009-29I	825.68	24.14	NP	801.54	21.91	NP	803.77	19.29	NP	806.39	21.04	NP	804.64
4009-29D	825.67	24.08	NP	801.59	21.89	NP	803.78	19.46	NP	806.21	21.01	NP	804.66
4009-30	827.50 **	25.98	NP	801.52	23.74	NP	803.76	21.56	NP	805.94	30.02	NP	797.48
4009-30A	826.69 **	25.23	NP	801.46	23.05	NP	803.64	20.73	NP	805.96	22.16	NP	804.53

See Notes on Page 2.

Table 2-1
Summary of Groundwater Elevation Data

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Well I.D.	Top of Riser (ft AMSL)	9/13/2018			12/5/2018			3/25/2019			9/26/2019		
		DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)	DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)	DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)	DTW (fbgs)	DTP (fbgs)	GW Elev (famsl)
4009-7	824.27	17.07	NP	807.20	12.07	NP	812.20	19.14	NP	805.13	20.89	NP	803.38
4009-8	824.52	17.78	NP	806.74	12.39	NP	812.13	18.91	NP	805.61	21.80	NP	802.72
4009-9	825.05	19.23	NP	805.82	13.05	NP	812.00	19.41	NP	805.64	22.90	NP	802.15
4009-10	831.31	25.48	NP	805.83	19.33	NP	811.98	25.96	NP	805.35	NM	NM	NM
4009-11	830.06	24.39	NP	805.67	18.79	NP	811.27	26.17	NP	803.89	29.23	NP	800.83
4009-11A	830.80	13.58	NP	817.22	11.82	NP	818.98	14.43	NP	816.37	NM	NM	NM
4009-12	823.34	16.95	NP	806.39	11.37	NP	811.97	18.55	NP	804.79	21.88	NP	801.46
4009-13	816.28	9.75	NP	806.53	4.24	NP	812.04	11.58	NP	804.70	14.43	NP	801.85
4009-13A	816.17	9.44	NP	806.73	4.14	NP	812.03	11.08	NP	805.09	NM	NM	NM
4009-14	820.71	14.19	NP	806.52	8.60	NP	812.11	16.06	NP	804.65	18.96	NP	801.75
4009-15	826.54	20.21	NP	806.33	14.54	NP	812.00	22.24	NP	804.30	25.01	NP	801.53
4009-16	826.72	20.41	NP	806.31	14.73	NP	811.99	22.29	NP	804.43	25.20	NP	801.52
4009-16A	826.84	20.24	NP	806.60	14.80	NP	812.04	22.05	NP	804.79	25.13	NP	801.71
4009-18	834.78	28.53	NP	806.25	22.44	NP	812.34	30.21	NP	804.57	33.42	NP	801.36
4009-19	824.94	18.79	NP	806.15	13.05	NP	811.89	20.42	NP	804.52	23.83	NP	801.11
4009-21	825.02 **	20.58	NP	804.44	13.24	NP	811.78	20.64	NP	804.38	25.03	NP	799.99
4009-22	817.40	9.70	NP	807.70	6.10	NP	811.30	8.70	NP	808.70	10.39	NP	807.01
4009-26	824.31	17.39	NP	806.92	12.13	NP	812.18	18.64	NP	805.67	21.52	NP	802.79
4009-27S	826.19	19.54	NP	806.65	14.18	NP	812.01	21.22	NP	804.97	24.29	NP	801.90
4009-27I	826.03	19.48	NP	806.55	14.05	NP	811.98	21.14	NP	804.89	24.12	NP	801.91
4009-27D	825.87	19.30	NP	806.57	13.92	NP	811.95	20.98	NP	804.89	23.95	NP	801.92
4009-28	821.59	15.83	NP	805.76	9.45	NP	812.14	17.16	NP	804.43	20.12	NP	801.47
4009-29S	825.77	19.28	NP	806.49	13.79	NP	811.98	20.97	NP	804.80	23.99	NP	801.78
4009-29I	825.68	19.30	NP	806.38	13.71	NP	811.97	21.10	NP	804.58	24.15	NP	801.53
4009-29D	825.67	19.26	NP	806.41	13.71	NP	811.96	21.08	NP	804.59	24.14	NP	801.53
4009-30	827.50 **	21.15	NP	806.35	15.43	NP	812.07	23.05	NP	804.45	26.21	NP	801.29
4009-30A	826.69 **	20.29	NP	806.40	14.76	NP	811.93	22.12	NP	804.57	NM	NM	NM

Notes:

fbgs - feet below ground surface

famsl - feet above mean sea level

* - Elevation data from Conceptual Site Model (Lockheed Martin, 2012)

** - Elevation data remeasured on 4/1/15 after well repairs

NM - Not measured

NP - No product / LNAPL

Starting in 2018, only wells that are sampled will be gauged.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-7 10/23/2017 Shallow ug/L	4009-7 12/28/2017 Shallow ug/L	4009-7 3/30/2018 Shallow ug/L	4009-7 6/14/2018 Shallow ug/L	4009-7 9/27/2018 Shallow ug/L	4009-7 12/19/2018 Shallow ug/L	4009-7 3/25/2019 Shallow ug/L	4009-7 10/10/2019 Shallow ug/L	4009-8 10/23/2017 Intermediate ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2500
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	16
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,1-Dichloroethane	5	0.44 J	0.63 J	0.47 J	0.59 J	0.62 J	0.47 J	0.43 J	0.56 J	96
1,1-Dichloroethene	5	0.39 J	0.67 J	1.0 U	0.41 J	0.53 J	1.0 U	1.0 U	0.52 J	80
1,2,3-Trimethylbenzene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
2-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	50 U
Acetone	50*	1.4 J	10 U	10 U	5.0 U	4.0 J	10 U	4.1 J	6.1 J	50 U
Benzene	1	0.28 J	0.43 J	1.0 U	1.0 U	0.45 J	1.0 U	1.0 U	1.0 U	10 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Bromoform	50*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Carbon disulfide		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	4.4 J
Chloroform	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	10 U
Chloromethane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
cis-1,2-Dichloroethene	5	36	53	26	38	55	36	23	31	500
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Methyl Acetate		5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	50 U
2-Butanone (MEK)	50	5.0 U	10 U	10 U*	5.0 U	10 U	10 U	10 U*	10 U	50 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	50 U
Methyl Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Methylene Chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Tetrachloroethene	5	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
Toluene	5	0.29 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
trans-1,2-Dichloroethene	5	0.29 J	1.0 U	1.0 U	0.28 J	1.0 U	1.0 U	1.0 U	1.0 U	10 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Trichloroethene	5	0.76 J	1.1	1.0 U	0.72 J	0.97 J	1.0 U	1.0 U	1.0 U	300
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Vinyl chloride	2	4.3	10	1.0 U	5.6	7.5	6.2	0.91 J	5.7	19
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	20 U
Total VOCs		44.2	65.8	26.5	45.6	69.1	42.7	28.4	43.9	3519
Total VOCs (w/o Acetone or Methylene Chloride)		42.8	65.8	26.5	45.6	65.1	42.7	24.3	43.9	3519

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-8 12/28/2017 Intermediate ug/L	4009-8 3/30/2018 Intermediate ug/L	4009-8 6/14/2018 Intermediate ug/L	4009-8 9/27/2018 Intermediate ug/L	4009-8 12/19/2018 Intermediate ug/L	4009-8 3/25/2019 Intermediate ug/L	4009-8 10/10/2019 Intermediate ug/L	4009-9 10/23/2017 Shallow ug/L	4009-9 12/28/2017 Shallow ug/L
1,1,1-Trichloroethane	5	2100	1100	800	3700	2000	4100	3300	0.43 J	1.0 U
1,1,2,2-Tetrachloroethane	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		13	40 U	6.7	40 U	40 U	19 J	80 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,1-Dichloroethane	5	80	51	44	150	96	130	92	0.40 J	1.0 U
1,1-Dichloroethene	5	70	47	34	160	110	120	210	1.0 U	1.0 U
1,2,3-Trimethylbenzene		10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,2-Dichloropropane	1	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
2-Hexanone	50*	50 U	200 U	10 U*	200 U	200 U	200 U	400 U	5.0 U	5.0 U
Acetone	50*	100 U	400 U	10 U	400 U	400 U	400 U	800 U	2.2 J	10 U
Benzene	1	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	0.15 J	1.0 U
Bromodichloromethane	50	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Bromoform	50*	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Bromomethane	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Carbon disulfide		10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Carbon tetrachloride	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Chlorobenzene	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Chloroethane	5	10 U	40 U	5.2	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Chloroform	7	10 U	40 U	0.66 J	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Chloromethane		10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	680	490	320	910	700	950	670	21	11
cis-1,3-Dichloropropene	0.4	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Cyclohexane		10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Dibromochloromethane	50	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Ethylbenzene	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Methyl Acetate		10 U	100 U	10 U	100 U	100 U	100 U	200 U	5.0 U	2.5 U
2-Butanone (MEK)	50	100 U	400 U*	10 U	400 U	400 U	400 U*	800 U	5.0 U	10 U
4-Methyl-2-pentanone (MIBK)		50 U	200 U	10 U*	200 U	200 U	200 U	400 U	5.0 U	5.0 U
Methyl Cyclohexane		10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Methylene Chloride	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Styrene	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Tetrachloroethene	5	10 U	40 U	1.6 J	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Toluene	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	10 U	40 U	1.2 J	40 U	40 U	40 U	80 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Trichloroethene	5	300	300	190	580	330	95	990	1.3	1.0 U
Trichlorofluoromethane	5	10 U	40 U	2.0 U	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Vinyl chloride	2	24	40 U	11	40 U	40 U	40 U	80 U	1.0 U	1.0 U
Xylenes, Total		20 U	80 U	4.0 U	80 U	80 U	80 U	160 U	1.0 U	2.0 U
Total VOCs		3267	1988	1414	5500	3236	5414	5262	25.5	11.0
Total VOCs (w/o Acetone or Methylene Chloride)		3267	1988	1414	5500	3236	5414	5262	23.3	11.0

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-9 3/30/2018 Shallow ug/L	4009-9 6/14/2018 Shallow ug/L	4009-9 9/27/2018 Shallow ug/L	4009-9 12/19/2018 Shallow ug/L	4009-9 3/25/2019 Shallow ug/L	4009-9 10/10/2019 Shallow ug/L	4009-10 10/23/2017 Shallow ug/L	4009-10 12/28/2017 Shallow ug/L	4009-10 3/30/2018 Shallow ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.41 J	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	5.0 U	3.6 J	5.2 J	10 U	10 U	3.1 J	10 U	10 U
Benzene	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 J	1.0 U	1.0 U
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	2.6	8.2	13	1.6	5.6	21	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U*	5.0 U	10 U	10 U	10 U*	10 U	5.0 U	10 U	10 U*
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	1.0 U	0.32 J	0.73 J	1.0 U	0.49 J	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	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
Vinyl chloride	2	1.0 U	0.25 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		2.60	8.77	17.33	6.80	6.09	21.0	3.96	0.00	0.00
Total VOCs (w/o Acetone or Methylene Chloride)		2.60	8.77	13.73	1.60	6.09	21.0	0.86	0.00	0.00

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-10 6/14/2018 Shallow ug/L	4009-10 9/27/2018 Shallow ug/L	4009-10 12/19/2018 Shallow ug/L	4009-10 3/25/2019 Shallow ug/L	4009-10 10/10/2019 Shallow ug/L	4009-11 10/23/2017 Deep ug/L	4009-11 12/28/2017 Deep ug/L	4009-11 3/30/2018 Deep ug/L	4009-11 6/14/2018 Deep ug/L
1,1,1-Trichloroethane	5	0.31 J	1.0 U	1.0 U	1.0 U	NS	65	1.0 U	88	68
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	1.0 U	1.0 U	NS	1.4	1.0 U	1.0 U	1.2
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	18	2.1	24	21
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	5.0	1.0 U	7.2	6.4
1,2,3-Trimethylbenzene		1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50*	5.0 U*	5.0 U	5.0 U	5.0 U	NS	5.0 U	5.0 U	5.0 U	5.0 U*
Acetone	50*	5.0 U	3.1 J	4.8 J	3.5 J	NS	5.0 U	4.5 J	10 U	5.0 U
Benzene	1	1.0 U	0.51 J	0.61 J	0.60 J	NS	1.0 U	6.5	1.0 U	1.0 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50*	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide		1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	0.9 J	1.0 U	1.3	1.2
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	15	1.0 U	23	20
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate		5.0 U	2.5 U	2.5 U	2.5 U	NS	5.0 U	2.5 U	2.5 U	5.0 U
2-Butanone (MEK)	50	5.0 U	10 U	10 U	10 U*	NS	5.0 U	10 U	10 U*	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U*	5.0 U	5.0 U	5.0 U	NS	5.0 U	5.0 U	5.0 U	5.0 U*
Methyl Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	0.5 J	1.0 U	1.6	1.1
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	NS	13	1.0 U	17	19
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	NS	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		0.31	3.61	5.41	4.10	NS	119	13.1	162	138
Total VOCs (w/o Acetone or Methylene Chloride)		0.31	0.51	0.61	0.60	NS	119	8.60	162	138

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-11 9/27/2018 Deep ug/L	4009-11 12/19/2018 Deep ug/L	4009-11 3/25/2019 Deep ug/L	4009-11 10/10/2019 Deep ug/L	4009-11A 10/23/2017 Shallow ug/L	4009-11A 12/28/2017 Shallow ug/L	4009-11A 3/30/2018 Shallow ug/L	4009-11A 6/14/2018 Shallow ug/L	4009-11A 9/27/2018 Shallow ug/L
1,1,1-Trichloroethane	5	1.0 U	170	71	51	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.6	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	7.0	49	30	15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	17	5.5	5.5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene		1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50*	5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U
Acetone	50*	10 U	10 U	8.4 J	10 U	5.0 U	10 U	10 U	5.0 U	5.0 J
Benzene	1	8.9	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50*	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide		1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.7	1.0 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.3	48	19	16	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane		1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate		2.5 U	2.5 U	5.0 U	2.5 U	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U
2-Butanone (MEK)	50	10 U	10 U	20 U*	10 U	5.0 U	10 U	10 U*	5.0 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U
Methyl Cyclohexane		1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U
Toluene	5	0.52 J	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	4.7	2.5	2.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U
Vinyl chloride	2	1.7	38	18	11	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total		2.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		19.4	330	155	101	0.00	0.00	0.00	0.00	5.00
Total VOCs (w/o Acetone or Methylene Chloride)		19.4	330	147	101	0.00	0.00	0.00	0.00	0.00

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-11A 12/19/2018 Shallow ug/L	4009-11A 3/25/2019 Shallow ug/L	4009-11A 10/10/2019 Shallow ug/L	4009-12 10/23/2017 Deep ug/L	4009-12 12/28/2017 Deep ug/L	4009-12 3/30/2018 Deep ug/L	4009-12 6/14/2018 Deep ug/L	4009-12 9/27/2018 Deep ug/L	4009-12 12/19/2018 Deep ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	NS	1.0 U	330	45	1.0 U	95	80
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	NS	1.0 U	5.4	1.0 U	1.0 U	1.0 U	0.76 J
1,1,2-Trichloroethane	1	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	NS	5.6	46	13	6.2	11	12
1,1-Dichloroethene	5	1.0 U	1.0 U	NS	0.53 J	16	5.0	0.54 J	6.9	3.9
1,2,3-Trimethylbenzene		1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50*	5.0 U	5.0 U	NS	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Acetone	50*	5.9 J	3.4 J	NS	3.3 J	10 U	10 U	5.0 U	4.4 J	5.2 J
Benzene	1	1.0 U	1.0 U	NS	2.5	0.51 J	2.5	1.7	0.73 J	1.0 U
Bromodichloromethane	50	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50*	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide		1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.0 U	NS	1.0 U	4.9	0.88 J	1.0 U	0.68 J	0.32 J
Chloroform	7	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	NS	2.0	62	15	2.0	25	14
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane		1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate		2.5 U	2.5 U	NS	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U	10 U*	NS	5.0 U	10 U	10 U	5.0 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	NS	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Methyl Cyclohexane		1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	1.0 U	1.0 U	NS	0.26 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	NS	1.9	69	14	1.6	25	13
Trichlorofluoromethane	5	1.0 U	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	NS	1.3	96	38	2.6	26	34
Xylenes, Total		2.0 U	2.0 U	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		5.90	3.40	NS	17.4	630	133	14.6	195	163
Total VOCs (w/o Acetone or Methylene Chloride)		0.00	0.00	NS	14.1	630	133	14.6	190	158

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-12 3/25/2019 Deep ug/L	4009-12 10/10/2019 Deep ug/L	DUP-1 10/10/2019 Deep ug/L	4009-13 10/23/2017 Deep ug/L	4009-13 12/28/2017 Deep ug/L	4009-13 3/30/2018 Deep ug/L	4009-13 6/14/2018 Deep ug/L	4009-13 9/27/2018 Deep ug/L	4009-13 12/19/2018 Deep ug/L
1,1,1-Trichloroethane	5	280	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		4.8	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	0.28 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
1,1-Dichloroethane	5	50	0.64 J	0.73 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	15	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Acetone	50*	3.0 J	3.6 J	10 U	3.4 J	10 U	10 U	5.0 U	3.0 J	5.2 J
Benzene	1	0.44 J	1.0 U	1.0 U	0.2 J	1.0 U	1.0 U	1.0 U	0.44 J	0.76 J
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	5.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	55	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U*	10 U	10 U*	5.0 U	10 U	10 U*	5.0 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	51	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	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
Vinyl chloride	2	81	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		546	4.24	0.73	3.60	0.00	0.00	0.00	3.44	5.96
Total VOCs (w/o Acetone or Methylene Chloride)		543	0.64	0.73	0.20	0.00	0.00	0.00	0.44	0.76

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-13 3/25/2019 Deep ug/L	4009-13 10/10/2019 Deep ug/L	4009-13A 10/23/2017 Shallow ug/L	4009-13A 12/28/2017 Shallow ug/L	4009-13A 3/30/2018 Shallow ug/L	4009-13A 6/14/2018 Shallow ug/L	4009-13A 9/27/2018 Shallow ug/L	4009-13A 12/19/2018 Shallow ug/L	4009-13A 3/25/2019 Shallow ug/L
1,1,1-Trichloroethane	5	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
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	3.9 J	2.6 J	10 U	10 U	5.0 U	3.6 J	4.2 J	10 U
Benzene	1	0.57 J	0.47 J	1.0 U	1.0 U	1.0 U	0.90 J	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U*	10 U*	5.0 U	10 U	10 U*	5.0 U	10 U	10 U	10 U*
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		0.57	4.37	2.60	0.00	0.00	0.90	3.60	4.20	0.00
Total VOCs (w/o Acetone or Methylene Chloride)		0.57	0.47	0.00	0.00	0.00	0.90	0.00	0.00	0.00

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-13A 10/10/2019 Shallow ug/L	4009-14 10/23/2017 Deep ug/L	4009-14 12/28/2017 Deep ug/L	4009-14 3/30/2018 Deep ug/L	4009-14 6/14/2018 Deep ug/L	4009-14 9/27/2018 Deep ug/L	4009-14 12/19/2018 Deep ug/L	4009-14 3/25/2019 Deep ug/L	4009-14 10/10/2019 Deep ug/L
1,1,1-Trichloroethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,1,2,2-Tetrachloroethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,1,2-Trichloro-1,2,2-Trifluoroethane		NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,1,2-Trichloroethane	1	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,1-Dichloroethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,1-Dichloroethene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2,3-Trimethylbenzene		NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2,4-Trichlorobenzene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2,4-Trimethylbenzene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2-Dibromo-3-Chloropropane	0.04	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2-Dibromoethane (Ethylene Dibromide)	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2-Dichlorobenzene	3	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2-Dichloroethane	0.6	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,2-Dichloropropane	1	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,3,5-Trimethylbenzene (Mesitylene)	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,3-Dichlorobenzene	3	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
1,4-Dichlorobenzene	3	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
2-Hexanone	50*	NS	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0
Acetone	50*	NS	3.3 J	10 U	10 U	5.0 U	3.8 J	4.8 J	10 U	10
Benzene	1	NS	11	12	13	11	1.6	1.5	1.7	1.3
Bromodichloromethane	50	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Bromoform	50*	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Bromomethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Carbon disulfide		NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Carbon tetrachloride	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Chlorobenzene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Chloroethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Chloroform	7	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Chloromethane		NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
cis-1,2-Dichloroethene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
cis-1,3-Dichloropropene	0.4	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Cyclohexane		NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Dibromochloromethane	50	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0
Dichlorodifluoromethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Ethylbenzene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Isopropylbenzene (Cumene)	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Methyl Acetate		NS	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5
2-Butanone (MEK)	50	NS	5.0 U	10 U	10 U	5.0 U	10 U	10 U	10 U*	10
4-Methyl-2-pentanone (MIBK)		NS	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0
Methyl Cyclohexane		NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Methylene Chloride	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Styrene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Methyl Tert Butyl Ether	10	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Tetrachloroethene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Toluene	5	NS	0.31 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
trans-1,2-Dichloroethene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
trans-1,3-Dichloropropene	0.4	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Trichloroethene	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Trichlorofluoromethane	5	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Vinyl chloride	2	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0
Xylenes, Total		NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0
Total VOCs		NS	14.6	12.0	13.0	11.0	5.40	6.30	1.70	1.30
Total VOCs (w/o Acetone or Methylene Chloride)		NS	11.3	12.0	13.0	11.0	1.60	1.50	1.70	1.30

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-15 10/23/2017 Deep ug/L	4009-15 12/28/2017 Deep ug/L	4009-15 3/30/2018 Deep ug/L	4009-15 6/14/2018 Deep ug/L	4009-15 9/27/2018 Deep ug/L	4009-15 12/19/2018 Deep ug/L	4009-15 3/25/2019 Deep ug/L	4009-15 10/10/2019 Deep ug/L	4009-16 10/23/2017 Deep ug/L
1,1,1-Trichloroethane	5	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
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	9.7	5.1 J	4.4 J	5.0 U	7.3 J	5.6 J	6.9 J	4.9 J	3.3 J
Benzene	1	1.0	9.1	9.3	9.0	7.3	8.7	8.8	9.2	1.5
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U*	5.0 U
2-Butanone (MEK)	50	5.0 U	10 U	10 U	5.0 U	10 U	10 U	10 U*	10 U	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	0.34 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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		20.0	14.2	13.7	9.00	14.6	14.3	15.7	14.1	4.80
Total VOCs (w/o Acetone or Methylene Chloride)		10.3	9.10	9.30	9.00	7.30	8.70	8.80	9.20	1.50

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-16 12/28/2017 Deep ug/L	4009-16 3/30/2018*** Deep ug/L	4009-16 6/14/2018 Deep ug/L	4009-16 9/27/2018 Deep ug/L	4009-16 12/19/2018 Deep ug/L	4009-16 3/25/2019 Deep ug/L	4009-16 10/10/2019 Deep ug/L	4009-16A 10/23/2017 Shallow ug/L	4009-16A 12/28/2017 Shallow ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J	1.0 U
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	10 U	5.0 U	3.1 J	10 U	3.0 J	10 U	5.0 U	10 U
Benzene	1	5.8	1.1	5.7	1.5	7.3	2.1	4.2	0.23 J	1.0 U
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U*	5.0 U	2.5 U
2-Butanone (MEK)	50	10 U	10 U	5.0 U	10 U	10 U	10 U*	10 U	5.0 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		5.80	1.10	5.70	4.60	7.30	5.10	4.20	0.54	0.00
Total VOCs (w/o Acetone or Methylene Chloride)		5.80	1.10	5.70	1.50	7.30	2.10	4.20	0.54	0.00

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-16A 3/30/2018 Shallow ug/L	4009-16A 6/14/2018 Shallow ug/L	4009-16A 9/27/2018 Shallow ug/L	4009-16A 12/19/2018 Shallow ug/L	4009-16A 3/25/2019 Shallow ug/L	4009-16A 10/10/2019 Shallow ug/L	4009-18 10/23/2017 Deep ug/L	4009-18 12/28/2017 Deep ug/L	4009-18 3/30/2018 Deep ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.69 J	1.0 U	0.88 J
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	5.0 U	3.3 J	10 U	3.0 J	8.3 J	2.9 J	10 U	10 U
Benzene	1	1.0 U	0.56 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	7	1.0 U	1.0 U	1.0 U	0.44 J	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U	5.0 U	10 U	10 U	10 U*	10 U*	5.0 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		0.00	0.56	3.30	0.44	3.36	8.30	3.59	0.00	0.88
Total VOCs (w/o Acetone or Methylene Chloride)		0.00	0.56	0.00	0.44	0.36	0.00	0.69	0.00	0.88

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-18 6/14/2018 Deep ug/L	4009-18 9/27/2018 Deep ug/L	4009-18 12/19/2018 Deep ug/L	4009-18 3/25/2019 Deep ug/L	4009-18 10/10/2019 Deep ug/L	4009-19 10/23/2017 Deep ug/L	4009-19 12/28/2017 Deep ug/L	4009-19 3/30/2018 Deep ug/L	4009-19 6/14/2018 Deep ug/L
1,1,1-Trichloroethane	5	0.57 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
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*
Acetone	50*	5.0 U	5.0 U	10 U	10 U	3.3 J	5.0 U	10 U	10 U	5.0 U
Benzene	1	1.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 J
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		5.0 U	1.0 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	5.0 U
2-Butanone (MEK)	50	5.0 U	10 U	10 U	10 U*	10 U*	5.0 U	10 U	10 U	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*
Methyl Cyclohexane		1.0 U	2.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		0.57	0.00	0.00	0.00	3.30	0.00	0.00	0.00	0.26
Total VOCs (w/o Acetone or Methylene Chloride)		0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-19 9/27/2018 Deep ug/L	4009-19 12/19/2018 Deep ug/L	4009-19 3/25/2019 Deep ug/L	4009-19 10/10/2019 Deep ug/L	4009-21 10/23/2017 Deep ug/L	4009-21 12/28/2017 Deep ug/L	4009-21 3/30/2018 Deep ug/L	4009-21 6/14/2018 Deep ug/L	4009-21 9/27/2018 Deep ug/L
1,1,1-Trichloroethane	5	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
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U
Acetone	50*	10 U	10 U	10 U	4.4 J	3.0 J	10 U	10 U	5.0 U	10 U
Benzene	1	1.5	0.50 J	1.0 U	1.0 U	18	18	17	11	5.3
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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*
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U
2-Butanone (MEK)	50	10 U	10 U	10 U*	10 U*	5.0 U	10 U	10 U	5.0 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		1.50	0.50	0.00	4.40	21.0	18.0	17.0	11.0	5.30
Total VOCs (w/o Acetone or Methylene Chloride)		1.50	0.50	0.00	0.00	18.0	18.0	17.0	11.0	5.30

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-21 12/19/2018 Deep ug/L	4009-21 3/25/2019 Deep ug/L	4009-21 10/10/2019 Deep ug/L	4009-22 10/23/2017 Deep ug/L	4009-22 12/28/2017 Deep ug/L	4009-22 3/30/2018 Deep ug/L	4009-22 6/14/2018 Deep ug/L	4009-22 9/27/2018 Deep ug/L	4009-22 12/19/2018 Deep ug/L
1,1,1-Trichloroethane	5	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
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U	0.90 J	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Acetone	50*	10 U	10 U	5.3 J	3.5 J	10 U	10 U	5.0 U	3.4 J	10 U
Benzene	1	11	7.3	3.7	1.1	1.0	1.2	0.96 J	1.2	0.96 J
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	2.5 U	2.5 U*	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U	10 U*	10 U	2.3 J	10 U	10 U	5.0 U	10 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	1.0 U	1.0 U	1.0 U	0.85 J	1.0	0.72 J	0.55 J	0.65 J	1.0 U
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		11.0	7.30	9.00	8.65	2.0	1.92	1.51	5.25	0.96
Total VOCs (w/o Acetone or Methylene Chloride)		11.0	7.30	3.70	5.15	2.0	1.92	1.51	1.85	0.96

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-22 3/25/2019 Deep ug/L	4009-22 10/10/2019 Deep ug/L	4009-26 10/23/2017 Intermediate ug/L	4009-26 12/28/2017 Intermediate ug/L	4009-26 3/30/2018 Intermediate ug/L	4009-26 6/14/2018 Intermediate ug/L	4009-26 9/27/2018 Intermediate ug/L	4009-26 12/19/2018 Intermediate ug/L	4009-26 3/25/2019 Intermediate ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	140	82	290	280	350	530	2300
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	6.6	3.4	8.8	8.4	11	12	22
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,1-Dichloroethane	5	1.0 U	1.0 U	12	14	35	32	42	45	79
1,1-Dichloroethene	5	1.0 U	1.0 U	4.5	2.9	8.5	8.7	17	16	66
1,2,3-Trimethylbenzene		1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
2-Hexanone	50*	5.0 U	5.0 U	5.0 U	10 U	10 U	5.0 U*	25 U	25 U	50 U
Acetone	50*	3.5 J	3.2 J	1.3 J	20 U	20 U	5.0 U	50 U	50 U	100 U
Benzene	1	1.1	1.2	0.27 J	2.0 U	2.0 U	0.53 J	5.0 U	5.0 U	10 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Bromoform	50*	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Carbon disulfide		1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Chloroethane	5	1.0 U	1.0 U	0.65 J	2.0 U	0.91 J	2.3	2.0 J	5.0 U	5.1 J
Chloroform	7	1.0 U	1.0 U	0.29 J	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Chloromethane		1.0 U	1.0 U*	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	59	54	120	110	170	190	360
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Cyclohexane		1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Dichlorodifluoromethane	5	1.0 U	1.0 U*	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Methyl Acetate		2.5 U	2.5 U*	5.0 U	2.0 U	5.0 U	5.0 U	13 U	13 U	25 U
2-Butanone (MEK)	50	10 U*	10 U	5.0 U	20 U	20 U*	5.0 U	50 U	50 U	10 U*
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U*	5.0 U	10 U	10 U	5.0 U*	25 U	25 U	50 U
Methyl Cyclohexane		1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Methylene Chloride	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Styrene	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Tetrachloroethene	5	1.0 U	1.0 U	0.84 J	2.0 U	1.3 J *	1.2	5.0 U	1.8 J	10 U
Toluene	5	0.66 J	0.67 J	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	0.41 J	2.0 U	2.0 U	0.74 J	5.0 U	5.0 U	10 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Trichloroethene	5	1.0 U	1.0 U	57	49	88	65	140	120	400
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	5.0 U	5.0 U	10 U
Vinyl chloride	2	1.0 U	1.0 U	5.1	4.6	9.9	8.1	13	13	15
Xylenes, Total		2.0 U	2.0 U	2.0 U	4.0 U	4.0 U	2.0 U	10 U	10 U	20 U
Total VOCs		5.26	5.07	283	210	562	517	745	928	3247
Total VOCs (w/o Acetone or Methylene Chloride)		1.76	1.87	282	210	562	517	745	928	3247

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-26 10/10/2019 Intermediate ug/L	4009-27S 10/23/2017 Intermediate ug/L	4009-27S 12/28/2017 Intermediate ug/L	4009-27S 3/30/2018 Intermediate ug/L	4009-27S 6/14/2018 Intermediate ug/L	4009-27S 9/27/2018 Intermediate ug/L	4009-27S 12/19/2018 Intermediate ug/L	4009-27S 3/25/2019 Intermediate ug/L	4009-27S 10/10/2019 Intermediate ug/L
1,1,1-Trichloroethane	5	350	53	53	52	43	47	43	52	60
1,1,2,2-Tetrachloroethane	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		14	3.5	3.1	2.4	2.6	1.5 J	2.3	2.8	2.6
1,1,2-Trichloroethane	1	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	20	2.3	2.3	2.2	1.9	2.2	1.9	2.1	2.4
1,1-Dichloroethene	5	16	4.8	4.8	4.4	4.1	4.5	4.2	4.1	4.8
1,2,3-Trimethylbenzene		10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50*	50 U	5.0 U	10 U	10 U	5.0 U*	10 U	5.0 U	5.0 U	5.0 U
Acetone	50*	100 U	3.5 J	20 U	20 U	5.0 U	20 U	6.3 J	3.0 J	10 U
Benzene	1	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50*	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	10 U	1.0 U*	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide		10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	10 U	0.27 J	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		10 U*	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U*
cis-1,2-Dichloroethene	5	100	20	22	21	18	21	18	19	21
cis-1,3-Dichloropropene	0.4	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane		10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U*	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	10 U*	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U*
Ethylbenzene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate		25 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.5 U	2.5 U	2.5 U*
2-Butanone (MEK)	50	100 U	5.0 U	20 U	20 U	5.0 U	20 U	10 U	10 U*	10 U
4-Methyl-2-pentanone (MIBK)		50 U*	5.0 U	10 U	10 U	5.0 U*	10 U	5.0 U	5.0 U	5.0 U*
Methyl Cyclohexane		10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	10 U	0.19 J	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	140	22	27	26	20	25	21	20	20
Trichlorofluoromethane	5	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	10 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total		20 U	2.0 U	4.0 U	4.0 U	2.0 U	4.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		640	110	112	108	89.6	101	96.7	103	111
Total VOCs (w/o Acetone or Methylene Chloride)		640	106	112	108	89.6	101	90.4	100	111

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-271 10/23/2017 Intermediate ug/L	4009-271 12/28/2017 Intermediate ug/L	4009-271 3/30/2018 Intermediate ug/L	4009-271 6/14/2018 Intermediate ug/L	4009-271 9/27/2018 Intermediate ug/L	4009-271 12/19/2018 Intermediate ug/L	4009-271 3/25/2019 Intermediate ug/L	4009-271 10/10/2019 Intermediate ug/L	4009-27D 10/23/2017 Deep ug/L
1,1,1-Trichloroethane	5	1.0	1.0 U	1.0 U	0.61 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		0.68 J	1.0 U	1.0 U	0.42 J	1.0 U	1.0 U	0.44 J	1.0 U	1.0 U
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	5.0 U	10 U	10 U	5.0 U	4.6 J	10 U	10 U	3.5 J	5.0 U
Benzene	1	0.12 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
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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*
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	0.41 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
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U
2-Butanone (MEK)	50	5.0 U	10 U	10 U*	5.0 U	10 U	10 U	10 U*	10 U*	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	0.98 J	0.73 J	1.6	1.4	1.7	2.2	1.9	0.80 J	1.0 U
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		3.19	0.73	1.60	2.43	6.30	2.20	2.34	4.30	0.00
Total VOCs (w/o Acetone or Methylene Chloride)		3.19	0.73	1.60	2.43	1.70	2.20	2.34	0.80	0.00

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-27D 12/28/2017 Deep ug/L	4009-27D 3/30/2018 Deep ug/L	4009-27D 6/14/2018 Deep ug/L	4009-27D 9/27/2018 Deep ug/L	4009-27D 12/19/2018 Deep ug/L	4009-27D 3/25/2019 Deep ug/L	4009-27D 10/10/2019 Deep ug/L	4009-28 10/23/2017 Deep ug/L	4009-28 12/28/2017 Deep ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.5	1.0 U
1,1,2,2-Tetrachloroethane	5	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
1,1,2-Trichloro-1,2,2-Trifluoroethane		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
1,1,2-Trichloroethane	1	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
1,1-Dichloroethane	5	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
1,1-Dichloroethene	5	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
1,2,3-Trimethylbenzene		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
1,2,4-Trichlorobenzene	5	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
1,2,4-Trimethylbenzene	5	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-Dibromo-3-Chloropropane	0.04	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-Dibromoethane (Ethylene Dibromide)	5	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-Dichlorobenzene	3	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-Dichloroethane	0.6	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-Dichloropropane	1	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
1,3,5-Trimethylbenzene (Mesitylene)	5	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
1,3-Dichlorobenzene	3	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
1,4-Dichlorobenzene	3	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-Hexanone	50*	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	10 U	5.0 U	3.6 J	5.0 J	10 U	3.7 J	1.7 J	10 U
Benzene	1	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
Bromodichloromethane	50	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
Bromoform	50*	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
Bromomethane	5	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
Carbon disulfide		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
Carbon tetrachloride	5	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
Chlorobenzene	5	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
Chloroethane	5	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
Chloroform	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	1.0 U
Chloromethane		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
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.35 J	1.0 U
cis-1,3-Dichloropropene	0.4	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
Cyclohexane		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
Dibromochloromethane	50	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
Dichlorodifluoromethane	5	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
Ethylbenzene	5	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
Isopropylbenzene (Cumene)	5	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
Methyl Acetate		2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	5.0 U	2.5 U
2-Butanone (MEK)	50	10 U	10 U	5.0 U	10 U	10 U	10 U*	10 U*	5.0 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methyl Cyclohexane		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
Methylene Chloride	5	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
Styrene	5	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
Methyl Tert Butyl Ether	10	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
Tetrachloroethene	5	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
Toluene	5	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
trans-1,2-Dichloroethene	5	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
trans-1,3-Dichloropropene	0.4	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
Trichloroethene	5	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
Trichlorofluoromethane	5	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
Vinyl chloride	2	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
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		0.00	0.00	0.00	3.60	5.00	0.00	3.70	4.55	0.00
Total VOCs (w/o Acetone or Methylene Chloride)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85	0.00

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-28 3/30/2018 Deep ug/L	4009-28 6/14/2018 Deep ug/L	4009-28 9/27/2018 Deep ug/L	4009-28 12/19/2018 Deep ug/L	4009-28 3/25/2019 Deep ug/L	4009-28 10/10/2019 Deep ug/L	4009-29S 10/23/2017 Intermediate ug/L	4009-29S 12/28/2017 Intermediate ug/L	4009-29S 3/30/2018 Intermediate ug/L	4009-29S 6/14/2018 Intermediate ug/L
1,1,1-Trichloroethane	5	2.9	2.5	3.2	2.5	3.4	1.0 U	390	490	650	420
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	3.9	9.0 J	5.8 J	4.3
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	36	76	97	58
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	26	37	51	37
1,2,3-Trimethylbenzene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
2-Hexanone	50*	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	10 U	50 U	50 U	10 U*
Acetone	50*	10 U	5.0 U	3.6 J	10 U	10 U	10 U	10 U	100 U	100 U	10 U
Benzene	1	1.0 U	0.61 J	1.0 U	1.0 U	1.0 U	2.4	0.3 J	10 U	10 U	2.0 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Bromoform	50*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Carbon disulfide		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.26 J	2.0 U	10 U	10 U	2.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.6 J	10 U	10 U	2.0
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Chloromethane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
cis-1,2-Dichloroethene	5	1.0 U	0.41 J	1.0 U	1.0 U	1.0 U	1.0 U	170	250	350	260
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Methyl Acetate		2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	2.5 U	10 U	25 U	25 U	10 U
2-Butanone (MEK)	50	10 U	5.0 U	10 U	10 U	10 U*	10 U*	10 U	100 U	100 U	10 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	5.0 U	10 U	50 U	50 U	10 U*
Methyl Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Methylene Chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	2.0 U	10 U	10 U	2.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.87 J	10 U	10 U	0.78 J
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	10 U	10 U	2.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	94	110	48	19
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.37 J	10 U	10 U	2.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	32	100	120	74
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	4.0 U	20 U	20 U	4.0 U
Total VOCs		2.90	3.52	6.80	2.50	3.40	3.76	755	1072	1322	875
Total VOCs (w/o Acetone or Methylene Chloride)		2.90	3.52	3.20	2.50	3.40	3.76	755	1072	1322	875

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-29S 9/27/2018 Intermediate ug/L	4009-29S 12/19/2018 Intermediate ug/L	4009-29S 3/25/2019 Intermediate ug/L	4009-29S 10/10/2019 Intermediate ug/L	4009-29I 10/23/2017 Intermediate ug/L	4009-29I 12/28/2017 Intermediate ug/L	4009-29I 3/30/2018 Intermediate ug/L	4009-29I 6/14/2018 Intermediate ug/L	4009-29I 9/27/2018 Intermediate ug/L	4009-29I 12/19/2018 Intermediate ug/L
1,1,1-Trichloroethane	5	960	1000	1600	1700	970	1100	1200	620	990	950
1,1,2,2-Tetrachloroethane	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		5.0 J	10 U	11 J	20 U	11	16 J	20 U	7.5	20 U	20 U
1,1,2-Trichloroethane	1	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,1-Dichloroethane	5	90	95	110	100	72	92	93	50	84	72
1,1-Dichloroethene	5	74	85	100	110	62	71	95	50	82	79
1,2,3-Trimethylbenzene		10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2,4-Trichlorobenzene	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2,4-Trimethylbenzene	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2-Dibromo-3-Chloropropane	0.04	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2-Dibromoethane (Ethylene Dibromide)	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2-Dichlorobenzene	3	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2-Dichloroethane	0.6	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,2-Dichloropropane	1	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,3,5-Trimethylbenzene (Mesitylene)	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,3-Dichlorobenzene	3	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
1,4-Dichlorobenzene	3	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
2-Hexanone	50*	50 U	50 U	100 U	100 U	25 U	100 U	100 U	10 U*	100 U	100 U
Acetone	50*	100 U	100 U	200 U	200 U	25 U	200 U	200 U	10 U	200 U	200 U
Benzene	1	10 U	10 U	20 U	20 U	0.57 J	20 U	20 U	2.0 U	20 U	20 U
Bromodichloromethane	50	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Bromoform	50*	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Bromomethane	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Carbon disulfide		10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Carbon tetrachloride	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Chlorobenzene	5	10 U	10 U	20 U	20 U	1.7 J	20 U	20 U	0.91 J	20 U	20 U
Chloroethane	5	10 U	10 U	20 U	20 U	3.6 J	20 U	20 U	2.2	20 U	20 U
Chloroform	7	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Chloromethane		10 U	10 U	20 U	20 U*	5.0 U	20 U	20 U	2.0 U	20 U	20 U
cis-1,2-Dichloroethene	5	470	430	590	550	330	390	400	250	380	350
cis-1,3-Dichloropropene	0.4	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Cyclohexane		10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Dibromochloromethane	50	10 U*	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Dichlorodifluoromethane	5	10 U	10 U	20 U	20 U*	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Ethylbenzene	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Isopropylbenzene (Cumene)	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Methyl Acetate		25 U	25 U	50 U	50 U*	25 U	50 U	50 U	10 U	50 U	50 U
2-Butanone (MEK)	50	100 U	100 U	200 U*	200 U	25 U	200 U	200 U	10 U	200 U	200 U
4-Methyl-2-pentanone (MIBK)		50 U	50 U	100 U	100 U*	25 U	100 U	100 U	10 U*	100 U	100 U
Methyl Cyclohexane		10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Methylene Chloride	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Styrene	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Methyl Tert Butyl Ether	10	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Tetrachloroethene	5	10 U	10 U	20 U	20 U	1.8 J	20 U	20 U	1.1 J	20 U	20 U
Toluene	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
trans-1,2-Dichloroethene	5	10 U	10 U	20 U	20 U	1.8 J	20 U	20 U	0.95 J	20 U	20 U
trans-1,3-Dichloropropene	0.4	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U	20 U	20 U
Trichloroethene	5	150	220	210	380	290	410	420	200	400	330
Trichlorofluoromethane	5	10 U	10 U	20 U	20 U	5.0 U	20 U	20 U	2.0 U*	20 U	20 U
Vinyl chloride	2	100	120	130	140	96	120	92	63	79	68
Xylenes, Total		20 U	20 U	40 U	40 U	10 U	40 U	40 U	4.0 U	40 U	40 U
Total VOCs		1849	1950	2751	2980	1840	2199	2300	1246	2015	1849
Total VOCs (w/o Acetone or Methylene Chloride)		1849	1950	2751	2980	1840	2199	2300	1246	2015	1849

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-29I 3/25/2019 Intermediate ug/L	4009-29I 10/10/2019 Intermediate ug/L	DUP-2 10/10/2019 Intermediate ug/L	4009-29D 10/23/2017 Deep ug/L	4009-29D 12/28/2017 Deep ug/L	4009-29D 3/30/2018 Deep ug/L	4009-29D 6/14/2018 Deep ug/L	4009-29D 9/27/2018 Deep ug/L	4009-29D 12/19/2018 Deep ug/L
1,1,1-Trichloroethane	5	850	1200	1100	7.6	13	280	41	150	56
1,1,2,2-Tetrachloroethane	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		20 U	20 U	9.6 J	1.0 U	1.0 U	3.5	0.67 J	5.0 U	1.0 U
1,1,2-Trichloroethane	1	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,1-Dichloroethane	5	70	91	82	1.8	2.9	38	11	29	14
1,1-Dichloroethene	5	65	86	68	0.37 J	0.88 J	42	5.3	13	3.7
1,2,3-Trimethylbenzene		20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2,4-Trichlorobenzene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2-Dichlorobenzene	3	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2-Dichloroethane	0.6	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,2-Dichloropropane	1	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,3-Dichlorobenzene	3	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
1,4-Dichlorobenzene	3	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
2-Hexanone	50*	100 U	100 U	100 U	5.0 U	5.0 U	5.0 U	5.0 U*	25 U	5.0 U
Acetone	50*	200 U	200 U	200 U	1.3 J	10 U	10 U	5.0 U	50 U	3.9 J
Benzene	1	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Bromodichloromethane	50	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Bromoform	50*	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Bromomethane	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Carbon disulfide		20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Carbon tetrachloride	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Chlorobenzene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Chloroethane	5	20 U	20 U	20 U	3.0	2.3	2.7	3.0	3.6 J	2.9
Chloroform	7	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Chloromethane		20 U	20 U	20 U*	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	5	290	320	320	1.5	3.3	180	26	77	20
cis-1,3-Dichloropropene	0.4	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Cyclohexane		20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Dibromochloromethane	50	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Dichlorodifluoromethane	5	20 U	20 U	20 U*	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Ethylbenzene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Isopropylbenzene (Cumene)	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methyl Acetate		50 U	50 U	50 U*	5.0 U	2.5 U	2.5 U	5.0 U	13 U	2.5 U
2-Butanone (MEK)	50	200 U*	200 U*	200 U	2.3 J	10 U	10 U*	5.0 U	50 U	10 U
4-Methyl-2-pentanone (MIBK)		100 U	100 U	100 U*	5.0 U	5.0 U	5.0 U	5.0 U*	25 U	5.0 U
Methyl Cyclohexane		20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methylene Chloride	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Styrene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methyl Tert Butyl Ether	10	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Tetrachloroethene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U*	1.0 U	5.0 U	1.0 U
Toluene	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
trans-1,2-Dichloroethene	5	20 U	20 U	20 U	1.0 U	1.0 U	0.9 J	1.0 U	5.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Trichloroethene	5	340	340	340	2.0	3.5	120	10	16	12
Trichlorofluoromethane	5	20 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Vinyl chloride	2	57	81	77	8.4	9.4	72	17	35	15
Xylenes, Total		40 U	40 U	40 U	2.0 U	2.0 U	2.0 U	2.0 U	10 U	2.0 U
Total VOCs		1672	2118	1997	28.3	35.3	739	114	324	128
Total VOCs (w/o Acetone or Methylene Chloride)		1672	2118	1997	27.0	35.3	739	114	324	124

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-29D 3/25/2019 Deep ug/L	4009-29D 10/10/2019 Deep ug/L	4009-30 10/23/2017 Deep ug/L	4009-30 12/28/2017 Deep ug/L	4009-30 3/30/2018 Deep ug/L	4009-30 6/14/2018 Deep ug/L	4009-30 9/27/2018 Deep ug/L	4009-30 12/19/2018 Deep ug/L	4009-30 3/25/2019 Deep ug/L
1,1,1-Trichloroethane	5	100	210	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	15	18	0.77 J	0.66 J	0.71 J	0.61 J	1.0 U	1.1	0.98 J
1,1-Dichloroethene	5	5.0	32	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene		1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	50*	5.0 U	20.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	40.0 U	5.0 U	10.0 U	10.0 U	5.0 U	3.5 J	10 U	10 U
Benzene	1	1.0 U	4.0 U	2.5	6.4	5.3	4.1	33	0.87 J	1.2
Bromodichloromethane	50	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50*	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide		1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	3.0	4.2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	29	93	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane		1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate		2.5 U	10.0 U	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U
2-Butanone (MEK)	50	10 U*	40.0 U	5.0 U	10.0 U	10.0 U*	5.0 U	10 U	10 U	10 U*
4-Methyl-2-pentanone (MIBK)		5.0 U	20.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U
Methyl Cyclohexane		1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	1.0 U	4.0 U	0.28 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	12	100	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	4.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	22	42	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total		2.0 U	8.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		186	499	3.55	7.06	6.01	4.71	36.5	1.97	2.18
Total VOCs (w/o Acetone or Methylene Chloride)		186	499	3.55	7.06	6.01	4.71	33.0	1.97	2.18

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	4009-30 10/10/2019 Deep ug/L	4009-30A 10/23/2017 Shallow ug/L	4009-30A 12/28/2017 Shallow ug/L	4009-30A 3/30/2018 Shallow ug/L	4009-30A 6/14/2018 Shallow ug/L	4009-30A 9/27/2018 Shallow ug/L	4009-30A 12/19/2018 Shallow ug/L	4009-30A 3/25/2019 Shallow ug/L	4009-30A 10/10/2019 Shallow ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,1-Dichloroethane	5	0.73 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2,3-Trimethylbenzene		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
2-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	NS
Acetone	50*	10 U	5.0 U	10 U	10 U	5.0 U	3.1 J	10 U	10 U	NS
Benzene	1	4.5	0.23 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Bromoform	50*	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Carbon disulfide		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Chloroform	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	NS
Chloromethane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Methyl Acetate		2.5 U	5.0 U	2.5 U	2.5 U	5.0 U	2.5 U	2.5 U	2.5 U	NS
2-Butanone (MEK)	50	10 U*	5.0 U	10 U	10 U*	5.0 U	10 U	10 U	10 U*	NS
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U*	5.0 U	5.0 U	5.0 U	NS
Methyl Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Methylene Chloride	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U*	1.0 U	1.0 U	1.0 U	1.0 U	NS
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NS
Total VOCs		5.23	0.23	0.00	0.00	0.00	3.10	0.00	0.00	NS
Total VOCs (w/o Acetone or Methylene Chloride)		5.23	0.23	0.00	0.00	0.00	0.00	0.00	0.00	NS

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Groundwater Monitoring Zone: Units:	NYSDEC GA Standard ug/L	Well 1-1 10/23/2017 Deep ug/L	Well 1-1 12/28/2017 Deep ug/L	Well 1-1 3/30/2018 Deep ug/L	Well 1-1 6/14/2018 Deep ug/L	Well 1-1 9/27/2018 Deep ug/L	Well 1-1 12/19/2018 Deep ug/L	Well 1-1 3/25/2019 Deep ug/L	Well 1-1 10/10/2019 Deep ug/L
1,1,1-Trichloroethane	5	210	170	230	170	220	220	360	250
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		5.7	4.4	4.0 U	4.2	4.0 U	3.2 J	4.0 U	3.7 J
1,1,2-Trichloroethane	1	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,1-Dichloroethane	5	17	18	21	17	20	25	36	21
1,1-Dichloroethene	5	13	13	16	14	18	18	25	18
1,2,3-Trimethylbenzene		1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
2-Hexanone	50*	5.0 U	5.0 U	20 U	5.0 U*	20 U	20 U	20 U	25 U
Acetone	50*	5.0 U	10 U	40 U	5.0 U	40 U	40 U	40 U	50 U
Benzene	1	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Bromodichloromethane	50	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Bromoform	50*	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Bromomethane	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Carbon disulfide		1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Chlorobenzene	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Chloroethane	5	1.0 U	1.0 U	4.0 U	0.46 J	4.0 U	4.0 U	4.0 U	5.0 U
Chloroform	7	0.27 J	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Chloromethane		1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U*
cis-1,2-Dichloroethene	5	55	59	69	56	68	78	100	73
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Cyclohexane		1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Dibromochloromethane	50	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U*
Ethylbenzene	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Methyl Acetate		5.0 U	2.5 U	10 U	5.0 U	10 U	10 U	10 U	13 U*
2-Butanone (MEK)	50	5.0 U	10 U	40 U*	5.0 U	40 U	40 U	40 U*	50 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	20 U	5.0 U*	20 U	20 U	20 U	25 U*
Methyl Cyclohexane		1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Methylene Chloride	5	1.0 U	1.0 U	4.0 U	1.0 U	1.8 J	4.0 U	4.0 U	5.0 U
Styrene	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Tetrachloroethene	5	0.21 J	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Toluene	5	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
trans-1,2-Dichloroethene	5	0.28 J	1.0 U	4.0 U	0.35 J	4.0 U	4.0 U	4.0 U	5.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Trichloroethene	5	59	61	73	53	67	67	89	71
Trichlorofluoromethane	5	0.19 J	1.0 U	4.0 U	1.0 U	4.0 U	4.0 U	4.0 U	5.0 U
Vinyl chloride	2	0.17 J	1.0 U	4.0 U	0.29 J	4.0 U	4.0 U	4.0 U	5.0 U
Xylenes, Total		2.0 U	2.0 U	8.0 U	2.0 U	8.0 U	8.0 U	8.0 U	10 U
Total VOCs		361	325	409	315	395	411	610	437
Total VOCs (w/o Acetone or Methylene Chloride)		361	325	409	315	393	411	610	437

See Notes on Page 26.

Table 2-2
Summary of Groundwater Results

Second Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Notes:

NYSDEC GA GW Standard - New York State Department of Environmental Conservation Groundwater Standard

■ - Concentration exceeds NYSDEC Class GA Standard

U- Compound analyzed for but not detected

J - Compound detected below the reporting limit or reported concentration is estimated

µg/L - Micrograms per Liter

* - Laboratory control sample (LCS) or LCS Duplicate is outside acceptable limitsMatrix Spike (MS) or MS Duplicate is outside acceptable limits

DUP-1 a duplicate sample from monitoring well 4009-12

DUP-2 is a duplicate sample from monitoring well 4009-29I

NS - Not Sampled

*** - 4009-16 was sampled via low flow on this date.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-2A ** Influent 1/15/2018 ug/L	Well 1-2A Influent 1/29/2018 ug/L	Well 1-2A Influent 2/20/2018 ug/L	Well 1-2A Influent 2/26/2018 ug/L	Well 1-2A Influent 3/12/2018 ug/L	Well 1-2A Influent 3/30/2018 ug/L	Well 1-2A Influent 4/6/2018 ug/L	Well 1-2A Influent 4/24/2018 ug/L	Well 1-2A Influent 5/7/2018 ug/L	Well 1-2A Influent 5/21/2018 ug/L	Well 1-2A Influent 6/14/2018 ug/L
1,1,1-Trichloroethane	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1,2,2-Tetrachloroethane	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U*	NA	1.0 U
1,1,2-Trichloroethane	1	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethane	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2,3-Trimethylbenzene		NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
1,2,4-Trichlorobenzene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2,4-Trimethylbenzene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	10 U	10 U	NA	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
1,2-Dichlorobenzene	3	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2-Dichloroethane	0.6	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2-Dichloropropane	1	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,3-Dichlorobenzene	3	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,4-Dichlorobenzene	3	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
2-Butanone (MEK)	50	NS	10 U	NA	10 U	NA	10 U	NA	50 U	50 U	NA	10 U
2-Hexanone	50*	NS	5.0 U	NA	5.0 U	NA	5.0 U	NA	10 U	10 U	NA	5.0 U*
4-Methyl-2-pentanone (MIBK)		NS	5.0 U	NA	5.0 U	NA	5.0 U	NA	10 U	10 U	NA	5.0 U*
Acetone	50*	NS	10 U	NA	10 U	NA	10 U	NA	25 U	25 U	NA	10 U
Benzene	1	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Bromodichloromethane	50	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Bromofom	50*	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Bromomethane	5	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Carbon disulfide		NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U*	NA	1.0 U
Carbon tetrachloride	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Chlorobenzene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Chloroethane	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Chloroform	7	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Chloromethane		NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
cis-1,2-Dichloroethene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
cis-1,3-Dichloropropene	0.4	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Cyclohexane		NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	5.0 U	5 U*	NA	1.0 U
Dibromochloromethane	50	NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Dichlorodifluoromethane	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Ethylbenzene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Isopropylbenzene (Cumene)	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Methyl Acetate		NS	2.5 U	NA	2.5 U	NA	2.5 U	NA	10 U	10 U	NA	2.5 U
Methyl Cyclohexane		NS	1.0 U	NA	1.0 U	NA	1.0 U	NA	5.0 U	5.0 U*	NA	1.0 U
Methylene Chloride	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	5.0 U	5.0 U*	0.5 U	1.0 U
Methyl Tert Butyl Ether	10	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Styrene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Tetrachloroethene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Toluene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
trans-1,2-Dichloroethene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
trans-1,3-Dichloropropene	0.4	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Trichloroethene	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U*	0.5 U	1.0 U
Trichlorofluoromethane	5	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Vinyl chloride	2	NS	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Xylenes, Total		NS	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	3.0 U	3.0 U	0.5 U	2.0 U
Total VOCs		NS	0		0		0		0		0	

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-2A Influent 6/19/2018 ug/L	Well 1-2A Influent 7/6/2018 ug/L	Well 1-2A Influent 7/17/2018 ug/L	Well 1-2A Influent 8/8/2018 ug/L	Well 1-2A Influent 8/27/2018 ug/L	Well 1-2A Influent 9/13/2018 ug/L	Well 1-2A Influent 9/24/2018 ug/L	Well 1-2A Influent 10/22/2018 ug/L	Well 1-2A Influent 10/30/2018 ug/L	Well 1-2A Influent 11/12/2018 ug/L
1,1,1-Trichloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U*	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
1,1,2-Trichloroethane	1	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,1-Dichloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,1-Dichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene		NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
1,2-Dichlorobenzene	3	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,2-Dichloropropane	1	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
2-Butanone (MEK)	50	NA	10 U	NA	10 U*	NA	10 U*	NA	NA	10 U*	10 U
2-Hexanone	50*	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)		NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	5.0 U
Acetone	50*	NA	10 U	NA	3.1 J	NA	10 U	NA	NA	3.5 J	10 U
Benzene	1	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Bromodichloromethane	50	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Bromoform	50*	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Bromomethane	5	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Carbon disulfide		NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Carbon tetrachloride	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Chlorobenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Chloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Chloroform	7	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Chloromethane		NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Cyclohexane		NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Dibromochloromethane	50	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Dichlorodifluoromethane	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Ethylbenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Methyl Acetate		NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	NA	2.5 U	2.5 U
Methyl Cyclohexane		NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	1.0 U
Methylene Chloride	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.8 BT	1.0 U
Methyl Tert Butyl Ether	10	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Styrene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Tetrachloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U*	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Toluene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Trichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Trichlorofluoromethane	5	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Vinyl chloride	2	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U
Xylenes, Total		0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	0.5 U	2.0 U	2.0 U
Total VOCs		0	0	0	3.1	0	0	0	0	5.3	0

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-2A Influent 11/30/2018 ug/L	Well 1-2A Influent 12/17/2018 ug/L	Well 1-2A Influent 12/19/2018 ug/L	Well 1-2A Influent 1/7/2019 ug/L	Well 1-2A Influent 1/28/2019 ug/L	Well 1-2A Influent 2/11/2019 ug/L	Well 1-2A Influent 2/22/2019 ug/L	Well 1-2A Influent 3/11/2019 ug/L	Well 1-2A Influent 3/26/2019 ug/L	Well 1-2A Influent 4/11/2019 ug/L	Well 1-2A Influent 4/22/2019 ug/L
1,1,1-Trichloroethane	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,1,2-Trichloroethane	1	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,1-Dichloroethane	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,1-Dichloroethene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,2,3-Trimethylbenzene		NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2,4-Trichlorobenzene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,2,4-Trimethylbenzene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.04	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2-Dibromoethane (Ethylene Dibromide)	5	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
1,2-Dichlorobenzene	3	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,2-Dichloropropane	1	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,3-Dichlorobenzene	3	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
1,4-Dichlorobenzene	3	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
2-Butanone (MEK)	50	NA	NA	10 U	10 U	NA	10 U	NA	10 U	NA	10 U	NA
2-Hexanone	50*	NA	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
4-Methyl-2-pentanone (MIBK)		NA	NA	5.0 U	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA
Acetone	50*	NA	NA	10 U	10 U	NA	10 U	NA	10 U	NA	10 U	NA
Benzene	1	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Bromodichloromethane	50	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromoform	50*	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Bromomethane	5	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Carbon disulfide		NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Carbon tetrachloride	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Chlorobenzene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Chloroethane	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Chloroform	7	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Chloromethane		NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
cis-1,2-Dichloroethene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Cyclohexane		NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Dibromochloromethane	50	NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Dichlorodifluoromethane	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Ethylbenzene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Isopropylbenzene (Cumene)	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Methyl Acetate		NA	NA	2.5 U	2.5 U	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA
Methyl Cyclohexane		NA	NA	1.0 U	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA
Methylene Chloride	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Methyl Tert Butyl Ether	10	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Styrene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Tetrachloroethene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Toluene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
trans-1,2-Dichloroethene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Trichloroethene	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Trichlorofluoromethane	5	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Vinyl chloride	2	0.5 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U
Xylenes, Total		0.5 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U
Total VOCs		0	0	0	0	0	0	0	0	0	0	0

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-2A Influent 5/6/2019 ug/L	Well 1-2A Influent 5/31/2019 ug/L	Well 1-2A Influent 6/7/2019 ug/L	Well 1-2A Influent 6/19/2019 ug/L	Well 1-2A Influent 7/12/2019 ug/L	Well 1-2A Influent 7/22/2019 ug/L	Well 1-2A Influent 8/12/2019 ug/L	Well 1-2A Influent 8/26/2019 ug/L	Well 1-2A Influent 9/26/2019 ug/L	Well 1-2A Influent 9/30/2019 ug/L	Well 1-2A Influent 10/10/2019 ug/L
1,1,1-Trichloroethane	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1,2-Trichloroethane	1	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethane	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2,3-Trimethylbenzene		1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dichlorobenzene	3	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2-Dichloropropane	1	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
2-Butanone (MEK)	50	10 U*	NA	10 U	NA	10 U*	NA	10 U	NA	10 U	NA	10 U
2-Hexanone	50*	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U	NA	5.0 U*
Acetone	50*	10 U	NA	3.8 J	NA	10 U	NA	10 U	NA	10 U	NA	10 U
Benzene	1	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Bromodichloromethane	50	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromoform	50*	1.0 U	NA	1.0 U	NA	1.0 U*	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromomethane	5	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Carbon disulfide		1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Carbon tetrachloride	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Chlorobenzene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Chloroethane	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Chloroform	7	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chloromethane		1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U*
cis-1,2-Dichloroethene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
cis-1,3-Dichloropropene	0.4	1.0 U*	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Cyclohexane		1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Dibromochloromethane	50	1.0 U	NA	1.0 U	NA	1.0 U*	NA	1.0 U	NA	1.0 U	NA	1.0 U
Dichlorodifluoromethane	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U*
Ethylbenzene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Methyl Acetate		2.5 U	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	2.5 U	NA	2.5 U*
Methyl Cyclohexane		1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Methylene Chloride	5	1.0 U	0.5 U	0.44 J	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Styrene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Tetrachloroethene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Toluene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Trichloroethene	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Trichlorofluoromethane	5	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Vinyl chloride	2	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Xylenes, Total		2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U
Total VOCs		0	0	4.24	0	0	0	0	0	0	0	0

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-2A Influent 10/28/2019 ug/L	Well 1-2A Influent 11/22/2019 ug/L	Well 1-2A Influent 11/25/2019 ug/L	Well 1-2A Influent 12/13/2019 ug/L	Well 1-2A Influent 12/20/2019 ug/L	Well 1-3 Influent 12/27/2017 ug/L	Well 1-3 Influent 12/28/2017 ug/L	Well 1-3 Influent 1/15/2018 ug/L	Well 1-3 Influent 1/29/2018 ug/L	Well 1-3 Influent 2/20/2018 ug/L	Well 1-3 Influent 2/26/2018 ug/L
1,1,1-Trichloroethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1,2,2-Tetrachloroethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,1,2-Trichloroethane	1	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2,3-Trimethylbenzene		NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2,4-Trichlorobenzene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2,4-Trimethylbenzene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dichlorobenzene	3	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2-Dichloroethane	0.6	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,2-Dichloropropane	1	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,3-Dichlorobenzene	3	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
1,4-Dichlorobenzene	3	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
2-Butanone (MEK)	50	NA	10 U	NA	10 U*	NA	NA	10 U	NA	10 U	NA	10 U
2-Hexanone	50*	NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	NA	5.0 U	NA	5.0 U
4-Methyl-2-pentanone (MIBK)		NA	5.0 U	NA	5.0 U	NA	NA	5.0 U	NA	5.0 U	NA	5.0 U
Acetone	50*	NA	10 U	NA	10 U	NA	NA	10 U	NA	3.4 J	NA	10 U
Benzene	1	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Bromodichloromethane	50	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromoform	50*	0.78	1.0 U	0.99	1.0 U	0.81	NA	1.0 U	NA	1.0 U	NA	1.0 U
Bromomethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Carbon disulfide		NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
Carbon tetrachloride	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Chlorobenzene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Chloroethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Chloroform	7	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
Chloromethane		0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	NA	1.0 U	NA	1.0 U	NA	1.0 U
cis-1,2-Dichloroethene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
cis-1,3-Dichloropropene	0.4	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Cyclohexane		NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
Dibromochloromethane	50	0.66	1.0 U	0.61	1.0 U	0.54	NA	1.0 U	NA	1.0 U	NA	1.0 U
Dichlorodifluoromethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Ethylbenzene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Isopropylbenzene (Cumene)	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Methyl Acetate		NA	2.5 U	NA	2.5 U	NA	NA	2.5 U	NA	2.5 U	NA	2.5 U
Methyl Cyclohexane		NA	1.0 U	NA	1.0 U	NA	NA	1.0 U	NA	1.0 U	NA	1.0 U
Methylene Chloride	5	0.50 U	2.0 B*	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Methyl Tert Butyl Ether	10	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Styrene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Tetrachloroethene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Toluene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
trans-1,2-Dichloroethene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
trans-1,3-Dichloropropene	0.4	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Trichloroethene	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Trichlorofluoromethane	5	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Vinyl chloride	2	0.50 U	1.0 U	0.5 U	1.0 U	0.5 U	0.5 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U
Xylenes, Total		0.50 U	2.0 U	0.5 U	2.0 U	0.5 U	0.5 U	2.0 U	0.5 U	2.0 U	0.5 U	2.0 U
Total VOCs		1.44	2.0	1.6	0	1.35	0	0	0	3.4	0	0

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 Influent 3/12/2018 ug/L	Well 1-3 Influent 3/30/2018 ug/L	Well 1-3 Influent 4/6/2018 ug/L	Well 1-3 Influent 4/24/2018 ug/L	Well 1-3 Influent 5/7/2018 ug/L	Well 1-3 (post) Effluent 5/7/2018 ug/L	Well 1-3 Influent 5/21/2018 ug/L	Well 1-3 Influent 6/14/2018 ug/L	Well 1-3 (post) Effluent 6/14/2018 ug/L	Well 1-3 Influent 6/19/2018 ug/L
1,1,1-Trichloroethane	5	0.5 U	1.0 U	0.5 U	0.29 J	0.26 J	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NA	1.0 U	NA	1.0 U	1.0 U*	1.0 U*	NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	1	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1-Dichloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1-Dichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2,3-Trimethylbenzene		NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
1,2,4-Trichlorobenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2,4-Trimethylbenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.04	NA	1.0 U	NA	10 U	10 U	10 U	NA	1.0 U	1.0 U	NA
1,2-Dibromoethane (Ethylene Dibromide)	5	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
1,2-Dichlorobenzene	3	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dichloropropane	1	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,3-Dichlorobenzene	3	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,4-Dichlorobenzene	3	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
2-Butanone (MEK)	50	NA	10 U	NA	50 U	50 U	50 U	NA	10 U	10 U	NA
2-Hexanone	50*	NA	5.0 U	NA	10 U	10 U	10 U	NA	5.0 U*	5.0 U*	NA
4-Methyl-2-pentanone (MIBK)		NA	5.0 U	NA	10 U	10 U	10 U	NA	5.0 U*	5.0 U*	NA
Acetone	50*	NA	10 U	NA	25 U	25 U	25 U	NA	10 U	10 U	NA
Benzene	1	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Bromodichloromethane	50	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Bromoform	50*	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Bromomethane	5	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Carbon disulfide		NA	1.0 U	NA	1.0 U	1.0 UT	1.0 U*	NA	1.0 U	1.0 U	NA
Carbon tetrachloride	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Chlorobenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Chloroethane	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Chloroform	7	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Chloromethane		NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
cis-1,2-Dichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Cyclohexane		NA	1.0 U	NA	5.0 U	5.0 U*	5.0 U*	NA	1.0 U	1.0 U	NA
Dibromochloromethane	50	NA	1.0 U	NA	1.0 U	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Dichlorodifluoromethane	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Ethylbenzene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Isopropylbenzene (Cumene)	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Methyl Acetate		NA	2.5 U	NA	10 U	10 U	10 U	NA	2.5 U	2.5 U	NA
Methyl Cyclohexane		NA	1.0 U	NA	5.0 U	5.0 U*	5.0 U*	NA	1.0 U	1.0 U	NA
Methylene Chloride	5	0.5 U	1.0 U	0.5 U	5.0 U	5.0 U*	5.0 U*	0.5 U	1.0 U	1.0 U	0.5 U
Methyl Tert Butyl Ether	10	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Styrene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Tetrachloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Toluene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
trans-1,2-Dichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Trichloroethene	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U*	1.0 U*	0.5 U	1.0 U	1.0 U	0.5 U
Trichlorofluoromethane	5	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Vinyl chloride	2	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Xylenes, Total		0.5 U	2.0 U	0.5 U	3.0 U	3.0 U	3.0 U	0.5 U	2.0 U	2.0 U	0.5 U
Total VOCs		0	0	0	0.29	0.26	0	0	0	0	0

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 Influent 7/6/2018 ug/L	Well 1-3 (post) Effluent 7/6/2018 ug/L	Well 1-3 Influent 7/17/2018 ug/L	Well 1-3 Influent 8/8/2018 ug/L	Well 1-3 (post) Effluent 8/8/2018 ug/L	Well 1-3 Influent 8/27/2018 ug/L	Well 1-3 Influent 9/13/2018 ug/L	Well 1-3 (post) Effluent 9/13/2018 ug/L	Well 1-3 Influent 9/24/2018 ug/L	Well 1-3 Influent 10/22/2018 ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U*	1.0 U*	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
1,1,2-Trichloroethane	1	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,1-Dichloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,1-Dichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,2,3-Trimethylbenzene		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
1,2-Dichlorobenzene	3	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,2-Dichloropropane	1	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
2-Butanone (MEK)	50	10 U	10 U	NA	10 U*	10 U*	NA	10 U*	10 U*	NA	NA
2-Hexanone	50*	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	NA
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	NA
Acetone	50*	3.3 J	10 U	NA	10.0 U	10 U	NA	10.0 U	10 U	NA	NA
Benzene	1	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Bromodichloromethane	50	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Bromoform	50*	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Bromomethane	5	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Carbon disulfide		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Carbon tetrachloride	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Chlorobenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Chloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Chloroform	7	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Chloromethane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Cyclohexane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Dibromochloromethane	50	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Dichlorodifluoromethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Ethylbenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Methyl Acetate		2.5 U	2.5 U	NA	2.5 U	2.5 U	NA	2.5 U	2.5 U	NA	NA
Methyl Cyclohexane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	NA
Methylene Chloride	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Styrene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Tetrachloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U*	1.0 U*	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Toluene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Trichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Trichlorofluoromethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Vinyl chloride	2	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	0.5 U
Xylenes, Total		2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	0.5 U
Total VOCs		3.3	0	0	0	0	0	0	0	0	0

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 Influent 10/30/2018 ug/L	Well 1-3 (post) Effluent 10/30/2018 ug/L	Well 1-3 Influent 11/12/2018 ug/L	Well 1-3 (post) Effluent 11/12/2018 ug/L	Well 1-3 Influent 11/30/2018 ug/L	Well 1-3 Influent 12/17/2018 ug/L	Well 1-3 Influent 12/19/2018 ug/L	Well 1-3 (post) Effluent 12/19/2018 ug/L	Well 1-3 Influent 1/7/2019 ug/L	Well 1-3 (post) Effluent 1/7/2019 ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone (MEK)	50	10 U*	10 U	10 U	10 U	NA	NA	10 U	10 U	10 U	10 U
2-Hexanone	50*	5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	5.0 U	5.0 U	NA	NA	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	50*	10 U	3.5 J	10.0 U	10 U	NA	NA	10.0 U	10 U	10.0 U	10 U
Benzene	1	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	50*	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	5	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	7	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Acetate		2.5 U	2.5 U	2.5 U	2.5 U	NA	NA	2.5 U	2.5 U	2.5 U	2.5 U
Methyl Cyclohexane		1.0 U	1.0 U	1.0 U	1.0 U	NA	NA	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	2.7 B	2.5 B	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	1.0 U	1.0 U	0.5 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylenes, Total		2.0 U	2.0 U	2.0 U	2.0 U	0.5 U	0.5 U	2.0 U	2.0 U	2.0 U	2.0 U
Total VOCs		2.7	6.0	0	0	0	0	0	0	0	0

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 Influent 1/28/2019 ug/L	Well 1-3 Influent 2/11/2019 ug/L	Well 1-3 (post) Effluent 2/11/2019 ug/L	Well 1-3 Influent 2/22/2019 ug/L	Well 1-3 Influent 3/11/2019 ug/L	Well 1-3 (post) Effluent 3/11/2019 ug/L	Well 1-3 Influent 3/26/2019 ug/L	Well 1-3 Influent 4/11/2019 ug/L	Well 1-3 (post) Effluent 4/11/2019 ug/L	Well 1-3 Influent 4/22/2019 ug/L
1,1,1-Trichloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	1	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1-Dichloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,1-Dichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2,3-Trimethylbenzene		NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
1,2,4-Trichlorobenzene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2,4-Trimethylbenzene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.04	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
1,2-Dibromoethane (Ethylene Dibromide)	5	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
1,2-Dichlorobenzene	3	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dichloropropane	1	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,3-Dichlorobenzene	3	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
1,4-Dichlorobenzene	3	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
2-Butanone (MEK)	50	NA	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	NA
2-Hexanone	50*	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA
4-Methyl-2-pentanone (MIBK)		NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA
Acetone	50*	NA	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U	NA
Benzene	1	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Bromodichloromethane	50	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Bromoform	50*	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Bromomethane	5	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Carbon disulfide		NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Carbon tetrachloride	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Chlorobenzene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Chloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Chloroform	7	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Chloromethane		NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
cis-1,2-Dichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Cyclohexane		NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Dibromochloromethane	50	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Dichlorodifluoromethane	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Ethylbenzene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Isopropylbenzene (Cumene)	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Methyl Acetate		NA	2.5 U	2.5 U	NA	2.5 U	2.5 U	NA	2.5 U	2.5 U	NA
Methyl Cyclohexane		NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA
Methylene Chloride	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Methyl Tert Butyl Ether	10	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Styrene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Tetrachloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Toluene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
trans-1,2-Dichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Trichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Trichlorofluoromethane	5	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Vinyl chloride	2	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U
Xylenes, Total		0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U
Total VOCs		0	0	0	0	0	0	0	0	0	0

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 Influent 5/6/2019 ug/L	Well 1-3 (post) Effluent 5/6/2019 ug/L	Well 1-3 Influent 5/31/2019 ug/L	Well 1-3 Influent 6/7/2019 ug/L	Well 1-3 (post) Effluent 6/7/2019 ug/L	Well 1-3 Influent 6/19/2019 ug/L	Well 1-3 Influent 7/12/2019 ug/L	Well 1-3 (post) Effluent 7/12/2019 ug/L	Well 1-3 Influent 7/22/2019 ug/L	Well 1-3 Influent 8/12/2019 ug/L
1,1,1-Trichloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
1,1,2-Trichloroethane	1	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,1-Dichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2,3-Trimethylbenzene		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
1,2-Dichlorobenzene	3	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,2-Dichloropropane	1	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
2-Butanone (MEK)	50	10 U*	10 U*	NA	10 U	10 U	NA	10 U*	10 U*	NA	10 U
2-Hexanone	50*	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U
Acetone	50*	10 U	10 U	NA	4.9 J	4.9 J	NA	10 U	10 U	NA	10 U
Benzene	1	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Bromodichloromethane	50	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Bromoform	50*	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U*	1.0 U*	NA	1.0 U
Bromomethane	5	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Carbon disulfide		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Carbon tetrachloride	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Chlorobenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Chloroethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Chloroform	7	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Chloromethane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
cis-1,3-Dichloropropene	0.4	1.0 U*	1.0 U*	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Cyclohexane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Dibromochloromethane	50	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U*	1.0 U*	NA	1.0 U
Dichlorodifluoromethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Ethylbenzene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Methyl Acetate		2.5 U	2.5 U	NA	2.5 U	2.5 U	NA	2.5 U	2.5 U	NA	2.5 U
Methyl Cyclohexane		1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U
Methylene Chloride	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Methyl Tert Butyl Ether	10	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Styrene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Tetrachloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Toluene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Trichloroethene	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Trichlorofluoromethane	5	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Vinyl chloride	2	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U
Xylenes, Total		2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U
Total VOCs		0	0	0	0	0	0	0	0	0	0

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 (post) Effluent 8/12/2019 ug/L	Well 1-3 Influent 8/26/2019 ug/L	Well 1-3 Influent 9/26/2019 ug/L	Well 1-3 (post) Effluent 9/26/2019 ug/L	Well 1-3 Influent 9/30/2019 ug/L	Well 1-3 (post) Effluent 10/10/2019 ug/L	Well 1-3 Influent 10/10/2019 ug/L	Well 1-3 Influent 10/28/2019 ug/L	Well 1-3 (post) Effluent 11/22/2019 ug/L	Well 1-3 Influent 11/22/2019 ug/L
1,1,1-Trichloroethane	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
1,1,2-Trichloroethane	1	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,1-Dichloroethane	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,1-Dichloroethene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,2,3-Trimethylbenzene		1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane	0.04	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	5	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
1,2-Dichlorobenzene	3	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,2-Dichloroethane	0.6	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,2-Dichloropropane	1	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene (Mesitylene)	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,3-Dichlorobenzene	3	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
2-Butanone (MEK)	50	10 U	NA	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U
2-Hexanone	50*	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U	NA	5.0 U	5.0 U
4-Methyl-2-pentanone (MIBK)		5.0 U	NA	5.0 U	5.0 U	NA	5.0 U*	5.0 U*	NA	5.0 U	5.0 U
Acetone	50*	10 U	NA	10 U	10 U	NA	10 U	10 U	NA	10 U	10 U
Benzene	1	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Bromodichloromethane	50	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Bromoform	50*	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	3.88	1.0 U	1.0 U
Bromomethane	5	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Carbon disulfide		1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
Carbon tetrachloride	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Chlorobenzene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Chloroethane	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Chloroform	7	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Chloromethane		1.0 U	NA	1.0 U	1.0 U	NA	1.0 U*	1.0 U*	0.5 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	0.4	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Cyclohexane		1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
Dibromochloromethane	50	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	0.91	1.0 U	1.0 U
Dichlorodifluoromethane	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U*	1.0 U*	0.5 U	1.0 U	1.0 U
Ethylbenzene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Isopropylbenzene (Cumene)	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Methyl Acetate		2.5 U	NA	2.5 U	2.5 U	NA	2.5 U*	2.5 U*	NA	2.5 U	2.5 U
Methyl Cyclohexane		1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U	NA	1.0 U	1.0 U
Methylene Chloride	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.6 B*	1.7 B*
Methyl Tert Butyl Ether	10	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Styrene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Tetrachloroethene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Toluene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	0.4	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Trichloroethene	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Trichlorofluoromethane	5	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Vinyl chloride	2	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U	0.5 U	1.0 U	1.0 U
Xylenes, Total		2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	2.0 U	0.5 U	2.0 U	2.0 U
Total VOCs		0	0	0	0	0	0	0	4.79	1.6	1.7

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	NYSDEC GA Standard ug/L	Well 1-3 Influent 11/25/2019 ug/L	Well 1-3 (post) Effluent 12/13/2019 ug/L	Well 1-3 Influent 12/13/2019 ug/L	Well 1-3 Influent 12/20/2019 ug/L
1,1,1-Trichloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U
1,1,2,2-Tetrachloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U
1,1,2-Trichloro-1,2,2-Trifluoroethane		NA	1.0 U	1.0 U	NA
1,1,2-Trichloroethane	1	0.5 U	1.0 U	1.0 U	0.5 U
1,1-Dichloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U
1,1-Dichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U
1,2,3-Trimethylbenzene		NA	1.0 U	1.0 U	NA
1,2,4-Trichlorobenzene	5	0.5 U	1.0 U	1.0 U	0.5 U
1,2,4-Trimethylbenzene	5	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dibromo-3-Chloropropane	0.04	NA	1.0 U	1.0 U	NA
1,2-Dibromoethane (Ethylene Dibromide)	5	NA	1.0 U	1.0 U	NA
1,2-Dichlorobenzene	3	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dichloroethane	0.6	0.5 U	1.0 U	1.0 U	0.5 U
1,2-Dichloropropane	1	0.5 U	1.0 U	1.0 U	0.5 U
1,3,5-Trimethylbenzene (Mesitylene)	5	0.5 U	1.0 U	1.0 U	0.5 U
1,3-Dichlorobenzene	3	0.5 U	1.0 U	1.0 U	0.5 U
1,4-Dichlorobenzene	3	0.5 U	1.0 U	1.0 U	0.5 U
2-Butanone (MEK)	50	NA	10 U*	10 U*	NA
2-Hexanone	50*	NA	5.0 U	5.0 U	NA
4-Methyl-2-pentanone (MIBK)		NA	5.0 U	5.0 U	NA
Acetone	50*	NA	10 U	10 U	NA
Benzene	1	0.5 U	1.0 U	1.0 U	0.5 U
Bromodichloromethane	50	0.5 U	1.0 U	1.0 U	0.5 U
Bromoform	50*	3.62	1.0 U	1.0 U	1.85
Bromomethane	5	0.5 U	1.0 U	1.0 U	0.5 U
Carbon disulfide		NA	1.0 U	1.0 U	NA
Carbon tetrachloride	5	0.5 U	1.0 U	1.0 U	0.5 U
Chlorobenzene	5	0.5 U	1.0 U	1.0 U	0.5 U
Chloroethane	5	0.5 U	1.0 U	1.0 U	0.5 U
Chloroform	7	0.5 U	1.0 U	1.0 U	0.5 U
Chloromethane		0.5 U	1.0 U	1.0 U	0.5 U
cis-1,2-Dichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U
cis-1,3-Dichloropropene	0.4	0.5 U	1.0 U	1.0 U	0.5 U
Cyclohexane		NA	1.0 U	1.0 U	NA
Dibromochloromethane	50	1.20	1.0 U	1.0 U	0.5 U
Dichlorodifluoromethane	5	0.5 U	1.0 U	1.0 U	0.5 U
Ethylbenzene	5	0.5 U	1.0 U	1.0 U	0.5 U
Isopropylbenzene (Cumene)	5	0.5 U	1.0 U	1.0 U	0.5 U
Methyl Acetate		NA	2.5 U	2.5 U	NA
Methyl Cyclohexane		NA	1.0 U	1.0 U	NA
Methylene Chloride	5	0.5 U	1.0 U	1.0 U	0.5 U
Methyl Tert Butyl Ether	10	0.5 U	1.0 U	1.0 U	0.5 U
Styrene	5	0.5 U	1.0 U	1.0 U	0.5 U
Tetrachloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U
Toluene	5	0.5 U	1.0 U	1.0 U	0.5 U
trans-1,2-Dichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U
trans-1,3-Dichloropropene	0.4	0.5 U	1.0 U	1.0 U	0.5 U
Trichloroethene	5	0.5 U	1.0 U	1.0 U	0.5 U
Trichlorofluoromethane	5	0.5 U	1.0 U	1.0 U	0.5 U
Vinyl chloride	2	0.5 U	1.0 U	1.0 U	0.5 U
Xylenes, Total		0.5 U	2.0 U	2.0 U	0.5 U
Total VOCs		4.82	0	0	1.85

See Notes on Page 13.

Table 2-3
Summary of Town of Vestal Municipal Well Sampling Results

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Notes:

NYSDEC GA GW Standard - New York State Department of Environmental Conservation Groundwater Standard

■ - Concentration exceeds NYSDEC Class GA Standard

µg/L - Micrograms per Liter

NA - Not Analyzed

NS - Not Sampled

U - Compound was not detected at the indicated concentration

J -Compound detected below the reporting limit or reported
concentration is estimated

B- The analyte was found in an associated blank, as well as in the sample

* Laboratory control sample (LCS) or LCS Duplicate is outside
acceptable limits

** Well 1-2A was frozen and unable to be sampled.

Table 2-4
PFAS 1,4-Dioxane

Semi-Annual Remedial System Optimization Report 2019
Vestal Water Supply Site
Site Number 7-04-009A

Sample ID: Sampling Date: Units:	USEPA Health Advisory for Drinking Water (ng/L)	Well 1-2A 10/10/2019	WELL 1-2A POST 10/10/2019	Well 1-3 10/10/2019	Well 1-3 POST 10/10/2019	DUP-1 10/10/2019
1,4 Dioxane (µg/L)	--	0.70	0.72	0.20 U	0.20 U	0.20 U
Perfluorobutanesulfonic acid (PFBS)	--	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Perfluorohexanesulfonic acid (PFHxS)	--	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
Perfluoroheptanoic acid (PFHpA)	--	2.00 U	2.00 U	0.89 J	0.83 J	0.85 J
Perfluorooctanic acid (PFOA)	70	2.00 U	2.00 U	1.43 J	1.18 J	1.33 J
Perfluorooctanesulfonic acid (PFOS)	70	2.00 UJ	2.00 U	1.84 J	2.00 U	2.00 U
Perfluorononanoic acid (PFNA)	--	2.00 U	2.00 U	0.78 J	2.00 U	2.00 U
Total PFOS + PFOA	70	0.0	0.0	3.3	1.18	1.33

Notes:

United States Environmental Protection Agency Health Advisory for drinking water applies to PFOS, PFOA, and the sum of PFOS and PFOA.

DUP-1 Sampled from Well 1-3 POST

U - Compound was not detected at the indicated concentration

J - Compound detected below the reporting limit or approximate reported concentration is estimated

µg/L - micrograms per Liter

ng/L - nanograms/Liter

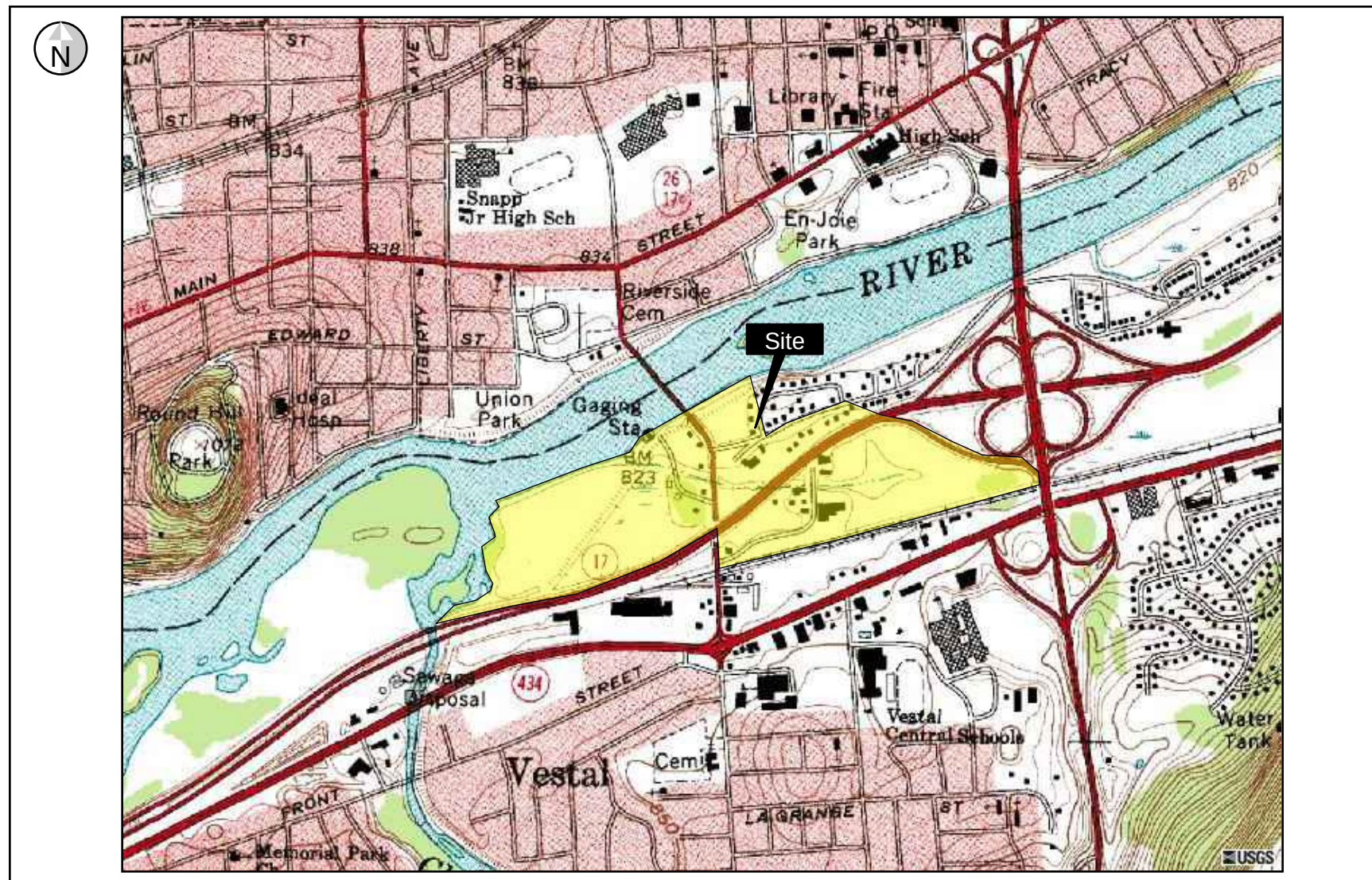
-- No Guidance Value

Unless otherwise noted, sample results are in ng/L.

FIGURES

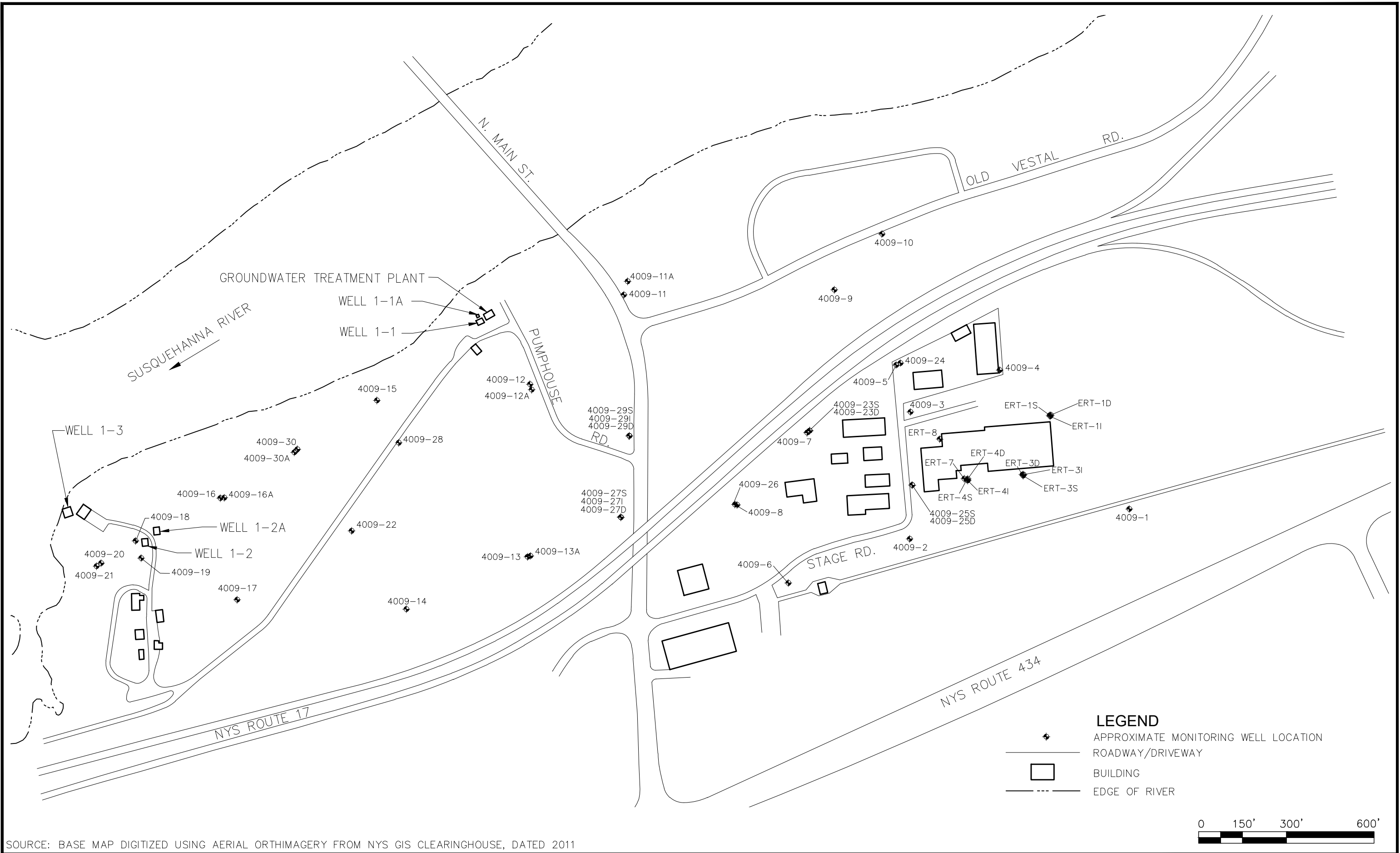


Figure 1-1
Site Location
Vestal Water Supply Site
Vestal, New York
NYSDEC Site # 7-04-009A



Source: USGS 7.5-minute Series Topographic Quadrangle, Endicott (1988).

USER: HAUSMANN FILENAME: G:\ACAD\PROJ\00266401.0000\FIGURES\FIGURE 2-1 MW LOCATION MAP.DWG SAVE DATE: 4/11/2018 6:51 AM PLOT DATE: 4/11/2018 6:52 AM



SOURCE: BASE MAP DIGITIZED USING AERIAL ORTHIMAGERY FROM NYS GIS CLEARINGHOUSE, DATED 2011



NYSDEC STANDBY CONTRACT NO. D007618-7
NYSDEC SITE NO. 7-04-009
VESTAL WATER SUPPLY
VESTAL, NEW YORK

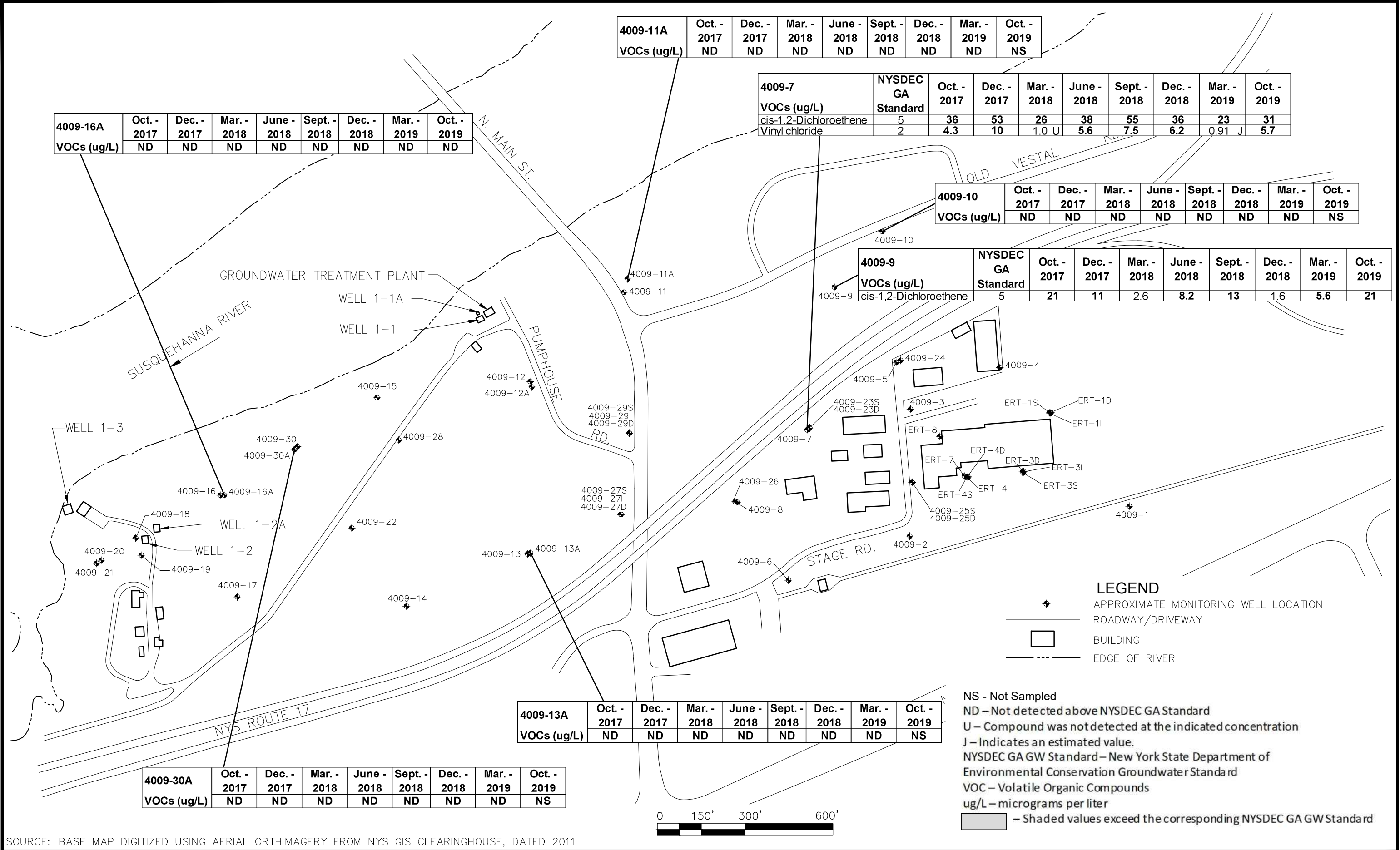
MONITORING WELL LOCATION MAP

SCALE: AS SHOWN

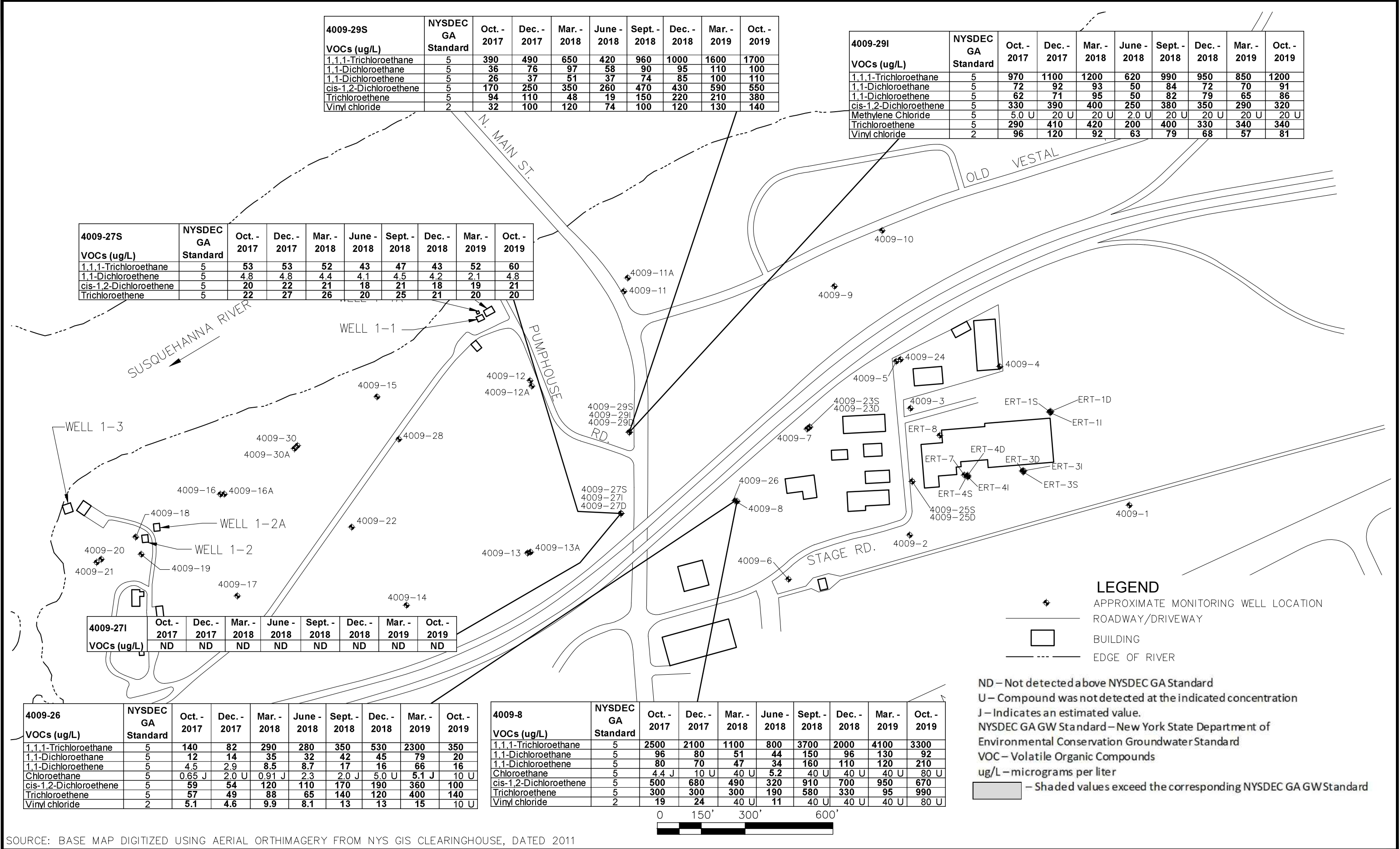
OCTOBER 2019

FIGURE 2-1

USER: EKRAHMER FILENAME: C:\BIM\ONEDRIVE - ARCADIS\BIM 360 DOCS\ANA-NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\PROJECT FILES\VESTAL WATER SUPPLY\2019\30001348\01-DWG\FIGURE 2-2 VOC SHALLOW MAR 2019.DWG SAVE DATE: 11/26/2019 11:18 AM PLOT DATE: 11/26/2019 1:18 PM



SOURCE: BASE MAP DIGITIZED USING AERIAL ORTHIMAGERY FROM NYS GIS CLEARINGHOUSE, DATED 2011



SOURCE: BASE MAP DIGITIZED USING AERIAL ORTHIMAGERY FROM NYS GIS CLEARINGHOUSE, DATED 2011

Figure 2-4
Vestal Water Supply Site
Site No. 7-04-009A
VOC Concentrations in Monitoring Well 4009-8

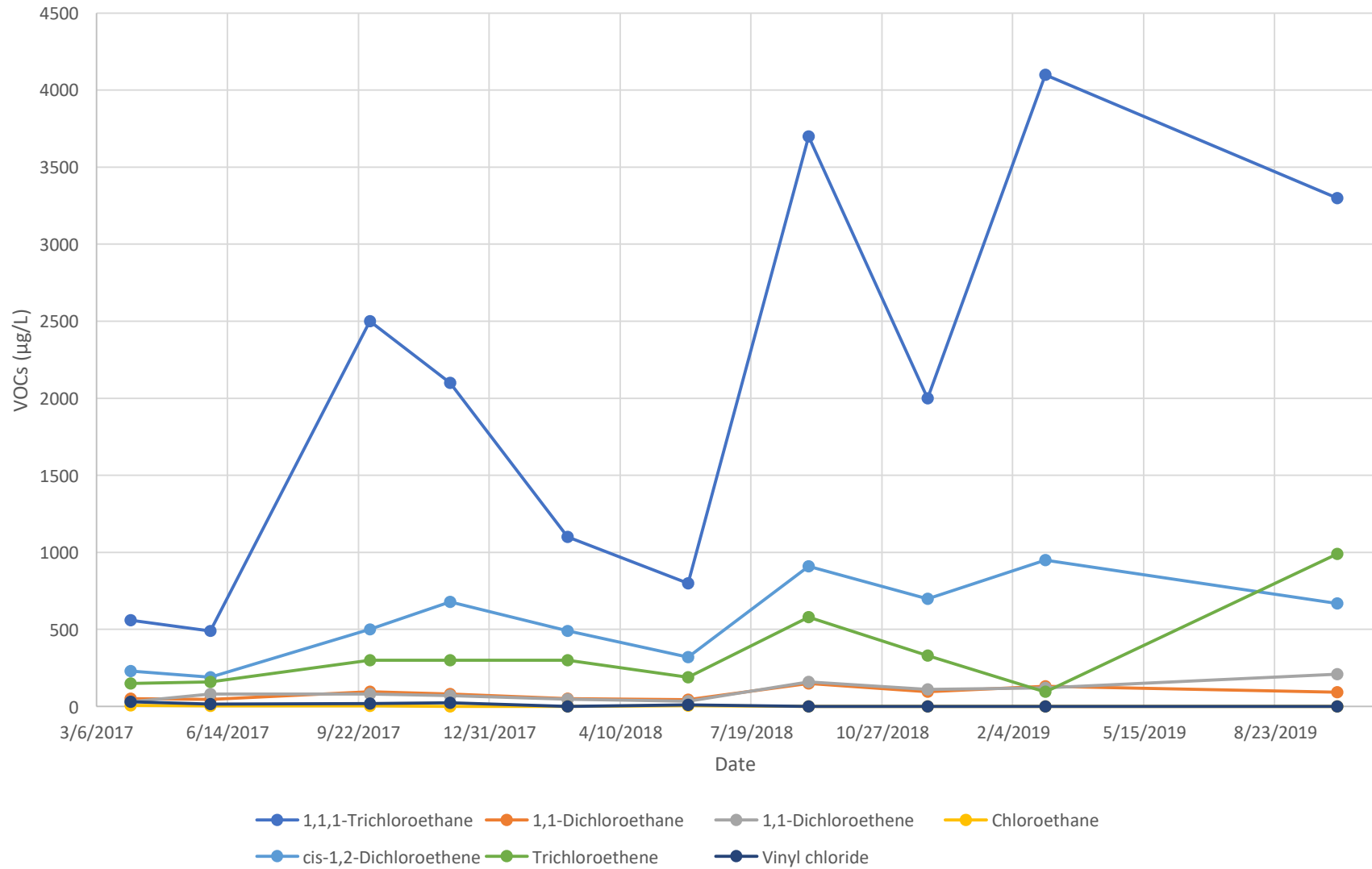


Figure 2-5
Vestal Water Supply Site
Site No. 7-04-009A
VOC Concentrations in Monitoring Well 4009-26

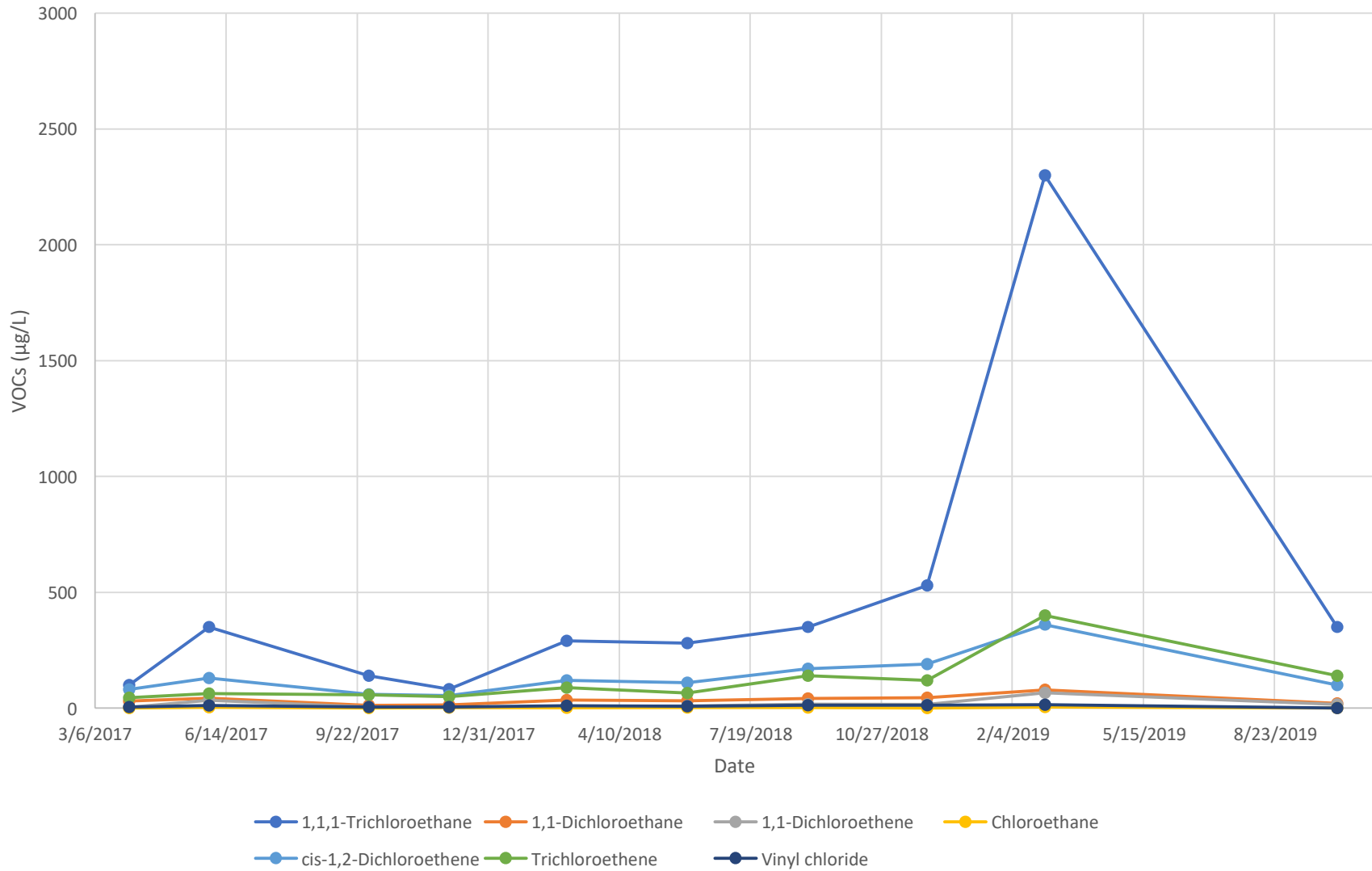
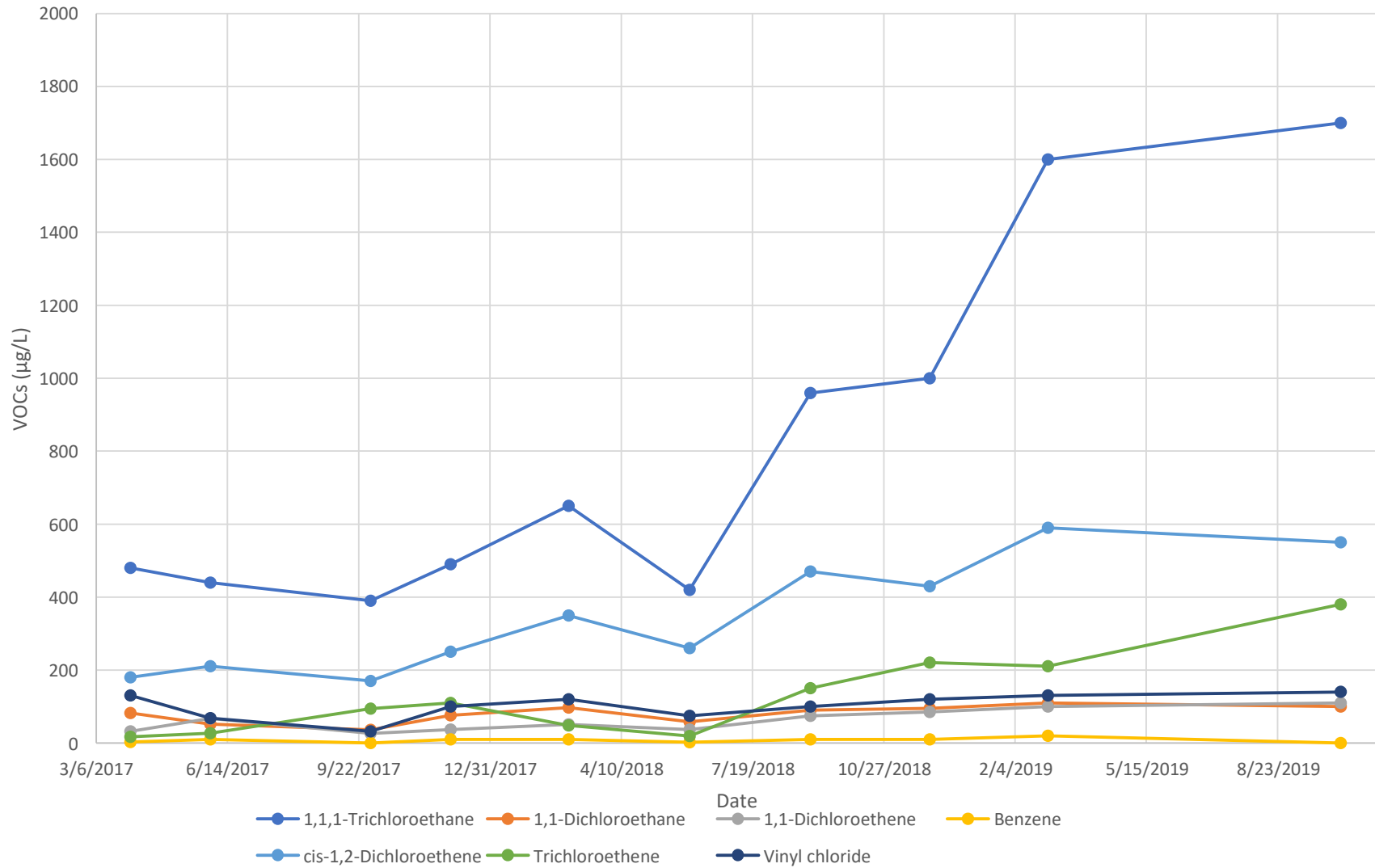
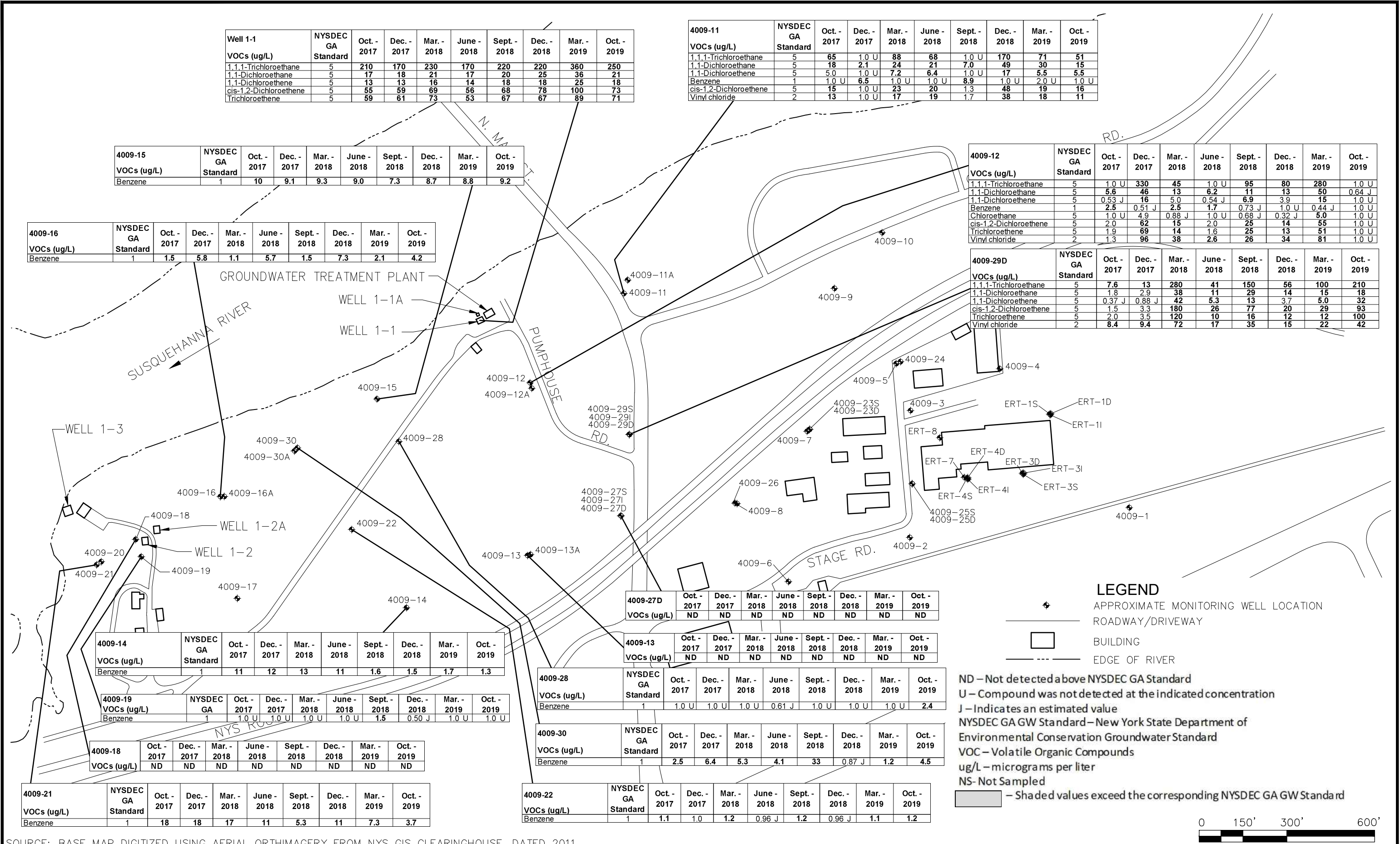


Figure 2-6
 Vestal Water Supply Site
 Site No. 7-04-009A
 VOC Concentrations in Monitoring Well 4009-29S



USER: EKAHMER FILENAME: C:\BIM\ONEDRIVE - ARCADIS\BIM 360 DOCS\ANA-NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION\PROJECT FILES\VESTAL WATER SUPPLY\2019\30001348\01-DWG\FIGURE 2-4 VOC DEEP MAR 2019.DWG SAVE DATE: 5/10/2019 7:39 AM PLOT DATE: 5/10/2019 10:38 AM



SOURCE: BASE MAP DIGITIZED USING AERIAL ORTHIMAGERY FROM NYS GIS CLEARINGHOUSE, DATED 2011



NYSDEC STANDBY CONTRACT NO. D007618-7
NYSDEC SITE NO. 7-04-009
VESTAL WATER SUPPLY
VESTAL, NEW YORK

SUMMARY OF VOC SAMPLING RESULTS -
DEEP WELLS
SCALE: AS SHOWN

OCTOBER 2019
FIGURE 2-7

APPENDIX A

Analytical Reporting Forms (TestAmerica Laboratories, Inc. and
Microbac Laboratory Services)



ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

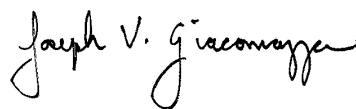
Laboratory Job ID: 480-156164-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:

7/19/2019 2:10:00 PM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

LINKS

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results through

TotalAccess

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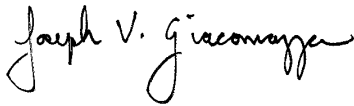
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Management Assistant II
7/19/2019 2:10:00 PM

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Job ID: 480-156164-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-156164-1

Receipt

The samples were received on 7/13/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

GC/MS VOA

Method(s) 8260C: The continuing calibration verification (CCV) associated with batch 480-482394 recovered above the upper control limit for Dibromochloromethane. The samples associated with this CCV were non-detect for the affected analyte; therefore, the data have been reported. The following samples are impacted: WELL 1-2A (480-156164-1), WELL 1-3 (480-156164-2), WELL 1-3 POST (480-156164-3) and TRIP BLANK (480-156164-4).

Method(s) 8260C: The laboratory control sample (LCS) for analytical batch 480-482394 recovered outside control limits for the following analytes: Bromoform and Dibromochloromethane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. The following samples are impacted: WELL 1-2A (480-156164-1), WELL 1-3 (480-156164-2), WELL 1-3 POST (480-156164-3) and TRIP BLANK (480-156164-4).

Method(s) 8260C: Due to the coelution of Ethyl Acetate with 2-Butanone (MEK) in the full spike solution, 2-Butanone (MEK) exceeded control limits in the laboratory control sample (LCS) associated with batch 480-482394. The following samples were affected: WELL 1-2A (480-156164-1), WELL 1-3 (480-156164-2), WELL 1-3 POST (480-156164-3) and TRIP BLANK (480-156164-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-156164-1

No Detections.

Client Sample ID: WELL 1-3

Lab Sample ID: 480-156164-2

No Detections.

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-156164-3

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-156164-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-156164-1

Date Collected: 07/12/19 10:20

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			07/17/19 12:30	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 12:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			07/17/19 12:30	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			07/17/19 12:30	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			07/17/19 12:30	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			07/17/19 12:30	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			07/17/19 12:30	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			07/17/19 12:30	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			07/17/19 12:30	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			07/17/19 12:30	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			07/17/19 12:30	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			07/17/19 12:30	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 12:30	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			07/17/19 12:30	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			07/17/19 12:30	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			07/17/19 12:30	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			07/17/19 12:30	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			07/17/19 12:30	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			07/17/19 12:30	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			07/17/19 12:30	1
Acetone	10	U	10	3.0	ug/L			07/17/19 12:30	1
Benzene	1.0	U	1.0	0.41	ug/L			07/17/19 12:30	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			07/17/19 12:30	1
Bromoform	1.0	U *	1.0	0.26	ug/L			07/17/19 12:30	1
Bromomethane	1.0	U	1.0	0.69	ug/L			07/17/19 12:30	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			07/17/19 12:30	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			07/17/19 12:30	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			07/17/19 12:30	1
Chloroethane	1.0	U	1.0	0.32	ug/L			07/17/19 12:30	1
Chloroform	1.0	U	1.0	0.34	ug/L			07/17/19 12:30	1
Chloromethane	1.0	U	1.0	0.35	ug/L			07/17/19 12:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			07/17/19 12:30	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			07/17/19 12:30	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			07/17/19 12:30	1
Dibromochloromethane	1.0	U *	1.0	0.32	ug/L			07/17/19 12:30	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			07/17/19 12:30	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			07/17/19 12:30	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			07/17/19 12:30	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			07/17/19 12:30	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			07/17/19 12:30	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			07/17/19 12:30	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			07/17/19 12:30	1
Styrene	1.0	U	1.0	0.73	ug/L			07/17/19 12:30	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			07/17/19 12:30	1
Toluene	1.0	U	1.0	0.51	ug/L			07/17/19 12:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			07/17/19 12:30	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			07/17/19 12:30	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			07/17/19 12:30	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			07/17/19 12:30	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-156164-1

Date Collected: 07/12/19 10:20

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.90	ug/L			07/17/19 12:30	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			07/17/19 12:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120					07/17/19 12:30	1
4-Bromofluorobenzene (Surr)	106		73 - 120					07/17/19 12:30	1
Dibromofluoromethane (Surr)	105		75 - 123					07/17/19 12:30	1
Toluene-d8 (Surr)	98		80 - 120					07/17/19 12:30	1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-156164-2

Date Collected: 07/12/19 10:25

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			07/17/19 12:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 12:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			07/17/19 12:54	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			07/17/19 12:54	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			07/17/19 12:54	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			07/17/19 12:54	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			07/17/19 12:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			07/17/19 12:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			07/17/19 12:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			07/17/19 12:54	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			07/17/19 12:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			07/17/19 12:54	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 12:54	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			07/17/19 12:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			07/17/19 12:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			07/17/19 12:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			07/17/19 12:54	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			07/17/19 12:54	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			07/17/19 12:54	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			07/17/19 12:54	1
Acetone	10	U	10	3.0	ug/L			07/17/19 12:54	1
Benzene	1.0	U	1.0	0.41	ug/L			07/17/19 12:54	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			07/17/19 12:54	1
Bromoform	1.0	U *	1.0	0.26	ug/L			07/17/19 12:54	1
Bromomethane	1.0	U	1.0	0.69	ug/L			07/17/19 12:54	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			07/17/19 12:54	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			07/17/19 12:54	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			07/17/19 12:54	1
Chloroethane	1.0	U	1.0	0.32	ug/L			07/17/19 12:54	1
Chloroform	1.0	U	1.0	0.34	ug/L			07/17/19 12:54	1
Chloromethane	1.0	U	1.0	0.35	ug/L			07/17/19 12:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			07/17/19 12:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			07/17/19 12:54	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			07/17/19 12:54	1
Dibromochloromethane	1.0	U *	1.0	0.32	ug/L			07/17/19 12:54	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-156164-2

Date Collected: 07/12/19 10:25

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			07/17/19 12:54	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			07/17/19 12:54	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			07/17/19 12:54	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			07/17/19 12:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			07/17/19 12:54	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			07/17/19 12:54	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			07/17/19 12:54	1
Styrene	1.0	U	1.0	0.73	ug/L			07/17/19 12:54	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			07/17/19 12:54	1
Toluene	1.0	U	1.0	0.51	ug/L			07/17/19 12:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			07/17/19 12:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			07/17/19 12:54	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			07/17/19 12:54	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			07/17/19 12:54	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			07/17/19 12:54	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			07/17/19 12:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		07/17/19 12:54	1
4-Bromofluorobenzene (Surr)	106		73 - 120		07/17/19 12:54	1
Dibromofluoromethane (Surr)	103		75 - 123		07/17/19 12:54	1
Toluene-d8 (Surr)	96		80 - 120		07/17/19 12:54	1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-156164-3

Date Collected: 07/12/19 10:30

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			07/17/19 13:18	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 13:18	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			07/17/19 13:18	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			07/17/19 13:18	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			07/17/19 13:18	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			07/17/19 13:18	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			07/17/19 13:18	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			07/17/19 13:18	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			07/17/19 13:18	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			07/17/19 13:18	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			07/17/19 13:18	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			07/17/19 13:18	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 13:18	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			07/17/19 13:18	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			07/17/19 13:18	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			07/17/19 13:18	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			07/17/19 13:18	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			07/17/19 13:18	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			07/17/19 13:18	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			07/17/19 13:18	1
Acetone	10	U	10	3.0	ug/L			07/17/19 13:18	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-156164-3

Date Collected: 07/12/19 10:30

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			07/17/19 13:18	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			07/17/19 13:18	1
Bromoform	1.0	U *	1.0	0.26	ug/L			07/17/19 13:18	1
Bromomethane	1.0	U	1.0	0.69	ug/L			07/17/19 13:18	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			07/17/19 13:18	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			07/17/19 13:18	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			07/17/19 13:18	1
Chloroethane	1.0	U	1.0	0.32	ug/L			07/17/19 13:18	1
Chloroform	1.0	U	1.0	0.34	ug/L			07/17/19 13:18	1
Chloromethane	1.0	U	1.0	0.35	ug/L			07/17/19 13:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			07/17/19 13:18	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			07/17/19 13:18	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			07/17/19 13:18	1
Dibromochloromethane	1.0	U *	1.0	0.32	ug/L			07/17/19 13:18	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			07/17/19 13:18	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			07/17/19 13:18	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			07/17/19 13:18	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			07/17/19 13:18	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			07/17/19 13:18	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			07/17/19 13:18	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			07/17/19 13:18	1
Styrene	1.0	U	1.0	0.73	ug/L			07/17/19 13:18	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			07/17/19 13:18	1
Toluene	1.0	U	1.0	0.51	ug/L			07/17/19 13:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			07/17/19 13:18	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			07/17/19 13:18	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			07/17/19 13:18	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			07/17/19 13:18	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			07/17/19 13:18	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			07/17/19 13:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120		07/17/19 13:18	1
4-Bromofluorobenzene (Surr)	106		73 - 120		07/17/19 13:18	1
Dibromofluoromethane (Surr)	104		75 - 123		07/17/19 13:18	1
Toluene-d8 (Surr)	97		80 - 120		07/17/19 13:18	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-156164-4

Date Collected: 07/12/19 00:00

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			07/17/19 13:43	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 13:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			07/17/19 13:43	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			07/17/19 13:43	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			07/17/19 13:43	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			07/17/19 13:43	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			07/17/19 13:43	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-156164-4

Date Collected: 07/12/19 00:00

Matrix: Water

Date Received: 07/13/19 09:30

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			07/17/19 13:43	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			07/17/19 13:43	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			07/17/19 13:43	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			07/17/19 13:43	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			07/17/19 13:43	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 13:43	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			07/17/19 13:43	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			07/17/19 13:43	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			07/17/19 13:43	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			07/17/19 13:43	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			07/17/19 13:43	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			07/17/19 13:43	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			07/17/19 13:43	1
Acetone	10	U	10	3.0	ug/L			07/17/19 13:43	1
Benzene	1.0	U	1.0	0.41	ug/L			07/17/19 13:43	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			07/17/19 13:43	1
Bromoform	1.0	U *	1.0	0.26	ug/L			07/17/19 13:43	1
Bromomethane	1.0	U	1.0	0.69	ug/L			07/17/19 13:43	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			07/17/19 13:43	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			07/17/19 13:43	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			07/17/19 13:43	1
Chloroethane	1.0	U	1.0	0.32	ug/L			07/17/19 13:43	1
Chloroform	1.0	U	1.0	0.34	ug/L			07/17/19 13:43	1
Chloromethane	1.0	U	1.0	0.35	ug/L			07/17/19 13:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			07/17/19 13:43	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			07/17/19 13:43	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			07/17/19 13:43	1
Dibromochloromethane	1.0	U *	1.0	0.32	ug/L			07/17/19 13:43	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			07/17/19 13:43	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			07/17/19 13:43	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			07/17/19 13:43	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			07/17/19 13:43	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			07/17/19 13:43	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			07/17/19 13:43	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			07/17/19 13:43	1
Styrene	1.0	U	1.0	0.73	ug/L			07/17/19 13:43	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			07/17/19 13:43	1
Toluene	1.0	U	1.0	0.51	ug/L			07/17/19 13:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			07/17/19 13:43	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			07/17/19 13:43	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			07/17/19 13:43	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			07/17/19 13:43	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			07/17/19 13:43	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			07/17/19 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		07/17/19 13:43	1
4-Bromofluorobenzene (Surr)	106		73 - 120		07/17/19 13:43	1
Dibromofluoromethane (Surr)	104		75 - 123		07/17/19 13:43	1
Toluene-d8 (Surr)	98		80 - 120		07/17/19 13:43	1

Eurofins TestAmerica, Buffalo

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-156164-1	WELL 1-2A	104	106	105	98
480-156164-2	WELL 1-3	102	106	103	96
480-156164-3	WELL 1-3 POST	101	106	104	97
480-156164-4	TRIP BLANK	102	106	104	98
LCS 480-482394/6	Lab Control Sample	102	106	104	97
MB 480-482394/8	Method Blank	100	107	103	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-482394/8

Matrix: Water

Analysis Batch: 482394

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			07/17/19 10:44	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 10:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			07/17/19 10:44	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			07/17/19 10:44	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			07/17/19 10:44	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			07/17/19 10:44	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			07/17/19 10:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			07/17/19 10:44	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			07/17/19 10:44	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			07/17/19 10:44	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			07/17/19 10:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			07/17/19 10:44	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			07/17/19 10:44	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			07/17/19 10:44	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			07/17/19 10:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			07/17/19 10:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			07/17/19 10:44	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			07/17/19 10:44	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			07/17/19 10:44	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			07/17/19 10:44	1
Acetone	10	U	10	3.0	ug/L			07/17/19 10:44	1
Benzene	1.0	U	1.0	0.41	ug/L			07/17/19 10:44	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			07/17/19 10:44	1
Bromoform	1.0	U	1.0	0.26	ug/L			07/17/19 10:44	1
Bromomethane	1.0	U	1.0	0.69	ug/L			07/17/19 10:44	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			07/17/19 10:44	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			07/17/19 10:44	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			07/17/19 10:44	1
Chloroethane	1.0	U	1.0	0.32	ug/L			07/17/19 10:44	1
Chloroform	1.0	U	1.0	0.34	ug/L			07/17/19 10:44	1
Chloromethane	1.0	U	1.0	0.35	ug/L			07/17/19 10:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			07/17/19 10:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			07/17/19 10:44	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			07/17/19 10:44	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			07/17/19 10:44	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			07/17/19 10:44	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			07/17/19 10:44	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			07/17/19 10:44	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			07/17/19 10:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			07/17/19 10:44	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			07/17/19 10:44	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			07/17/19 10:44	1
Styrene	1.0	U	1.0	0.73	ug/L			07/17/19 10:44	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			07/17/19 10:44	1
Toluene	1.0	U	1.0	0.51	ug/L			07/17/19 10:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			07/17/19 10:44	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			07/17/19 10:44	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			07/17/19 10:44	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-482394/8

Matrix: Water

Analysis Batch: 482394

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			07/17/19 10:44	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			07/17/19 10:44	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			07/17/19 10:44	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120					07/17/19 10:44	1
4-Bromofluorobenzene (Surr)	107		73 - 120					07/17/19 10:44	1
Dibromofluoromethane (Surr)	103		75 - 123					07/17/19 10:44	1
Toluene-d8 (Surr)	98		80 - 120					07/17/19 10:44	1

Lab Sample ID: LCS 480-482394/6

Matrix: Water

Analysis Batch: 482394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	28.9		ug/L		116	73 - 126
1,1,2,2-Tetrachloroethane	25.0	25.9		ug/L		103	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	28.4		ug/L		114	61 - 148
1,1,2-Trichloroethane	25.0	25.2		ug/L		101	76 - 122
1,1-Dichloroethane	25.0	26.4		ug/L		105	77 - 120
1,1-Dichloroethene	25.0	25.9		ug/L		104	66 - 127
1,2,3-Trimethylbenzene	25.0	26.1		ug/L		104	78 - 120
1,2,4-Trichlorobenzene	25.0	27.8		ug/L		111	79 - 122
1,2,4-Trimethylbenzene	25.0	24.2		ug/L		97	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	32.7		ug/L		131	56 - 134
1,2-Dibromoethane	25.0	26.8		ug/L		107	77 - 120
1,2-Dichlorobenzene	25.0	25.3		ug/L		101	80 - 124
1,2-Dichloroethane	25.0	25.9		ug/L		104	75 - 120
1,2-Dichloropropane	25.0	25.8		ug/L		103	76 - 120
1,3,5-Trimethylbenzene	25.0	25.2		ug/L		101	77 - 121
1,3-Dichlorobenzene	25.0	25.1		ug/L		101	77 - 120
1,4-Dichlorobenzene	25.0	24.9		ug/L		100	80 - 120
2-Butanone (MEK)	125	249	*	ug/L		199	57 - 140
2-Hexanone	125	139		ug/L		112	65 - 127
4-Methyl-2-pentanone (MIBK)	125	134		ug/L		107	71 - 125
Acetone	125	169		ug/L		136	56 - 142
Benzene	25.0	24.7		ug/L		99	71 - 124
Bromodichloromethane	25.0	30.6		ug/L		122	80 - 122
Bromoform	25.0	36.7	*	ug/L		147	61 - 132
Bromomethane	25.0	20.4		ug/L		82	55 - 144
Carbon disulfide	25.0	27.1		ug/L		109	59 - 134
Carbon tetrachloride	25.0	30.7		ug/L		123	72 - 134
Chlorobenzene	25.0	24.8		ug/L		99	80 - 120
Chloroethane	25.0	20.0		ug/L		80	69 - 136
Chloroform	25.0	25.3		ug/L		101	73 - 127
Chloromethane	25.0	21.3		ug/L		85	68 - 124
cis-1,2-Dichloroethene	25.0	25.5		ug/L		102	74 - 124
cis-1,3-Dichloropropene	25.0	26.7		ug/L		107	74 - 124

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-482394/6

Matrix: Water

Analysis Batch: 482394

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	27.2		ug/L		109	59 - 135
Dibromochloromethane	25.0	34.3	*	ug/L		137	75 - 125
Dichlorodifluoromethane	25.0	21.2		ug/L		85	59 - 135
Ethylbenzene	25.0	24.9		ug/L		100	77 - 123
Isopropylbenzene	25.0	24.8		ug/L		99	77 - 122
Methyl acetate	50.0	52.7		ug/L		105	74 - 133
Methyl tert-butyl ether	25.0	25.0		ug/L		100	77 - 120
Methylcyclohexane	25.0	28.0		ug/L		112	68 - 134
Methylene Chloride	25.0	26.0		ug/L		104	75 - 124
Styrene	25.0	25.2		ug/L		101	80 - 120
Tetrachloroethene	25.0	29.8		ug/L		119	74 - 122
Toluene	25.0	24.0		ug/L		96	80 - 122
trans-1,2-Dichloroethene	25.0	26.1		ug/L		104	73 - 127
trans-1,3-Dichloropropene	25.0	26.1		ug/L		104	80 - 120
Trichloroethene	25.0	25.5		ug/L		102	74 - 123
Trichlorofluoromethane	25.0	22.8		ug/L		91	62 - 150
Vinyl chloride	25.0	22.8		ug/L		91	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		77 - 120
4-Bromofluorobenzene (Surr)	106		73 - 120
Dibromofluoromethane (Surr)	104		75 - 123
Toluene-d8 (Surr)	97		80 - 120

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

GC/MS VOA

Analysis Batch: 482394

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-156164-1	WELL 1-2A	Total/NA	Water	8260C	
480-156164-2	WELL 1-3	Total/NA	Water	8260C	
480-156164-3	WELL 1-3 POST	Total/NA	Water	8260C	
480-156164-4	TRIP BLANK	Total/NA	Water	8260C	
MB 480-482394/8	Method Blank	Total/NA	Water	8260C	
LCS 480-482394/6	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-156164-1

Date Collected: 07/12/19 10:20

Matrix: Water

Date Received: 07/13/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482394	07/17/19 12:30	AEM	TAL BUF

Client Sample ID: WELL 1-3

Lab Sample ID: 480-156164-2

Date Collected: 07/12/19 10:25

Matrix: Water

Date Received: 07/13/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482394	07/17/19 12:54	AEM	TAL BUF

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-156164-3

Date Collected: 07/12/19 10:30

Matrix: Water

Date Received: 07/13/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482394	07/17/19 13:18	AEM	TAL BUF

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-156164-4

Date Collected: 07/12/19 00:00

Matrix: Water

Date Received: 07/13/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	482394	07/17/19 13:43	AEM	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
New York	NELAP	2	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2,3-Trimethylbenzene

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-156164-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-156164-1	WELL 1-2A	Water	07/12/19 10:20	07/13/19 09:30	
480-156164-2	WELL 1-3	Water	07/12/19 10:25	07/13/19 09:30	
480-156164-3	WELL 1-3 POST	Water	07/12/19 10:30	07/13/19 09:30	
480-156164-4	TRIP BLANK	Water	07/12/19 00:00	07/13/19 09:30	

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-156164-1

Login Number: 156164

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Kolb, Chris M

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Town of Vestal

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363

Project Name: Town of Vestal Monthly/Quarterly

Project / PO Number: N/A
Received: 07/22/2019
Reported: 08/01/2019

Analytical Testing Parameters

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-01

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 11:00

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Bromodichloromethane	<0.50		0.50	ug/L			07/30/19 1920	RSD
Bromoform	<0.50		0.50	ug/L			07/30/19 1920	RSD
Bromomethane	<0.50		0.50	ug/L			07/30/19 1920	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Chloroform	<0.50		0.50	ug/L			07/30/19 1920	RSD
Chloromethane	<0.50		0.50	ug/L			07/30/19 1920	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Dibromochloromethane	<0.50		0.50	ug/L			07/30/19 1920	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD

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CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-01

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 11:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Styrene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			07/30/19 1920	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1920	RSD
Surrogate: 4-Bromofluorobenzene	103	Limit: 70-130		% Rec			07/30/19 1920	RSD
Surrogate: 1,2-Dichlorobenzene-d4	100	Limit: 70-130		% Rec			07/30/19 1920	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-2A Finished

Sample Matrix: Drinking Water

Lab Sample ID: J9G1153-02

Collected By: Michael Emm-Lab

Collection Date: 07/22/2019 11:00

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Bromodichloromethane	<0.50		0.50	ug/L			07/30/19 1944	RSD
Bromoform	<0.50		0.50	ug/L			07/30/19 1944	RSD
Bromomethane	<0.50		0.50	ug/L			07/30/19 1944	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Chloroform	<0.50		0.50	ug/L			07/30/19 1944	RSD
Chloromethane	<0.50		0.50	ug/L			07/30/19 1944	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Dibromochloromethane	<0.50		0.50	ug/L			07/30/19 1944	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD

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CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-2A Finished

Sample Matrix: Drinking Water

Lab Sample ID: J9G1153-02

Collected By: Michael Emm-Lab

Collection Date: 07/22/2019 11:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			07/30/19 1944	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 1944	RSD
Surrogate: 4-Bromofluorobenzene	102	Limit: 70-130		% Rec			07/30/19 1944	RSD
Surrogate: 1,2-Dichlorobenzene-d4	99.0	Limit: 70-130		% Rec			07/30/19 1944	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-03

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 11:05

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Bromodichloromethane	<0.50		0.50	ug/L			07/30/19 2008	RSD
Bromoform	<0.50		0.50	ug/L			07/30/19 2008	RSD
Bromomethane	<0.50		0.50	ug/L			07/30/19 2008	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Chloroform	<0.50		0.50	ug/L			07/30/19 2008	RSD
Chloromethane	<0.50		0.50	ug/L			07/30/19 2008	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Dibromochloromethane	<0.50		0.50	ug/L			07/30/19 2008	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-03

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 11:05

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			07/30/19 2008	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2008	RSD
Surrogate: 4-Bromofluorobenzene	104	Limit: 70-130		% Rec			07/30/19 2008	RSD
Surrogate: 1,2-Dichlorobenzene-d4	101	Limit: 70-130		% Rec			07/30/19 2008	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-04

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 11:05

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Bromodichloromethane	<0.50		0.50	ug/L			07/30/19 2032	RSD
Bromoform	<0.50		0.50	ug/L			07/30/19 2032	RSD
Bromomethane	<0.50		0.50	ug/L			07/30/19 2032	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Chloroform	<0.50		0.50	ug/L			07/30/19 2032	RSD
Chloromethane	<0.50		0.50	ug/L			07/30/19 2032	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Dibromochloromethane	<0.50		0.50	ug/L			07/30/19 2032	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-04

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 11:05

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			07/30/19 2032	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2032	RSD
Surrogate: 4-Bromofluorobenzene	102	Limit: 70-130		% Rec			07/30/19 2032	RSD
Surrogate: 1,2-Dichlorobenzene-d4	98.4	Limit: 70-130		% Rec			07/30/19 2032	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-07

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 9:42

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Bromodichloromethane	<0.50		0.50	ug/L			07/30/19 2144	RSD
Bromoform	<0.50		0.50	ug/L			07/30/19 2144	RSD
Bromomethane	<0.50		0.50	ug/L			07/30/19 2144	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Chloroform	<0.50		0.50	ug/L			07/30/19 2144	RSD
Chloromethane	<0.50		0.50	ug/L			07/30/19 2144	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Dibromochloromethane	<0.50		0.50	ug/L			07/30/19 2144	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9G1153

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9G1153-07

Collected By: Michael Emm-Lab
Collection Date: 07/22/2019 9:42

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			07/30/19 2144	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			07/30/19 2144	RSD
Surrogate: 4-Bromofluorobenzene	103	Limit: 70-130		% Rec			07/30/19 2144	RSD
Surrogate: 1,2-Dichlorobenzene-d4	99.8	Limit: 70-130		% Rec			07/30/19 2144	RSD

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

MCL: US EPA Maximum Contaminant Level
NYVOA: New York DOH Part 5 Public Water System MCLs
RL: Reporting Limit

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
11549

New York State Department of Health

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795

New York State Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Renee Lantz
Customer Relationship Specialist
Reported: 08/01/2019 19:09

Microbac Laboratories, Inc.

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Microbac Laboratories, Inc., New York Division
Chain of Custody
J9G1153

TAT 7 days

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 7/22/2019
Field Route ID: NY-Route 1 Bing

Client Sample ID: 1-2A Raw

Lab Sample ID: J9G1153-01

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 7-22-19 11:00

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-2A Finished

Lab Sample ID: J9G1153-02

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 7-22-19 11:00

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-3 Raw

Lab Sample ID: J9G1153-03

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 7-22-19 11:05

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-3 Finished

Lab Sample ID: J9G1153-04

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 7-22-19 11:05



Microbac Laboratories, Inc., New York Division
Chain of Custody
J9G1153

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 7/22/2019
Field Route ID: NY-Route 1 Bing

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Raw

Lab Sample ID: J9G1153-05

Matrix: Drinking Water
Type: Grab

Sampled Date & Time: 7-22-19 10:30

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Finished

Lab Sample ID: J9G1153-06

Matrix: Drinking Water
Type: Grab

Sampled Date & Time: 7-22-19 10:35

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: Trip Blank

Lab Sample ID: J9G1153-07

Matrix: Drinking Water
Type: Trip Blank

Sampled Date & Time: 7/19/19 9:42

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A



Microbac Laboratories, Inc., New York Division
Chain of Custody
J9G1153

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 7/22/2019
Field Route ID: NY-Route 1 Bing

Sampled/Relinquished by: <i>Michelle</i>	Date/Time: <i>7-22-19 / 15:45</i>	Received by: <i>Kayla Conway</i>
Printed Name: Bethany Robinson <i>Michelle</i>		Printed Name: <i>Kayla Conway</i>
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:

As Received at Laboratory: On Ice: ☒ Yes / No Temp 3.8 °C Total Containers: 13

Microbac Laboratories may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to an appropriately accredited laboratory. By signing this document you are acknowledging that you have been informed by Microbac that testing could be subcontracted and agree with this arrangement.

Notes:

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

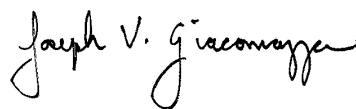
Laboratory Job ID: 480-157564-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:

8/23/2019 11:12:44 AM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

LINKS

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Job ID: 480-157564-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-157564-1

Comments

No additional comments.

Receipt

The samples were received on 8/13/2019 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-157564-1

No Detections.

Client Sample ID: WELL 1-3

Lab Sample ID: 480-157564-2

No Detections.

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-157564-3

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157564-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-157564-1

Date Collected: 08/12/19 10:00

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/18/19 14:08	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 14:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/18/19 14:08	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/18/19 14:08	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			08/18/19 14:08	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/18/19 14:08	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			08/18/19 14:08	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/18/19 14:08	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			08/18/19 14:08	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/18/19 14:08	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/18/19 14:08	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/18/19 14:08	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 14:08	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/18/19 14:08	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			08/18/19 14:08	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/18/19 14:08	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/18/19 14:08	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/18/19 14:08	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/18/19 14:08	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/18/19 14:08	1
Acetone	10	U	10	3.0	ug/L			08/18/19 14:08	1
Benzene	1.0	U	1.0	0.41	ug/L			08/18/19 14:08	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/18/19 14:08	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/18/19 14:08	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/18/19 14:08	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/18/19 14:08	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/18/19 14:08	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/18/19 14:08	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/18/19 14:08	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/18/19 14:08	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/18/19 14:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			08/18/19 14:08	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/18/19 14:08	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/18/19 14:08	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/18/19 14:08	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/18/19 14:08	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/18/19 14:08	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/18/19 14:08	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/18/19 14:08	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			08/18/19 14:08	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/18/19 14:08	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/18/19 14:08	1
Styrene	1.0	U	1.0	0.73	ug/L			08/18/19 14:08	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/18/19 14:08	1
Toluene	1.0	U	1.0	0.51	ug/L			08/18/19 14:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/18/19 14:08	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/18/19 14:08	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			08/18/19 14:08	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/18/19 14:08	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-157564-1

Date Collected: 08/12/19 10:00

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/18/19 14:08	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/18/19 14:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		77 - 120					08/18/19 14:08	1
4-Bromofluorobenzene (Surr)	104		73 - 120					08/18/19 14:08	1
Dibromofluoromethane (Surr)	99		75 - 123					08/18/19 14:08	1
Toluene-d8 (Surr)	98		80 - 120					08/18/19 14:08	1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-157564-2

Date Collected: 08/12/19 10:05

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/18/19 14:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 14:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/18/19 14:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/18/19 14:34	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			08/18/19 14:34	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/18/19 14:34	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			08/18/19 14:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/18/19 14:34	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			08/18/19 14:34	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/18/19 14:34	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/18/19 14:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/18/19 14:34	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 14:34	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/18/19 14:34	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			08/18/19 14:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/18/19 14:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/18/19 14:34	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/18/19 14:34	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/18/19 14:34	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/18/19 14:34	1
Acetone	10	U	10	3.0	ug/L			08/18/19 14:34	1
Benzene	1.0	U	1.0	0.41	ug/L			08/18/19 14:34	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/18/19 14:34	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/18/19 14:34	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/18/19 14:34	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/18/19 14:34	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/18/19 14:34	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/18/19 14:34	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/18/19 14:34	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/18/19 14:34	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/18/19 14:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			08/18/19 14:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/18/19 14:34	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/18/19 14:34	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/18/19 14:34	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-157564-2

Date Collected: 08/12/19 10:05

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/18/19 14:34	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/18/19 14:34	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/18/19 14:34	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/18/19 14:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			08/18/19 14:34	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/18/19 14:34	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/18/19 14:34	1
Styrene	1.0	U	1.0	0.73	ug/L			08/18/19 14:34	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/18/19 14:34	1
Toluene	1.0	U	1.0	0.51	ug/L			08/18/19 14:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/18/19 14:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/18/19 14:34	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			08/18/19 14:34	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/18/19 14:34	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/18/19 14:34	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/18/19 14:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120		08/18/19 14:34	1
4-Bromofluorobenzene (Surr)	107		73 - 120		08/18/19 14:34	1
Dibromofluoromethane (Surr)	103		75 - 123		08/18/19 14:34	1
Toluene-d8 (Surr)	95		80 - 120		08/18/19 14:34	1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-157564-3

Date Collected: 08/12/19 10:10

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/18/19 14:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 14:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/18/19 14:58	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/18/19 14:58	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			08/18/19 14:58	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/18/19 14:58	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			08/18/19 14:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/18/19 14:58	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			08/18/19 14:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/18/19 14:58	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/18/19 14:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/18/19 14:58	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 14:58	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/18/19 14:58	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			08/18/19 14:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/18/19 14:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/18/19 14:58	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/18/19 14:58	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/18/19 14:58	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/18/19 14:58	1
Acetone	10	U	10	3.0	ug/L			08/18/19 14:58	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-157564-3

Date Collected: 08/12/19 10:10

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			08/18/19 14:58	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/18/19 14:58	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/18/19 14:58	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/18/19 14:58	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/18/19 14:58	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/18/19 14:58	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/18/19 14:58	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/18/19 14:58	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/18/19 14:58	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/18/19 14:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			08/18/19 14:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/18/19 14:58	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/18/19 14:58	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/18/19 14:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/18/19 14:58	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/18/19 14:58	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/18/19 14:58	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/18/19 14:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			08/18/19 14:58	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/18/19 14:58	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/18/19 14:58	1
Styrene	1.0	U	1.0	0.73	ug/L			08/18/19 14:58	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/18/19 14:58	1
Toluene	1.0	U	1.0	0.51	ug/L			08/18/19 14:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/18/19 14:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/18/19 14:58	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			08/18/19 14:58	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/18/19 14:58	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/18/19 14:58	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/18/19 14:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		77 - 120		08/18/19 14:58	1
4-Bromofluorobenzene (Surr)	97		73 - 120		08/18/19 14:58	1
Dibromofluoromethane (Surr)	98		75 - 123		08/18/19 14:58	1
Toluene-d8 (Surr)	96		80 - 120		08/18/19 14:58	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157564-4

Date Collected: 08/12/19 00:00

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/18/19 15:22	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 15:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/18/19 15:22	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/18/19 15:22	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			08/18/19 15:22	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/18/19 15:22	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			08/18/19 15:22	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157564-4

Date Collected: 08/12/19 00:00

Matrix: Water

Date Received: 08/13/19 09:45

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/18/19 15:22	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			08/18/19 15:22	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/18/19 15:22	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/18/19 15:22	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/18/19 15:22	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 15:22	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/18/19 15:22	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			08/18/19 15:22	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/18/19 15:22	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/18/19 15:22	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/18/19 15:22	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/18/19 15:22	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/18/19 15:22	1
Acetone	10	U	10	3.0	ug/L			08/18/19 15:22	1
Benzene	1.0	U	1.0	0.41	ug/L			08/18/19 15:22	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/18/19 15:22	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/18/19 15:22	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/18/19 15:22	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/18/19 15:22	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/18/19 15:22	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/18/19 15:22	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/18/19 15:22	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/18/19 15:22	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/18/19 15:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			08/18/19 15:22	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/18/19 15:22	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/18/19 15:22	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/18/19 15:22	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/18/19 15:22	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/18/19 15:22	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/18/19 15:22	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/18/19 15:22	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			08/18/19 15:22	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/18/19 15:22	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/18/19 15:22	1
Styrene	1.0	U	1.0	0.73	ug/L			08/18/19 15:22	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/18/19 15:22	1
Toluene	1.0	U	1.0	0.51	ug/L			08/18/19 15:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/18/19 15:22	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/18/19 15:22	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			08/18/19 15:22	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/18/19 15:22	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/18/19 15:22	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/18/19 15:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		77 - 120		08/18/19 15:22	1
4-Bromofluorobenzene (Surr)	104		73 - 120		08/18/19 15:22	1
Dibromofluoromethane (Surr)	99		75 - 123		08/18/19 15:22	1
Toluene-d8 (Surr)	100		80 - 120		08/18/19 15:22	1

Eurofins TestAmerica, Buffalo

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-157564-1	WELL 1-2A	93	104	99	98
480-157564-2	WELL 1-3	98	107	103	95
480-157564-3	WELL 1-3 POST	92	97	98	96
480-157564-4	TRIP BLANK	96	104	99	100
LCS 480-487566/6	Lab Control Sample	95	101	103	98
MB 480-487566/8	Method Blank	93	100	100	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-487566/8

Matrix: Water

Analysis Batch: 487566

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			08/18/19 12:00	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 12:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			08/18/19 12:00	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			08/18/19 12:00	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			08/18/19 12:00	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			08/18/19 12:00	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			08/18/19 12:00	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			08/18/19 12:00	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			08/18/19 12:00	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			08/18/19 12:00	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			08/18/19 12:00	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			08/18/19 12:00	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/18/19 12:00	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			08/18/19 12:00	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			08/18/19 12:00	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			08/18/19 12:00	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			08/18/19 12:00	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			08/18/19 12:00	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			08/18/19 12:00	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			08/18/19 12:00	1
Acetone	10	U	10	3.0	ug/L			08/18/19 12:00	1
Benzene	1.0	U	1.0	0.41	ug/L			08/18/19 12:00	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			08/18/19 12:00	1
Bromoform	1.0	U	1.0	0.26	ug/L			08/18/19 12:00	1
Bromomethane	1.0	U	1.0	0.69	ug/L			08/18/19 12:00	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			08/18/19 12:00	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			08/18/19 12:00	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			08/18/19 12:00	1
Chloroethane	1.0	U	1.0	0.32	ug/L			08/18/19 12:00	1
Chloroform	1.0	U	1.0	0.34	ug/L			08/18/19 12:00	1
Chloromethane	1.0	U	1.0	0.35	ug/L			08/18/19 12:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			08/18/19 12:00	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			08/18/19 12:00	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			08/18/19 12:00	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			08/18/19 12:00	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			08/18/19 12:00	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			08/18/19 12:00	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			08/18/19 12:00	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			08/18/19 12:00	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			08/18/19 12:00	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			08/18/19 12:00	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			08/18/19 12:00	1
Styrene	1.0	U	1.0	0.73	ug/L			08/18/19 12:00	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			08/18/19 12:00	1
Toluene	1.0	U	1.0	0.51	ug/L			08/18/19 12:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			08/18/19 12:00	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			08/18/19 12:00	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			08/18/19 12:00	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-487566/8

Matrix: Water

Analysis Batch: 487566

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			08/18/19 12:00	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			08/18/19 12:00	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			08/18/19 12:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		77 - 120					08/18/19 12:00	1
4-Bromofluorobenzene (Surr)	100		73 - 120					08/18/19 12:00	1
Dibromofluoromethane (Surr)	100		75 - 123					08/18/19 12:00	1
Toluene-d8 (Surr)	96		80 - 120					08/18/19 12:00	1

Lab Sample ID: LCS 480-487566/6

Matrix: Water

Analysis Batch: 487566

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	26.4		ug/L		106	73 - 126
1,1,2,2-Tetrachloroethane	25.0	27.4		ug/L		110	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	27.2		ug/L		109	61 - 148
1,1,2-Trichloroethane	25.0	26.5		ug/L		106	76 - 122
1,1-Dichloroethane	25.0	25.9		ug/L		104	77 - 120
1,1-Dichloroethene	25.0	26.8		ug/L		107	66 - 127
1,2,3-Trimethylbenzene	25.0	27.4		ug/L		109	78 - 120
1,2,4-Trichlorobenzene	25.0	28.2		ug/L		113	79 - 122
1,2,4-Trimethylbenzene	25.0	26.8		ug/L		107	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	28.4		ug/L		114	56 - 134
1,2-Dibromoethane	25.0	27.3		ug/L		109	77 - 120
1,2-Dichlorobenzene	25.0	27.6		ug/L		110	80 - 124
1,2-Dichloroethane	25.0	24.8		ug/L		99	75 - 120
1,2-Dichloropropane	25.0	27.4		ug/L		110	76 - 120
1,3,5-Trimethylbenzene	25.0	27.6		ug/L		110	77 - 121
1,3-Dichlorobenzene	25.0	27.1		ug/L		108	77 - 120
1,4-Dichlorobenzene	25.0	27.2		ug/L		109	80 - 120
2-Butanone (MEK)	125	137		ug/L		109	57 - 140
2-Hexanone	125	126		ug/L		101	65 - 127
4-Methyl-2-pentanone (MIBK)	125	130		ug/L		104	71 - 125
Acetone	125	114		ug/L		91	56 - 142
Benzene	25.0	26.5		ug/L		106	71 - 124
Bromodichloromethane	25.0	25.7		ug/L		103	80 - 122
Bromoform	25.0	25.5		ug/L		102	61 - 132
Bromomethane	25.0	24.8		ug/L		99	55 - 144
Carbon disulfide	25.0	26.0		ug/L		104	59 - 134
Carbon tetrachloride	25.0	25.8		ug/L		103	72 - 134
Chlorobenzene	25.0	26.2		ug/L		105	80 - 120
Chloroethane	25.0	24.2		ug/L		97	69 - 136
Chloroform	25.0	25.2		ug/L		101	73 - 127
Chloromethane	25.0	24.7		ug/L		99	68 - 124
cis-1,2-Dichloroethene	25.0	27.0		ug/L		108	74 - 124
cis-1,3-Dichloropropene	25.0	28.4		ug/L		113	74 - 124

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-487566/6

Matrix: Water

Analysis Batch: 487566

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	25.1		ug/L		100	59 - 135
Dibromochloromethane	25.0	26.4		ug/L		105	75 - 125
Dichlorodifluoromethane	25.0	28.3		ug/L		113	59 - 135
Ethylbenzene	25.0	25.4		ug/L		102	77 - 123
Isopropylbenzene	25.0	26.7		ug/L		107	77 - 122
Methyl acetate	50.0	51.5		ug/L		103	74 - 133
Methyl tert-butyl ether	25.0	25.2		ug/L		101	77 - 120
Methylcyclohexane	25.0	27.1		ug/L		109	68 - 134
Methylene Chloride	25.0	27.0		ug/L		108	75 - 124
Styrene	25.0	26.5		ug/L		106	80 - 120
Tetrachloroethene	25.0	27.5		ug/L		110	74 - 122
Toluene	25.0	26.1		ug/L		104	80 - 122
trans-1,2-Dichloroethene	25.0	26.3		ug/L		105	73 - 127
trans-1,3-Dichloropropene	25.0	25.4		ug/L		102	80 - 120
Trichloroethene	25.0	26.6		ug/L		106	74 - 123
Trichlorofluoromethane	25.0	26.6		ug/L		106	62 - 150
Vinyl chloride	25.0	25.3		ug/L		101	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		77 - 120
4-Bromofluorobenzene (Surr)	101		73 - 120
Dibromofluoromethane (Surr)	103		75 - 123
Toluene-d8 (Surr)	98		80 - 120

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

GC/MS VOA

Analysis Batch: 487566

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-157564-1	WELL 1-2A	Total/NA	Water	8260C	
480-157564-2	WELL 1-3	Total/NA	Water	8260C	
480-157564-3	WELL 1-3 POST	Total/NA	Water	8260C	
480-157564-4	TRIP BLANK	Total/NA	Water	8260C	
MB 480-487566/8	Method Blank	Total/NA	Water	8260C	
LCS 480-487566/6	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-157564-1

Date Collected: 08/12/19 10:00

Matrix: Water

Date Received: 08/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	487566	08/18/19 14:08	AMM	TAL BUF

Client Sample ID: WELL 1-3

Lab Sample ID: 480-157564-2

Date Collected: 08/12/19 10:05

Matrix: Water

Date Received: 08/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	487566	08/18/19 14:34	AMM	TAL BUF

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-157564-3

Date Collected: 08/12/19 10:10

Matrix: Water

Date Received: 08/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	487566	08/18/19 14:58	AMM	TAL BUF

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-157564-4

Date Collected: 08/12/19 00:00

Matrix: Water

Date Received: 08/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	487566	08/18/19 15:22	AMM	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2,3-Trimethylbenzene

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-157564-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-157564-1	WELL 1-2A	Water	08/12/19 10:00	08/13/19 09:45	
480-157564-2	WELL 1-3	Water	08/12/19 10:05	08/13/19 09:45	
480-157564-3	WELL 1-3 POST	Water	08/12/19 10:10	08/13/19 09:45	
480-157564-4	TRIP BLANK	Water	08/12/19 00:00	08/13/19 09:45	

Chain of Custody Record

[illegible]

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-157564-1

Login Number: 157564

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Harper, Marcus D

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	N/A	
Chlorine Residual checked.	N/A	



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Town of Vestal

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363

Project Name: Town of Vestal Monthly/Quarterly

Project / PO Number: N/A
Received: 08/26/2019
Reported: 09/15/2019

Analytical Testing Parameters

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-01

Collected By: Michael Emm
Collection Date: 08/26/2019 10:50

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			09/05/19 1752	JAN
Bromoform	<0.00050		0.00050	mg/L			09/05/19 1752	JAN
Bromomethane	<0.00050		0.00050	mg/L			09/05/19 1752	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Chloroform	<0.00050		0.00050	mg/L			09/05/19 1752	JAN
Chloromethane	<0.00050		0.00050	mg/L			09/05/19 1752	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			09/05/19 1752	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN

Microbac Laboratories, Inc.



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-01

Collected By: Michael Emm
Collection Date: 08/26/2019 10:50

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-01

Collected By: Michael Emm
Collection Date: 08/26/2019 10:50

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1752	JAN
Surrogate: 4-Bromofluorobenzene	101	Limit: 70-130		% Rec			09/05/19 1752	JAN
Surrogate: 1,2-Dichlorobenzene-d4	96.1	Limit: 70-130		% Rec			09/05/19 1752	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-02

Collected By: Michael Emm
Collection Date: 08/26/2019 10:50

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			09/05/19 1815	JAN
Bromoform	<0.00050		0.00050	mg/L			09/05/19 1815	JAN
Bromomethane	<0.00050		0.00050	mg/L			09/05/19 1815	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Chloroform	<0.00050		0.00050	mg/L			09/05/19 1815	JAN
Chloromethane	<0.00050		0.00050	mg/L			09/05/19 1815	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			09/05/19 1815	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-02

Collected By: Michael Emm
Collection Date: 08/26/2019 10:50

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-2A Finished

Sample Matrix: Drinking Water

Lab Sample ID: J9H1762-02

Collected By: Michael Emm

Collection Date: 08/26/2019 10:50

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1815	JAN
Surrogate: 4-Bromofluorobenzene	102	Limit: 70-130		% Rec			09/05/19 1815	JAN
Surrogate: 1,2-Dichlorobenzene-d4	98.8	Limit: 70-130		% Rec			09/05/19 1815	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-03

Collected By: Michael Emm
Collection Date: 08/26/2019 10:55

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			09/05/19 1839	JAN
Bromoform	<0.00050		0.00050	mg/L			09/05/19 1839	JAN
Bromomethane	<0.00050		0.00050	mg/L			09/05/19 1839	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Chloroform	<0.00050		0.00050	mg/L			09/05/19 1839	JAN
Chloromethane	<0.00050		0.00050	mg/L			09/05/19 1839	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			09/05/19 1839	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-03

Collected By: Michael Emm
Collection Date: 08/26/2019 10:55

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-03

Collected By: Michael Emm
Collection Date: 08/26/2019 10:55

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1839	JAN
Surrogate: 4-Bromofluorobenzene	103	Limit: 70-130		% Rec			09/05/19 1839	JAN
Surrogate: 1,2-Dichlorobenzene-d4	96.4	Limit: 70-130		% Rec			09/05/19 1839	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-04

Collected By: Michael Emm
Collection Date: 08/26/2019 10:55

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			09/05/19 1903	JAN
Bromoform	<0.00050		0.00050	mg/L			09/05/19 1903	JAN
Bromomethane	<0.00050		0.00050	mg/L			09/05/19 1903	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Chloroform	<0.00050		0.00050	mg/L			09/05/19 1903	JAN
Chloromethane	<0.00050		0.00050	mg/L			09/05/19 1903	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			09/05/19 1903	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-04

Collected By: Michael Emm
Collection Date: 08/26/2019 10:55

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-04

Collected By: Michael Emm
Collection Date: 08/26/2019 10:55

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/05/19 1903	JAN
Surrogate: 4-Bromofluorobenzene	102	Limit: 70-130		% Rec			09/05/19 1903	JAN
Surrogate: 1,2-Dichlorobenzene-d4	97.6	Limit: 70-130		% Rec			09/05/19 1903	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-07

Collected By: Michael Emm
Collection Date: 08/26/2019

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			09/09/19 2055	JAN
Bromoform	<0.00050		0.00050	mg/L			09/09/19 2055	JAN
Bromomethane	<0.00050		0.00050	mg/L			09/09/19 2055	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Chloroform	<0.00050		0.00050	mg/L			09/09/19 2055	JAN
Chloromethane	<0.00050		0.00050	mg/L			09/09/19 2055	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			09/09/19 2055	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-07

Collected By: Michael Emm
Collection Date: 08/26/2019

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9H1762

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9H1762-07

Collected By: Michael Emm
Collection Date: 08/26/2019

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			09/09/19 2055	JAN
Surrogate: 4-Bromofluorobenzene	104	Limit: 70-130		% Rec			09/09/19 2055	JAN
Surrogate: 1,2-Dichlorobenzene-d4	98.9	Limit: 70-130		% Rec			09/09/19 2055	JAN

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

MCL: US EPA Maximum Contaminant Level
NYVOA: New York DOH Part 5 Public Water System MCLs
RL: Reporting Limit

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
11549

New York State Department of Health

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795

New York State Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Renee Lantz
Customer Relationship Specialist
Reported: 09/15/2019 11:45

Microbac Laboratories, Inc.

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Microbac Laboratories, Inc., New York Division
Chain of Custody
J9H1762

TAT 7 days

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 8/26/2019
Field Route ID: NY-Route 1 Bing

Client Sample ID: 1-2A Raw

Lab Sample ID: J9H1762-01

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 8/26/19 10:50

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear vial, HCL	A
		V-40ml Clear vial, HCL	B

Client Sample ID: 1-2A Finished

Lab Sample ID: J9H1762-02

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 8/26/19 10:50

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear Vial, Ascorbic Acid, HCL	A
		V-40ml Clear Vial, Ascorbic Acid, HCL	B

Client Sample ID: 1-3 Raw

Lab Sample ID: J9H1762-03

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 8/24/19 10:55

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear vial, HCL	A
		V-40ml Clear vial, HCL	B

Client Sample ID: 1-3 Finished

Lab Sample ID: J9H1762-04

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 8/26/19 10:55



Microbac Laboratories, Inc., New York Division

Chain of Custody

J9H1762

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 8/26/2019
Field Route ID: NY-Route 1 Bing

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear Vial, Ascorbic Acid, HCL	A
		V-40ml Clear Vial, Ascorbic Acid, HCL	B

Client Sample ID: 4-2 Raw

Lab Sample ID: J9H1762-05

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 8/26/19 11:15

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear vial, HCL	A
		V-40ml Clear vial, HCL	B

Client Sample ID: 4-2 Finished

Lab Sample ID: J9H1762-06

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 8/26/19 11:15

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear Vial, Ascorbic Acid, HCL	A
		V-40ml Clear Vial, Ascorbic Acid, HCL	B

Client Sample ID: Trip Blank

Lab Sample ID: J9H1762-07

Matrix: Drinking Water

Type: Trip Blank

Sampled Date & Time: 8/26/19

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1		14.00 days
		<u>Container(s)</u>	<u>Designator</u>
		V-40ml Clear vial, HCL	A


Microbac Laboratories, Inc., New York Division
Chain of Custody
J9H1762
Town of Vestal
Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tentatively Scheduled: 8/26/2019
Field Route ID: NY-Route 1 Bing

Sampled/Relinquished by: <i>Micah E</i>	Date/Time: <i>8/24/19 15:50</i>	Received by: <i>[Signature]</i>
Printed Name: Bethany Robinson <i>Micah E</i>		Printed Name: <i>Kayla Conway</i>
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:

As Received at Laboratory: On Ice: ☒ Yes / No Temp 2.7 °C Total Containers: 13

Microbac Laboratories may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to an appropriately accredited laboratory. By signing this document you are acknowledging that you have been informed by Microbac that testing could be subcontracted and agree with this arrangement.

Notes:

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-160101-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:
10/11/2019 12:04:46 PM

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Indicates an estimated value.
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Job ID: 480-160101-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-160101-1

Receipt

The samples were received on 9/28/2019 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160101-1

No Detections.

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160101-2

No Detections.

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160101-3

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-160101-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Acetone	7.5	J	10	3.0	ug/L	1			8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160101-1

Date Collected: 09/26/19 13:20

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/07/19 04:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 04:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/07/19 04:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/07/19 04:06	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/07/19 04:06	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/07/19 04:06	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/07/19 04:06	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/07/19 04:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/07/19 04:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/07/19 04:06	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/07/19 04:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/07/19 04:06	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 04:06	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/07/19 04:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/07/19 04:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/07/19 04:06	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/07/19 04:06	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/07/19 04:06	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/07/19 04:06	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/07/19 04:06	1
Acetone	10	U	10	3.0	ug/L			10/07/19 04:06	1
Benzene	1.0	U	1.0	0.41	ug/L			10/07/19 04:06	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/07/19 04:06	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/07/19 04:06	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/07/19 04:06	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/07/19 04:06	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/07/19 04:06	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/07/19 04:06	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/07/19 04:06	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/07/19 04:06	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/07/19 04:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/07/19 04:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/07/19 04:06	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/07/19 04:06	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/07/19 04:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/07/19 04:06	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/07/19 04:06	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/07/19 04:06	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/07/19 04:06	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/07/19 04:06	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/07/19 04:06	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/07/19 04:06	1
Styrene	1.0	U	1.0	0.73	ug/L			10/07/19 04:06	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/07/19 04:06	1
Toluene	1.0	U	1.0	0.51	ug/L			10/07/19 04:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/07/19 04:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/07/19 04:06	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/07/19 04:06	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/07/19 04:06	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160101-1

Date Collected: 09/26/19 13:20

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/07/19 04:06	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/07/19 04:06	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120					10/07/19 04:06	1
4-Bromofluorobenzene (Surr)	108		73 - 120					10/07/19 04:06	1
Dibromofluoromethane (Surr)	102		75 - 123					10/07/19 04:06	1
Toluene-d8 (Surr)	99		80 - 120					10/07/19 04:06	1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160101-2

Date Collected: 09/26/19 13:30

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/07/19 04:30	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 04:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/07/19 04:30	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/07/19 04:30	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/07/19 04:30	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/07/19 04:30	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/07/19 04:30	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/07/19 04:30	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/07/19 04:30	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/07/19 04:30	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/07/19 04:30	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/07/19 04:30	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 04:30	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/07/19 04:30	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/07/19 04:30	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/07/19 04:30	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/07/19 04:30	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/07/19 04:30	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/07/19 04:30	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/07/19 04:30	1
Acetone	10	U	10	3.0	ug/L			10/07/19 04:30	1
Benzene	1.0	U	1.0	0.41	ug/L			10/07/19 04:30	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/07/19 04:30	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/07/19 04:30	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/07/19 04:30	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/07/19 04:30	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/07/19 04:30	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/07/19 04:30	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/07/19 04:30	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/07/19 04:30	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/07/19 04:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/07/19 04:30	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/07/19 04:30	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/07/19 04:30	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/07/19 04:30	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160101-2

Date Collected: 09/26/19 13:30

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/07/19 04:30	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/07/19 04:30	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/07/19 04:30	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/07/19 04:30	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/07/19 04:30	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/07/19 04:30	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/07/19 04:30	1
Styrene	1.0	U	1.0	0.73	ug/L			10/07/19 04:30	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/07/19 04:30	1
Toluene	1.0	U	1.0	0.51	ug/L			10/07/19 04:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/07/19 04:30	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/07/19 04:30	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/07/19 04:30	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/07/19 04:30	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/07/19 04:30	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/07/19 04:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120		10/07/19 04:30	1
4-Bromofluorobenzene (Surr)	106		73 - 120		10/07/19 04:30	1
Dibromofluoromethane (Surr)	104		75 - 123		10/07/19 04:30	1
Toluene-d8 (Surr)	99		80 - 120		10/07/19 04:30	1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160101-3

Date Collected: 09/26/19 13:25

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/07/19 04:54	1
1,1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 04:54	1
1,1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/07/19 04:54	1
1,1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/07/19 04:54	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/07/19 04:54	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/07/19 04:54	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/07/19 04:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/07/19 04:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/07/19 04:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/07/19 04:54	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/07/19 04:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/07/19 04:54	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 04:54	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/07/19 04:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/07/19 04:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/07/19 04:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/07/19 04:54	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/07/19 04:54	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/07/19 04:54	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/07/19 04:54	1
Acetone	10	U	10	3.0	ug/L			10/07/19 04:54	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160101-3

Date Collected: 09/26/19 13:25

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			10/07/19 04:54	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/07/19 04:54	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/07/19 04:54	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/07/19 04:54	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/07/19 04:54	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/07/19 04:54	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/07/19 04:54	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/07/19 04:54	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/07/19 04:54	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/07/19 04:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/07/19 04:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/07/19 04:54	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/07/19 04:54	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/07/19 04:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/07/19 04:54	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/07/19 04:54	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/07/19 04:54	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/07/19 04:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/07/19 04:54	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/07/19 04:54	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/07/19 04:54	1
Styrene	1.0	U	1.0	0.73	ug/L			10/07/19 04:54	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/07/19 04:54	1
Toluene	1.0	U	1.0	0.51	ug/L			10/07/19 04:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/07/19 04:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/07/19 04:54	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/07/19 04:54	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/07/19 04:54	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/07/19 04:54	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/07/19 04:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		10/07/19 04:54	1
4-Bromofluorobenzene (Surr)	103		73 - 120		10/07/19 04:54	1
Dibromofluoromethane (Surr)	101		75 - 123		10/07/19 04:54	1
Toluene-d8 (Surr)	97		80 - 120		10/07/19 04:54	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-160101-4

Date Collected: 09/26/19 00:00

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/07/19 05:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 05:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/07/19 05:19	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/07/19 05:19	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/07/19 05:19	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/07/19 05:19	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/07/19 05:19	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-160101-4

Date Collected: 09/26/19 00:00

Matrix: Water

Date Received: 09/28/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/07/19 05:19	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/07/19 05:19	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/07/19 05:19	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/07/19 05:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/07/19 05:19	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/07/19 05:19	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/07/19 05:19	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/07/19 05:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/07/19 05:19	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/07/19 05:19	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/07/19 05:19	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/07/19 05:19	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/07/19 05:19	1
Acetone	7.5	J	10	3.0	ug/L			10/07/19 05:19	1
Benzene	1.0	U	1.0	0.41	ug/L			10/07/19 05:19	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/07/19 05:19	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/07/19 05:19	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/07/19 05:19	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/07/19 05:19	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/07/19 05:19	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/07/19 05:19	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/07/19 05:19	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/07/19 05:19	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/07/19 05:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/07/19 05:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/07/19 05:19	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/07/19 05:19	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/07/19 05:19	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/07/19 05:19	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/07/19 05:19	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/07/19 05:19	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/07/19 05:19	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/07/19 05:19	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/07/19 05:19	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/07/19 05:19	1
Styrene	1.0	U	1.0	0.73	ug/L			10/07/19 05:19	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/07/19 05:19	1
Toluene	1.0	U	1.0	0.51	ug/L			10/07/19 05:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/07/19 05:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/07/19 05:19	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/07/19 05:19	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/07/19 05:19	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/07/19 05:19	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/07/19 05:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120		10/07/19 05:19	1
4-Bromofluorobenzene (Surr)	105		73 - 120		10/07/19 05:19	1
Dibromofluoromethane (Surr)	102		75 - 123		10/07/19 05:19	1
Toluene-d8 (Surr)	95		80 - 120		10/07/19 05:19	1

Eurofins TestAmerica, Buffalo

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-160101-1	WELL 1-2A	104	108	102	99
480-160101-2	WELL 1-3	107	106	104	99
480-160101-3	WELL 1-3 POST	103	103	101	97
480-160101-4	TRIP BLANK	102	105	102	95
LCS 480-496231/5	Lab Control Sample	101	102	102	98
MB 480-496231/7	Method Blank	102	105	100	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-496231/7

Matrix: Water

Analysis Batch: 496231

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/06/19 23:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/06/19 23:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/06/19 23:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/06/19 23:15	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/06/19 23:15	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/06/19 23:15	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/06/19 23:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/06/19 23:15	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/06/19 23:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/06/19 23:15	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/06/19 23:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/06/19 23:15	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/06/19 23:15	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/06/19 23:15	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/06/19 23:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/06/19 23:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/06/19 23:15	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/06/19 23:15	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/06/19 23:15	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/06/19 23:15	1
Acetone	10	U	10	3.0	ug/L			10/06/19 23:15	1
Benzene	1.0	U	1.0	0.41	ug/L			10/06/19 23:15	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/06/19 23:15	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/06/19 23:15	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/06/19 23:15	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/06/19 23:15	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/06/19 23:15	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/06/19 23:15	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/06/19 23:15	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/06/19 23:15	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/06/19 23:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/06/19 23:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/06/19 23:15	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/06/19 23:15	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/06/19 23:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/06/19 23:15	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/06/19 23:15	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/06/19 23:15	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/06/19 23:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/06/19 23:15	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/06/19 23:15	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/06/19 23:15	1
Styrene	1.0	U	1.0	0.73	ug/L			10/06/19 23:15	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/06/19 23:15	1
Toluene	1.0	U	1.0	0.51	ug/L			10/06/19 23:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/06/19 23:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/06/19 23:15	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/06/19 23:15	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-496231/7

Matrix: Water

Analysis Batch: 496231

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/06/19 23:15	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/06/19 23:15	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/06/19 23:15	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120					10/06/19 23:15	1
4-Bromofluorobenzene (Surr)	105		73 - 120					10/06/19 23:15	1
Dibromofluoromethane (Surr)	100		75 - 123					10/06/19 23:15	1
Toluene-d8 (Surr)	97		80 - 120					10/06/19 23:15	1

Lab Sample ID: LCS 480-496231/5

Matrix: Water

Analysis Batch: 496231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.2		ug/L		101	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.6		ug/L		91	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.7		ug/L		95	61 - 148
1,1,2-Trichloroethane	25.0	23.2		ug/L		93	76 - 122
1,1-Dichloroethane	25.0	23.7		ug/L		95	77 - 120
1,1-Dichloroethene	25.0	23.7		ug/L		95	66 - 127
1,2,3-Trimethylbenzene	25.0	24.5		ug/L		98	78 - 120
1,2,4-Trichlorobenzene	25.0	21.6		ug/L		87	79 - 122
1,2,4-Trimethylbenzene	25.0	24.1		ug/L		96	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	22.4		ug/L		90	56 - 134
1,2-Dibromoethane	25.0	24.7		ug/L		99	77 - 120
1,2-Dichlorobenzene	25.0	23.3		ug/L		93	80 - 124
1,2-Dichloroethane	25.0	25.1		ug/L		100	75 - 120
1,2-Dichloropropane	25.0	24.9		ug/L		100	76 - 120
1,3,5-Trimethylbenzene	25.0	24.1		ug/L		96	77 - 121
1,3-Dichlorobenzene	25.0	23.5		ug/L		94	77 - 120
1,4-Dichlorobenzene	25.0	23.3		ug/L		93	80 - 120
2-Butanone (MEK)	125	147		ug/L		118	57 - 140
2-Hexanone	125	128		ug/L		103	65 - 127
4-Methyl-2-pentanone (MIBK)	125	126		ug/L		101	71 - 125
Acetone	125	154		ug/L		123	56 - 142
Benzene	25.0	24.6		ug/L		98	71 - 124
Bromodichloromethane	25.0	24.5		ug/L		98	80 - 122
Bromoform	25.0	24.0		ug/L		96	61 - 132
Bromomethane	25.0	23.6		ug/L		95	55 - 144
Carbon disulfide	25.0	21.8		ug/L		87	59 - 134
Carbon tetrachloride	25.0	24.8		ug/L		99	72 - 134
Chlorobenzene	25.0	24.8		ug/L		99	80 - 120
Chloroethane	25.0	22.5		ug/L		90	69 - 136
Chloroform	25.0	22.9		ug/L		91	73 - 127
Chloromethane	25.0	23.5		ug/L		94	68 - 124
cis-1,2-Dichloroethene	25.0	24.0		ug/L		96	74 - 124
cis-1,3-Dichloropropene	25.0	25.1		ug/L		100	74 - 124

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-496231/5

Matrix: Water

Analysis Batch: 496231

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	25.2		ug/L		101	59 - 135
Dibromochloromethane	25.0	25.7		ug/L		103	75 - 125
Dichlorodifluoromethane	25.0	23.1		ug/L		93	59 - 135
Ethylbenzene	25.0	24.7		ug/L		99	77 - 123
Isopropylbenzene	25.0	23.7		ug/L		95	77 - 122
Methyl acetate	50.0	49.0		ug/L		98	74 - 133
Methyl tert-butyl ether	25.0	23.9		ug/L		95	77 - 120
Methylcyclohexane	25.0	24.3		ug/L		97	68 - 134
Methylene Chloride	25.0	24.0		ug/L		96	75 - 124
Styrene	25.0	24.7		ug/L		99	80 - 120
Tetrachloroethene	25.0	29.2		ug/L		117	74 - 122
Toluene	25.0	23.8		ug/L		95	80 - 122
trans-1,2-Dichloroethene	25.0	22.9		ug/L		91	73 - 127
trans-1,3-Dichloropropene	25.0	23.7		ug/L		95	80 - 120
Trichloroethene	25.0	25.6		ug/L		102	74 - 123
Trichlorofluoromethane	25.0	24.4		ug/L		98	62 - 150
Vinyl chloride	25.0	24.2		ug/L		97	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	101		77 - 120
4-Bromofluorobenzene (Surr)	102		73 - 120
Dibromofluoromethane (Surr)	102		75 - 123
Toluene-d8 (Surr)	98		80 - 120

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

GC/MS VOA

Analysis Batch: 496231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160101-1	WELL 1-2A	Total/NA	Water	8260C	
480-160101-2	WELL 1-3	Total/NA	Water	8260C	
480-160101-3	WELL 1-3 POST	Total/NA	Water	8260C	
480-160101-4	TRIP BLANK	Total/NA	Water	8260C	
MB 480-496231/7	Method Blank	Total/NA	Water	8260C	
LCS 480-496231/5	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160101-1

Date Collected: 09/26/19 13:20

Matrix: Water

Date Received: 09/28/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	496231	10/07/19 04:06	AMM	TAL BUF

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160101-2

Date Collected: 09/26/19 13:30

Matrix: Water

Date Received: 09/28/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	496231	10/07/19 04:30	AMM	TAL BUF

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160101-3

Date Collected: 09/26/19 13:25

Matrix: Water

Date Received: 09/28/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	496231	10/07/19 04:54	AMM	TAL BUF

Client Sample ID: TRIP BLANK

Lab Sample ID: 480-160101-4

Date Collected: 09/26/19 00:00

Matrix: Water

Date Received: 09/28/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	496231	10/07/19 05:19	AMM	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2,3-Trimethylbenzene

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160101-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-160101-1	WELL 1-2A	Water	09/26/19 13:20	09/28/19 08:00	
480-160101-2	WELL 1-3	Water	09/26/19 13:30	09/28/19 08:00	
480-160101-3	WELL 1-3 POST	Water	09/26/19 13:25	09/28/19 08:00	
480-160101-4	TRIP BLANK	Water	09/26/19 00:00	09/28/19 08:00	

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact Company Name: <u>ARCADIS US, INC</u> Address: <u>855 Rte 146 Suite 210</u> City/State/Zip: <u>CLIFTON PARK, NY, 12065</u> Phone: <u>(518) 250-7300</u> Fax: _____ Project Name: <u>NYSDEC-Standby Vented</u> Site: <u>Town of Vestal Water Supply</u> PO #: _____		Project Manager: <u>Katie Bidwell</u> Tel/Fax: <u>(518) 250-7300</u> Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below: <u>Standard</u> ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Site Contact: Lab Contact: <u>Judy Stone</u> Date: <u>9-26-2019</u> Carrier: _____ COC No: <u>305114</u> 1 of 1 COCs Sampler: <u>ATHENA</u> For Lab Use Only Walk-in _____	
Sample Identification Well 1-2A Well 1-3 Well 1-3 POST Trip Blank <u>Quigley</u> <u>9-26-2019</u>		Sample Date 9-26-19 1320 9-26-19 1330 9-26-19 1325 - - - Sample Type G G G - Matrix Water ↓ ↓ ↓ # of Cont. 3 3 3 1		Filtered Sample (Y/N) Perform MS/MSD (Y/N) 8260C-(Mod)TCL list 01/04/2 Sample Specific Notes: HCL present  480-160101 Chain of Custody	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____ Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.					
Special Instructions/QC Requirements & Comments: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months					
Custody Seal No.: Company: <u>ARCADIS</u> Date/Time: <u>9-26-19 2009</u> Relinquished by: <u>Katie Bidwell</u> Relinquished by: <u>Katie Bidwell</u>		Company: <u>ETA</u> Date/Time: <u>9/27/19</u> Received by: <u>Calvin</u> Received in Laboratory by: _____		Cooler Temp. (°C): Obs'd: _____ Therm ID No.: <u>#1 313</u> Date/Time: <u>9/27/19 0830</u> Date/Time: <u>9/28/19 0800</u>	

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-160101-1

Login Number: 160101

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363

Project / PO Number: N/A
Received: 09/30/2019
Reported: 10/15/2019

Analytical Testing Parameters

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-01

Collected By: Michael Emm
Collection Date: 09/30/2019 11:10

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Bromodichloromethane	<0.00050		0.00050	mg/L			10/04/19 1855	RSD
Bromoform	<0.00050		0.00050	mg/L			10/04/19 1855	RSD
Bromomethane	<0.00050		0.00050	mg/L			10/04/19 1855	RSD
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Chloroform	<0.00050		0.00050	mg/L			10/04/19 1855	RSD
Chloromethane	<0.00050		0.00050	mg/L			10/04/19 1855	RSD
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Dibromochloromethane	<0.00050		0.00050	mg/L			10/04/19 1855	RSD
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD

Microbac Laboratories, Inc.



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-01

Collected By: Michael Emm
Collection Date: 09/30/2019 11:10

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-01

Collected By: Michael Emm
Collection Date: 09/30/2019 11:10

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1855	RSD
Surrogate: 4-Bromofluorobenzene	90.8	Limit: 70-130		% Rec			10/04/19 1855	RSD
Surrogate: 1,2-Dichlorobenzene-d4	86.4	Limit: 70-130		% Rec			10/04/19 1855	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-02

Collected By: Michael Emm
Collection Date: 09/30/2019 11:15

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Bromodichloromethane	<0.00050		0.00050	mg/L			10/04/19 1919	RSD
Bromoform	<0.00050		0.00050	mg/L			10/04/19 1919	RSD
Bromomethane	<0.00050		0.00050	mg/L			10/04/19 1919	RSD
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Chloroform	<0.00050		0.00050	mg/L			10/04/19 1919	RSD
Chloromethane	<0.00050		0.00050	mg/L			10/04/19 1919	RSD
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Dibromochloromethane	<0.00050		0.00050	mg/L			10/04/19 1919	RSD
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-02

Collected By: Michael Emm
Collection Date: 09/30/2019 11:15

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD

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CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-2A Finished

Sample Matrix: Drinking Water

Lab Sample ID: J9I1360-02

Collected By: Michael Emm

Collection Date: 09/30/2019 11:15

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1919	RSD
Surrogate: 4-Bromofluorobenzene	90.0	Limit: 70-130		% Rec			10/04/19 1919	RSD
Surrogate: 1,2-Dichlorobenzene-d4	87.2	Limit: 70-130		% Rec			10/04/19 1919	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-03

Collected By: Bethany Robinson
Collection Date: 09/30/2019 11:20

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Bromodichloromethane	<0.00050		0.00050	mg/L			10/04/19 1943	RSD
Bromoform	<0.00050		0.00050	mg/L			10/04/19 1943	RSD
Bromomethane	<0.00050		0.00050	mg/L			10/04/19 1943	RSD
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Chloroform	<0.00050		0.00050	mg/L			10/04/19 1943	RSD
Chloromethane	<0.00050		0.00050	mg/L			10/04/19 1943	RSD
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Dibromochloromethane	<0.00050		0.00050	mg/L			10/04/19 1943	RSD
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD

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CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-03

Collected By: Bethany Robinson
Collection Date: 09/30/2019 11:20

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD

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CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-03

Collected By: Bethany Robinson
Collection Date: 09/30/2019 11:20

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 1943	RSD
Surrogate: 4-Bromofluorobenzene	96.2	Limit: 70-130		% Rec			10/04/19 1943	RSD
Surrogate: 1,2-Dichlorobenzene-d4	87.4	Limit: 70-130		% Rec			10/04/19 1943	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-04

Collected By: Michael Emm
Collection Date: 09/30/2019 11:25

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Bromodichloromethane	<0.00050		0.00050	mg/L			10/04/19 2007	RSD
Bromoform	<0.00050		0.00050	mg/L			10/04/19 2007	RSD
Bromomethane	<0.00050		0.00050	mg/L			10/04/19 2007	RSD
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Chloroform	<0.00050		0.00050	mg/L			10/04/19 2007	RSD
Chloromethane	<0.00050		0.00050	mg/L			10/04/19 2007	RSD
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Dibromochloromethane	<0.00050		0.00050	mg/L			10/04/19 2007	RSD
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD

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CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-04

Collected By: Michael Emm
Collection Date: 09/30/2019 11:25

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD

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CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-04

Collected By: Michael Emm
Collection Date: 09/30/2019 11:25

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			10/04/19 2007	RSD
Surrogate: 4-Bromofluorobenzene	93.6	Limit: 70-130		% Rec			10/04/19 2007	RSD
Surrogate: 1,2-Dichlorobenzene-d4	87.8	Limit: 70-130		% Rec			10/04/19 2007	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-07

Collected By: Michael Emm
Collection Date: 09/20/2019 16:00

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L	H		10/14/19 1129	JAN
Bromoform	<0.00050		0.00050	mg/L	H		10/14/19 1129	JAN
Bromomethane	<0.00050		0.00050	mg/L	H		10/14/19 1129	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Chloroform	<0.00050		0.00050	mg/L	H		10/14/19 1129	JAN
Chloromethane	<0.00050		0.00050	mg/L	H		10/14/19 1129	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L	H		10/14/19 1129	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-07

Collected By: Michael Emm
Collection Date: 09/20/2019 16:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9I1360

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9I1360-07

Collected By: Michael Emm
Collection Date: 09/20/2019 16:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L	H		10/14/19 1129	JAN
Surrogate: 4-Bromofluorobenzene	90.0	Limit: 70-130		% Rec	H		10/14/19 1129	JAN
Surrogate: 1,2-Dichlorobenzene-d4	72.4	Limit: 70-130		% Rec	H		10/14/19 1129	JAN

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

H: Sample was analyzed past holding time.
MCL: US EPA Maximum Contaminant Level
NYVOA: New York DOH Part 5 Public Water System MCLs
RL: Reporting Limit

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
11549

New York State Department of Health

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795

New York State Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Renee Lantz
Customer Relationship Specialist
Reported: 10/15/2019 17:54

Microbac Laboratories, Inc.

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Microbac Laboratories, Inc., New York Division
Chain of Custody
J9I1360

TAT 7 days

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 9/23/2019
Field Route ID: NY-Route 1 Bing

Client Sample ID: 1-2A Raw

Lab Sample ID: J9I1360-01

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 9-30-19 11:10

AnalysisMethodField Results/CommentsHold Time

524.2 VOC NY

EPA 524.2, Rv 4.1

14.00 days

Container(s)

V-40ml Clear vial, HCL

V-40ml Clear vial, HCL

Designator

A

B

Client Sample ID: 1-2A Finished

Lab Sample ID: J9I1360-02

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 9-30-19 11:15

AnalysisMethodField Results/CommentsHold Time

524.2 VOC NY

EPA 524.2, Rv 4.1

14.00 days

Container(s)

V-40ml Clear Vial, Ascorbic Acid, HCL

V-40ml Clear Vial, Ascorbic Acid, HCL

Designator

A

B

Client Sample ID: 1-3 Raw

Lab Sample ID: J9I1360-03

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 9-30-19 11:20

AnalysisMethodField Results/CommentsHold Time

524.2 VOC NY

EPA 524.2, Rv 4.1

14.00 days

Container(s)

V-40ml Clear vial, HCL

V-40ml Clear vial, HCL

Designator

A

B

Client Sample ID: 1-3 Finished

Lab Sample ID: J9I1360-04

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 9-30-19 11:25

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

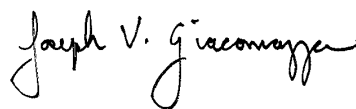
Laboratory Job ID: 480-160863-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:

10/30/2019 3:57:14 PM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Job ID: 480-160863-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-160863-1

Comments

No additional comments.

Receipt

The samples were received on 10/12/2019 11:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-499057 recovered outside acceptance criteria, low biased, for 2-Hexanone, Dichlorodifluoromethane, Chloromethane, 4-Methyl-2-pentanone (MIBK), 2-Butanone (MEK). A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported.

Method 8260C: The laboratory control sample (LCS) for analytical batch 480-499057 recovered outside control limits for the following analytes: Dichlorodifluoromethane, 4-Methyl-2-pentanone (MIBK), Methyl acetate. Dichlorodifluoromethane, 4-Methyl-2-pentanone (MIBK), Methyl acetate have been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

Method 8260C: The Laboratory Control Sample (LCS) was outside laboratory/project quality control limits for the following analyte: Chloromethane. All other spike recoveries and quality control indicators, including sample specific surrogate recoveries, were acceptable. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following samples are impacted: WELL 1-2A - 101019 (480-160863-1), WELL 1-3 POST - 101019 (480-160863-2), WELL 1-3 - 101019 (480-160863-3) and TRIP BLANK - 101019 (480-160863-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: WELL 1-2A - 101019

Lab Sample ID: 480-160863-1

☐ No Detections.

Client Sample ID: WELL 1-3 POST - 101019

Lab Sample ID: 480-160863-2

☐ No Detections.

Client Sample ID: WELL 1-3 - 101019

Lab Sample ID: 480-160863-3

☐ No Detections.

Client Sample ID: TRIP BLANK - 101019

Lab Sample ID: 480-160863-4

☐ No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: WELL 1-2A - 101019

Lab Sample ID: 480-160863-1

Date Collected: 10/10/19 10:30

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/20/19 16:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 16:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/20/19 16:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/20/19 16:07	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/20/19 16:07	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/20/19 16:07	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/20/19 16:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/20/19 16:07	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/20/19 16:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/20/19 16:07	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/20/19 16:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/20/19 16:07	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 16:07	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/20/19 16:07	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/20/19 16:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/20/19 16:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/20/19 16:07	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/20/19 16:07	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/20/19 16:07	1
4-Methyl-2-pentanone (MIBK)	5.0	U *	5.0	2.1	ug/L			10/20/19 16:07	1
Acetone	10	U	10	3.0	ug/L			10/20/19 16:07	1
Benzene	1.0	U	1.0	0.41	ug/L			10/20/19 16:07	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/20/19 16:07	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/20/19 16:07	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/20/19 16:07	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/20/19 16:07	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/20/19 16:07	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/20/19 16:07	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/20/19 16:07	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/20/19 16:07	1
Chloromethane	1.0	U *	1.0	0.35	ug/L			10/20/19 16:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/20/19 16:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/20/19 16:07	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/20/19 16:07	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/20/19 16:07	1
Dichlorodifluoromethane	1.0	U *	1.0	0.68	ug/L			10/20/19 16:07	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/20/19 16:07	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/20/19 16:07	1
Methyl acetate	2.5	U *	2.5	1.3	ug/L			10/20/19 16:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/20/19 16:07	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/20/19 16:07	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/20/19 16:07	1
Styrene	1.0	U	1.0	0.73	ug/L			10/20/19 16:07	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/20/19 16:07	1
Toluene	1.0	U	1.0	0.51	ug/L			10/20/19 16:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/20/19 16:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/20/19 16:07	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/20/19 16:07	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/20/19 16:07	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: WELL 1-2A - 101019

Lab Sample ID: 480-160863-1

Date Collected: 10/10/19 10:30

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/20/19 16:07	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/20/19 16:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		77 - 120					10/20/19 16:07	1
4-Bromofluorobenzene (Surr)	104		73 - 120					10/20/19 16:07	1
Dibromofluoromethane (Surr)	111		75 - 123					10/20/19 16:07	1
Toluene-d8 (Surr)	105		80 - 120					10/20/19 16:07	1

Client Sample ID: WELL 1-3 POST - 101019

Lab Sample ID: 480-160863-2

Date Collected: 10/10/19 10:40

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/20/19 16:31	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 16:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/20/19 16:31	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/20/19 16:31	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/20/19 16:31	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/20/19 16:31	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/20/19 16:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/20/19 16:31	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/20/19 16:31	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/20/19 16:31	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/20/19 16:31	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/20/19 16:31	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 16:31	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/20/19 16:31	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/20/19 16:31	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/20/19 16:31	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/20/19 16:31	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/20/19 16:31	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/20/19 16:31	1
4-Methyl-2-pentanone (MIBK)	5.0	U *	5.0	2.1	ug/L			10/20/19 16:31	1
Acetone	10	U	10	3.0	ug/L			10/20/19 16:31	1
Benzene	1.0	U	1.0	0.41	ug/L			10/20/19 16:31	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/20/19 16:31	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/20/19 16:31	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/20/19 16:31	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/20/19 16:31	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/20/19 16:31	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/20/19 16:31	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/20/19 16:31	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/20/19 16:31	1
Chloromethane	1.0	U *	1.0	0.35	ug/L			10/20/19 16:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/20/19 16:31	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/20/19 16:31	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/20/19 16:31	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/20/19 16:31	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: WELL 1-3 POST - 101019

Lab Sample ID: 480-160863-2

Date Collected: 10/10/19 10:40

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U *	1.0	0.68	ug/L			10/20/19 16:31	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/20/19 16:31	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/20/19 16:31	1
Methyl acetate	2.5	U *	2.5	1.3	ug/L			10/20/19 16:31	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/20/19 16:31	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/20/19 16:31	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/20/19 16:31	1
Styrene	1.0	U	1.0	0.73	ug/L			10/20/19 16:31	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/20/19 16:31	1
Toluene	1.0	U	1.0	0.51	ug/L			10/20/19 16:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/20/19 16:31	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/20/19 16:31	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/20/19 16:31	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/20/19 16:31	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/20/19 16:31	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/20/19 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		77 - 120		10/20/19 16:31	1
4-Bromofluorobenzene (Surr)	107		73 - 120		10/20/19 16:31	1
Dibromofluoromethane (Surr)	114		75 - 123		10/20/19 16:31	1
Toluene-d8 (Surr)	106		80 - 120		10/20/19 16:31	1

Client Sample ID: WELL 1-3 - 101019

Lab Sample ID: 480-160863-3

Date Collected: 10/10/19 10:35

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/20/19 16:56	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 16:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/20/19 16:56	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/20/19 16:56	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/20/19 16:56	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/20/19 16:56	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/20/19 16:56	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/20/19 16:56	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/20/19 16:56	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/20/19 16:56	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/20/19 16:56	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/20/19 16:56	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 16:56	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/20/19 16:56	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/20/19 16:56	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/20/19 16:56	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/20/19 16:56	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/20/19 16:56	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/20/19 16:56	1
4-Methyl-2-pentanone (MIBK)	5.0	U *	5.0	2.1	ug/L			10/20/19 16:56	1
Acetone	10	U	10	3.0	ug/L			10/20/19 16:56	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: WELL 1-3 - 101019

Lab Sample ID: 480-160863-3

Date Collected: 10/10/19 10:35

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			10/20/19 16:56	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/20/19 16:56	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/20/19 16:56	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/20/19 16:56	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/20/19 16:56	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/20/19 16:56	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/20/19 16:56	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/20/19 16:56	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/20/19 16:56	1
Chloromethane	1.0	U *	1.0	0.35	ug/L			10/20/19 16:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/20/19 16:56	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/20/19 16:56	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/20/19 16:56	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/20/19 16:56	1
Dichlorodifluoromethane	1.0	U *	1.0	0.68	ug/L			10/20/19 16:56	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/20/19 16:56	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/20/19 16:56	1
Methyl acetate	2.5	U *	2.5	1.3	ug/L			10/20/19 16:56	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/20/19 16:56	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/20/19 16:56	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/20/19 16:56	1
Styrene	1.0	U	1.0	0.73	ug/L			10/20/19 16:56	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/20/19 16:56	1
Toluene	1.0	U	1.0	0.51	ug/L			10/20/19 16:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/20/19 16:56	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/20/19 16:56	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/20/19 16:56	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/20/19 16:56	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/20/19 16:56	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/20/19 16:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		77 - 120		10/20/19 16:56	1
4-Bromofluorobenzene (Surr)	98		73 - 120		10/20/19 16:56	1
Dibromofluoromethane (Surr)	110		75 - 123		10/20/19 16:56	1
Toluene-d8 (Surr)	100		80 - 120		10/20/19 16:56	1

Client Sample ID: TRIP BLANK - 101019

Lab Sample ID: 480-160863-4

Date Collected: 10/10/19 00:00

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/20/19 17:20	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 17:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/20/19 17:20	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/20/19 17:20	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/20/19 17:20	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/20/19 17:20	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/20/19 17:20	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: TRIP BLANK - 101019

Lab Sample ID: 480-160863-4

Date Collected: 10/10/19 00:00

Matrix: Water

Date Received: 10/12/19 11:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/20/19 17:20	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/20/19 17:20	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/20/19 17:20	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/20/19 17:20	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/20/19 17:20	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 17:20	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/20/19 17:20	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/20/19 17:20	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/20/19 17:20	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/20/19 17:20	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/20/19 17:20	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/20/19 17:20	1
4-Methyl-2-pentanone (MIBK)	5.0	U *	5.0	2.1	ug/L			10/20/19 17:20	1
Acetone	10	U	10	3.0	ug/L			10/20/19 17:20	1
Benzene	1.0	U	1.0	0.41	ug/L			10/20/19 17:20	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/20/19 17:20	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/20/19 17:20	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/20/19 17:20	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/20/19 17:20	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/20/19 17:20	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/20/19 17:20	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/20/19 17:20	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/20/19 17:20	1
Chloromethane	1.0	U *	1.0	0.35	ug/L			10/20/19 17:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/20/19 17:20	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/20/19 17:20	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/20/19 17:20	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/20/19 17:20	1
Dichlorodifluoromethane	1.0	U *	1.0	0.68	ug/L			10/20/19 17:20	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/20/19 17:20	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/20/19 17:20	1
Methyl acetate	2.5	U *	2.5	1.3	ug/L			10/20/19 17:20	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/20/19 17:20	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/20/19 17:20	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/20/19 17:20	1
Styrene	1.0	U	1.0	0.73	ug/L			10/20/19 17:20	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/20/19 17:20	1
Toluene	1.0	U	1.0	0.51	ug/L			10/20/19 17:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/20/19 17:20	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/20/19 17:20	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/20/19 17:20	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/20/19 17:20	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/20/19 17:20	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/20/19 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120		10/20/19 17:20	1
4-Bromofluorobenzene (Surr)	98		73 - 120		10/20/19 17:20	1
Dibromofluoromethane (Surr)	107		75 - 123		10/20/19 17:20	1
Toluene-d8 (Surr)	100		80 - 120		10/20/19 17:20	1

Eurofins TestAmerica, Buffalo

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-160863-1	WELL 1-2A - 101019	112	104	111	105
480-160863-2	WELL 1-3 POST - 101019	113	107	114	106
480-160863-3	WELL 1-3 - 101019	111	98	110	100
480-160863-4	TRIP BLANK - 101019	108	98	107	100
LCS 480-499057/5	Lab Control Sample	111	103	109	103
MB 480-499057/7	Method Blank	109	99	108	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-499057/7

Matrix: Water

Analysis Batch: 499057

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			10/20/19 11:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 11:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			10/20/19 11:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			10/20/19 11:32	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			10/20/19 11:32	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			10/20/19 11:32	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			10/20/19 11:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			10/20/19 11:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			10/20/19 11:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			10/20/19 11:32	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			10/20/19 11:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			10/20/19 11:32	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			10/20/19 11:32	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			10/20/19 11:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			10/20/19 11:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			10/20/19 11:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			10/20/19 11:32	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			10/20/19 11:32	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			10/20/19 11:32	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			10/20/19 11:32	1
Acetone	10	U	10	3.0	ug/L			10/20/19 11:32	1
Benzene	1.0	U	1.0	0.41	ug/L			10/20/19 11:32	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			10/20/19 11:32	1
Bromoform	1.0	U	1.0	0.26	ug/L			10/20/19 11:32	1
Bromomethane	1.0	U	1.0	0.69	ug/L			10/20/19 11:32	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			10/20/19 11:32	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			10/20/19 11:32	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			10/20/19 11:32	1
Chloroethane	1.0	U	1.0	0.32	ug/L			10/20/19 11:32	1
Chloroform	1.0	U	1.0	0.34	ug/L			10/20/19 11:32	1
Chloromethane	1.0	U	1.0	0.35	ug/L			10/20/19 11:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			10/20/19 11:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			10/20/19 11:32	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			10/20/19 11:32	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			10/20/19 11:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			10/20/19 11:32	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			10/20/19 11:32	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			10/20/19 11:32	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			10/20/19 11:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			10/20/19 11:32	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			10/20/19 11:32	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			10/20/19 11:32	1
Styrene	1.0	U	1.0	0.73	ug/L			10/20/19 11:32	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			10/20/19 11:32	1
Toluene	1.0	U	1.0	0.51	ug/L			10/20/19 11:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			10/20/19 11:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			10/20/19 11:32	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			10/20/19 11:32	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-499057/7

Matrix: Water

Analysis Batch: 499057

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			10/20/19 11:32	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			10/20/19 11:32	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			10/20/19 11:32	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120					10/20/19 11:32	1
4-Bromofluorobenzene (Surr)	99		73 - 120					10/20/19 11:32	1
Dibromofluoromethane (Surr)	108		75 - 123					10/20/19 11:32	1
Toluene-d8 (Surr)	103		80 - 120					10/20/19 11:32	1

Lab Sample ID: LCS 480-499057/5

Matrix: Water

Analysis Batch: 499057

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	23.8		ug/L		95	73 - 126
1,1,2,2-Tetrachloroethane	25.0	19.8		ug/L		79	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	20.0		ug/L		80	61 - 148
1,1,2-Trichloroethane	25.0	20.2		ug/L		81	76 - 122
1,1-Dichloroethane	25.0	21.5		ug/L		86	77 - 120
1,1-Dichloroethene	25.0	20.5		ug/L		82	66 - 127
1,2,3-Trimethylbenzene	25.0	26.0		ug/L		104	78 - 120
1,2,4-Trichlorobenzene	25.0	23.5		ug/L		94	79 - 122
1,2,4-Trimethylbenzene	25.0	23.7		ug/L		95	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	18.0		ug/L		72	56 - 134
1,2-Dibromoethane	25.0	21.8		ug/L		87	77 - 120
1,2-Dichlorobenzene	25.0	23.0		ug/L		92	80 - 124
1,2-Dichloroethane	25.0	24.0		ug/L		96	75 - 120
1,2-Dichloropropane	25.0	21.8		ug/L		87	76 - 120
1,3,5-Trimethylbenzene	25.0	23.2		ug/L		93	77 - 121
1,3-Dichlorobenzene	25.0	23.3		ug/L		93	77 - 120
1,4-Dichlorobenzene	25.0	22.8		ug/L		91	80 - 120
2-Butanone (MEK)	125	163		ug/L		131	57 - 140
2-Hexanone	125	87.3		ug/L		70	65 - 127
4-Methyl-2-pentanone (MIBK)	125	81.0	*	ug/L		65	71 - 125
Acetone	125	96.1		ug/L		77	56 - 142
Benzene	25.0	21.7		ug/L		87	71 - 124
Bromodichloromethane	25.0	24.0		ug/L		96	80 - 122
Bromoform	25.0	19.1		ug/L		76	61 - 132
Bromomethane	25.0	20.1		ug/L		80	55 - 144
Carbon disulfide	25.0	20.1		ug/L		80	59 - 134
Carbon tetrachloride	25.0	23.4		ug/L		94	72 - 134
Chlorobenzene	25.0	22.2		ug/L		89	80 - 120
Chloroethane	25.0	19.4		ug/L		78	69 - 136
Chloroform	25.0	23.0		ug/L		92	73 - 127
Chloromethane	25.0	16.4	*	ug/L		66	68 - 124
cis-1,2-Dichloroethene	25.0	22.2		ug/L		89	74 - 124
cis-1,3-Dichloropropene	25.0	23.9		ug/L		96	74 - 124

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-499057/5

Matrix: Water

Analysis Batch: 499057

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	18.5		ug/L		74	59 - 135
Dibromochloromethane	25.0	22.6		ug/L		91	75 - 125
Dichlorodifluoromethane	25.0	10.7	*	ug/L		43	59 - 135
Ethylbenzene	25.0	21.6		ug/L		86	77 - 123
Isopropylbenzene	25.0	22.5		ug/L		90	77 - 122
Methyl acetate	50.0	31.8	*	ug/L		64	74 - 133
Methyl tert-butyl ether	25.0	21.8		ug/L		87	77 - 120
Methylcyclohexane	25.0	20.1		ug/L		80	68 - 134
Methylene Chloride	25.0	21.9		ug/L		87	75 - 124
Styrene	25.0	21.5		ug/L		86	80 - 120
Tetrachloroethene	25.0	23.2		ug/L		93	74 - 122
Toluene	25.0	21.2		ug/L		85	80 - 122
trans-1,2-Dichloroethene	25.0	22.0		ug/L		88	73 - 127
trans-1,3-Dichloropropene	25.0	21.9		ug/L		88	80 - 120
Trichloroethene	25.0	23.7		ug/L		95	74 - 123
Trichlorofluoromethane	25.0	20.7		ug/L		83	62 - 150
Vinyl chloride	25.0	18.2		ug/L		73	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		77 - 120
4-Bromofluorobenzene (Surr)	103		73 - 120
Dibromofluoromethane (Surr)	109		75 - 123
Toluene-d8 (Surr)	103		80 - 120

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

GC/MS VOA

Analysis Batch: 499057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160863-1	WELL 1-2A - 101019	Total/NA	Water	8260C	
480-160863-2	WELL 1-3 POST - 101019	Total/NA	Water	8260C	
480-160863-3	WELL 1-3 - 101019	Total/NA	Water	8260C	
480-160863-4	TRIP BLANK - 101019	Total/NA	Water	8260C	
MB 480-499057/7	Method Blank	Total/NA	Water	8260C	
LCS 480-499057/5	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Client Sample ID: WELL 1-2A - 101019

Lab Sample ID: 480-160863-1

Date Collected: 10/10/19 10:30

Matrix: Water

Date Received: 10/12/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	499057	10/20/19 16:07	BTP	TAL BUF

Client Sample ID: WELL 1-3 POST - 101019

Lab Sample ID: 480-160863-2

Date Collected: 10/10/19 10:40

Matrix: Water

Date Received: 10/12/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	499057	10/20/19 16:31	BTP	TAL BUF

Client Sample ID: WELL 1-3 - 101019

Lab Sample ID: 480-160863-3

Date Collected: 10/10/19 10:35

Matrix: Water

Date Received: 10/12/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	499057	10/20/19 16:56	BTP	TAL BUF

Client Sample ID: TRIP BLANK - 101019

Lab Sample ID: 480-160863-4

Date Collected: 10/10/19 00:00

Matrix: Water

Date Received: 10/12/19 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	499057	10/20/19 17:20	BTP	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2,3-Trimethylbenzene

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160863-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-160863-1	WELL 1-2A - 101019	Water	10/10/19 10:30	10/12/19 11:00	
480-160863-2	WELL 1-3 POST - 101019	Water	10/10/19 10:40	10/12/19 11:00	
480-160863-3	WELL 1-3 - 101019	Water	10/10/19 10:35	10/12/19 11:00	
480-160863-4	TRIP BLANK - 101019	Water	10/10/19 00:00	10/12/19 11:00	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone: 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins
Environment Testing
TestAmerica

Client Information Client Contact: Ms. Katie Bidwell Company: ARCADIS U.S. Inc. Address: 855 Route 146 Suite 210 City: Clifton Park State, Zip: NY, 12065 Phone: 518-250-7300 (Tel) Email: katie.bidwell@arcadis.com Project Name: NYSDEC-Standard by VESTAL Site: Vestal		Lab PM: Stone, Judy L E-Mail: judy.stone@testamericainc.com Phone: 518-250-7300 Due Date Requested: TAT Requested (days): STANDARD		Carrier Tracking No(s): 480-125736-28509.1 Page: 1 of 1 Job #:																	
Analysis Requested		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Preservation Codes: M - Hexane N - None O - Amino Acid P - Na2SO4 Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MeOH W - pH 4.5 Z - other (specify)																	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (Invert, Enrich, Over-salt)		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		1260C - (MOD) TCL list OLM04.2		1260C - (MOD) TCL list OLM04.2		Total Number of Containers		Special Instructions/Note:	
Well 1-2A - 101019		10/10/19		1030		G		Water		NN 3		A		A		A		A		A	
Well 1-3 - 101019		10/10/19		1035		G		Water		NN 3		A		A		A		A		A	
Well 1-3 POST - 101019		10/10/19		1040		G		Water		NN 3		A		A		A		A		A	
TRIP BLANK - 101019		10/10/19		---		G		Water		NN 2		A		A		A		A		A	
10-10-19		10-10-19		10-10-19		10-10-19		10-10-19		10-10-19		10-10-19		10-10-19		10-10-19		10-10-19		10-10-19	
Possible Hazard Identification ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological		Deliverable Requested: I, II, III, IV, Other (specify) CATA. NYSDEC QUAYS		Date: 10/10/19		Time: 10:15		Method of Shipment:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months		Special Instructions/OC Requirements:		Received by: Tim Kroll		Date/Time: 10-10-19 1851		Company: Eurofins			
Relinquished by: Joanne Mullins		Date/Time: 10/10/19 1851		Company: ARCADIS		Relinquished by: Tim Kroll		Date/Time: 10/12/19 100		Company: Eurofins		Relinquished by: Tim Kroll		Date/Time: 10/12/19 100		Company: Eurofins					
Relinquished by: Joanne Mullins		Date/Time: 10/10/19 1851		Company: ARCADIS		Relinquished by: Tim Kroll		Date/Time: 10/12/19 100		Company: Eurofins		Relinquished by: Tim Kroll		Date/Time: 10/12/19 100		Company: Eurofins					
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		3.1 #1		Ver: 01/16/2019													

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-160863-1

Login Number: 160863

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

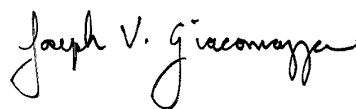
Laboratory Job ID: 480-160866-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:

11/13/2019 2:38:42 PM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
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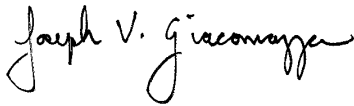
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Management Assistant II
11/13/2019 2:38:42 PM

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
E	Compound concentration exceeds the upper level of the calibration range of the instrument for that specific analysis.
U	Analyzed for but not detected.

LCMS

Qualifier	Qualifier Description
*	Isotope Dilution analyte is outside acceptance limits.
*	MS or MSD is outside acceptance limits.
J	Indicates an estimated value.
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Job ID: 480-160866-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-160866-1

Comments

No additional comments.

Receipt

The samples were received on 10/12/2019 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.1° C and 3.4° C.

GC/MS Semi VOA

Method 8270D SIM ID: The 1,4-Dioxane result reported for samples WELL 1-2A (480-160866-1[MS]), WELL 1-2A (480-160866-1[MSD]) and (LCS 480-498433/2-A) have an E flag qualifier indicating the results are over the calibration range on the raw data. The actual amounts are within the calibration range; however, the E flag is generated based upon the bias corrected concentration. The LIMS system calculates a bias correction based on the recovery of the 1,4-Dioxane-d8 isotope.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

LCMS

Method WS-LC-0025 Att1: Due to a shortage in the marketplace for 13C3-PFBS, the target analyte Perfluorobutanesulfonic acid (PFBS) could not be quantitated against 13C3-PFBS (its labeled variant) as listed in the SOP. PFBS was quantitated versus 18O2-PFHxS instead. (ICV 320-331689/11)

Method WS-LC-0025 Att1: Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for 13C4 PFOS for the following samples: WELL 1-2A (480-160866-1) and WELL 1-2A (480-160866-1[MS]). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method WS-LC-0025 Att1: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for Perfluorohexanesulfonic acid (PFHxS), Perfluorooctanesulfonic acid (PFOS) and Perfluorononanoic acid (PFNA) preparation batch 320-332082 and analytical batch 320-332118 were outside control limits. Sample matrix interference are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method WS-LC-0025 Att1: Due to a shortage in the marketplace for 13C3-PFBS, the target analyte PFBS could not be quantitated against 13C3-PFBS (its labeled variant) as listed in the SOP. PFBS was quantitated versus 18O2-PFHxS instead. (ICV 320-334429/11)

Method WS-LC-0025 Att1: The following Post sample was re-extracted to confirm results: WELL 1-3 POST (480-160866-4). Re-analysis confirmed; therefore original results were reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method PFAS Prep: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-334757.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160866-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.70		0.20	0.10	ug/L	1		8270D SIM ID	Total/NA

Client Sample ID: WELL 1-2A POST

Lab Sample ID: 480-160866-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.72		0.20	0.10	ug/L	1		8270D SIM ID	Total/NA

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160866-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.89	J	2.00	0.80	ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanoic acid (PFOA)	1.43	J	2.00	0.75	ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.84	J	2.00	1.28	ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorononanoic acid (PFNA)	0.78	J	2.00	0.65	ng/L	1		WS-LC-0025 Att1	Total/NA

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160866-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.83	J	2.00	0.80	ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanoic acid (PFOA)	1.18	J	2.00	0.75	ng/L	1		WS-LC-0025 Att1	Total/NA

Client Sample ID: DUP-1

Lab Sample ID: 480-160866-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoroheptanoic acid (PFHpA)	0.85	J	2.00	0.80	ng/L	1		WS-LC-0025 Att1	Total/NA
Perfluorooctanoic acid (PFOA)	1.33	J	2.00	0.75	ng/L	1		WS-LC-0025 Att1	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160866-1

Date Collected: 10/10/19 09:50

Matrix: Water

Date Received: 10/12/19 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.70		0.20	0.10	ug/L		10/16/19 15:19	10/17/19 18:56	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	30		15 - 110				10/16/19 15:19	10/17/19 18:56	1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.92	ng/L		10/18/19 14:20	10/19/19 11:41	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	0.87	ng/L		10/18/19 14:20	10/19/19 11:41	1
Perfluoroheptanoic acid (PFHpA)	2.00	U	2.00	0.80	ng/L		10/18/19 14:20	10/19/19 11:41	1
Perfluorooctanoic acid (PFOA)	2.00	U	2.00	0.75	ng/L		10/18/19 14:20	10/19/19 11:41	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	1.28	ng/L		10/18/19 14:20	10/19/19 11:41	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.65	ng/L		10/18/19 14:20	10/19/19 11:41	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	137		25 - 150				10/18/19 14:20	10/19/19 11:41	1
13C4 PFHpA	122		25 - 150				10/18/19 14:20	10/19/19 11:41	1
13C4 PFOA	117		70 - 130				10/18/19 14:20	10/19/19 11:41	1
13C4 PFOS	132	*	70 - 130				10/18/19 14:20	10/19/19 11:41	1
13C5 PFNA	113		25 - 150				10/18/19 14:20	10/19/19 11:41	1

Client Sample ID: WELL 1-2A POST

Lab Sample ID: 480-160866-2

Date Collected: 10/10/19 10:05

Matrix: Water

Date Received: 10/12/19 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.72		0.20	0.10	ug/L		10/16/19 15:19	10/17/19 19:20	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	25		15 - 110				10/16/19 15:19	10/17/19 19:20	1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.92	ng/L		10/18/19 14:20	10/19/19 12:37	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	0.87	ng/L		10/18/19 14:20	10/19/19 12:37	1
Perfluoroheptanoic acid (PFHpA)	2.00	U	2.00	0.80	ng/L		10/18/19 14:20	10/19/19 12:37	1
Perfluorooctanoic acid (PFOA)	2.00	U	2.00	0.75	ng/L		10/18/19 14:20	10/19/19 12:37	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	1.28	ng/L		10/18/19 14:20	10/19/19 12:37	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.65	ng/L		10/18/19 14:20	10/19/19 12:37	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	139		25 - 150				10/18/19 14:20	10/19/19 12:37	1
13C4 PFHpA	127		25 - 150				10/18/19 14:20	10/19/19 12:37	1
13C4 PFOA	124		70 - 130				10/18/19 14:20	10/19/19 12:37	1
13C4 PFOS	130		70 - 130				10/18/19 14:20	10/19/19 12:37	1
13C5 PFNA	117		25 - 150				10/18/19 14:20	10/19/19 12:37	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160866-3

Date Collected: 10/10/19 10:10

Matrix: Water

Date Received: 10/12/19 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.20	U	0.20	0.10	ug/L	-	10/16/19 15:19	10/17/19 19:43	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	25		15 - 110				10/16/19 15:19	10/17/19 19:43	1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.92	ng/L	-	10/18/19 14:20	10/19/19 12:55	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	0.87	ng/L	-	10/18/19 14:20	10/19/19 12:55	1
Perfluoroheptanoic acid (PFHpA)	0.89	J	2.00	0.80	ng/L	-	10/18/19 14:20	10/19/19 12:55	1
Perfluorooctanoic acid (PFOA)	1.43	J	2.00	0.75	ng/L	-	10/18/19 14:20	10/19/19 12:55	1
Perfluorooctanesulfonic acid (PFOS)	1.84	J	2.00	1.28	ng/L	-	10/18/19 14:20	10/19/19 12:55	1
Perfluorononanoic acid (PFNA)	0.78	J	2.00	0.65	ng/L	-	10/18/19 14:20	10/19/19 12:55	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	145		25 - 150				10/18/19 14:20	10/19/19 12:55	1
13C4 PFHpA	126		25 - 150				10/18/19 14:20	10/19/19 12:55	1
13C4 PFOA	120		70 - 130				10/18/19 14:20	10/19/19 12:55	1
13C4 PFOS	129		70 - 130				10/18/19 14:20	10/19/19 12:55	1
13C5 PFNA	121		25 - 150				10/18/19 14:20	10/19/19 12:55	1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160866-4

Date Collected: 10/10/19 10:20

Matrix: Water

Date Received: 10/12/19 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.20	U	0.20	0.10	ug/L	-	10/16/19 15:19	10/17/19 20:07	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	27		15 - 110				10/16/19 15:19	10/17/19 20:07	1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.92	ng/L	-	10/18/19 14:20	10/19/19 13:13	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	0.87	ng/L	-	10/18/19 14:20	10/19/19 13:13	1
Perfluoroheptanoic acid (PFHpA)	0.83	J	2.00	0.80	ng/L	-	10/18/19 14:20	10/19/19 13:13	1
Perfluorooctanoic acid (PFOA)	1.18	J	2.00	0.75	ng/L	-	10/18/19 14:20	10/19/19 13:13	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	1.28	ng/L	-	10/18/19 14:20	10/19/19 13:13	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.65	ng/L	-	10/18/19 14:20	10/19/19 13:13	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	131		25 - 150				10/18/19 14:20	10/19/19 13:13	1
13C4 PFHpA	119		25 - 150				10/18/19 14:20	10/19/19 13:13	1
13C4 PFOA	115		70 - 130				10/18/19 14:20	10/19/19 13:13	1
13C4 PFOS	124		70 - 130				10/18/19 14:20	10/19/19 13:13	1
13C5 PFNA	116		25 - 150				10/18/19 14:20	10/19/19 13:13	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Client Sample ID: DUP-1

Lab Sample ID: 480-160866-5

Date Collected: 10/10/19 00:00

Matrix: Water

Date Received: 10/12/19 08:00

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.20	U	0.20	0.10	ug/L		10/16/19 15:19	10/17/19 20:30	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	29		15 - 110				10/16/19 15:19	10/17/19 20:30	1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.92	ng/L		10/18/19 14:20	10/19/19 13:32	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	0.87	ng/L		10/18/19 14:20	10/19/19 13:32	1
Perfluoroheptanoic acid (PFHpA)	0.85	J	2.00	0.80	ng/L		10/18/19 14:20	10/19/19 13:32	1
Perfluorooctanoic acid (PFOA)	1.33	J	2.00	0.75	ng/L		10/18/19 14:20	10/19/19 13:32	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	1.28	ng/L		10/18/19 14:20	10/19/19 13:32	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.65	ng/L		10/18/19 14:20	10/19/19 13:32	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
18O2 PFHxS	136		25 - 150				10/18/19 14:20	10/19/19 13:32	1
13C4 PFHpA	122		25 - 150				10/18/19 14:20	10/19/19 13:32	1
13C4 PFOA	123		70 - 130				10/18/19 14:20	10/19/19 13:32	1
13C4 PFOS	121		70 - 130				10/18/19 14:20	10/19/19 13:32	1
13C5 PFNA	113		25 - 150				10/18/19 14:20	10/19/19 13:32	1

Isotope Dilution Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DXE (15-110)
480-160866-1	WELL 1-2A	30
480-160866-1 MS	WELL 1-2A	25
480-160866-1 MSD	WELL 1-2A	27
480-160866-2	WELL 1-2A POST	25
480-160866-3	WELL 1-3	25
480-160866-4	WELL 1-3 POST	27
480-160866-5	DUP-1	29
LCS 480-498433/2-A	Lab Control Sample	29
MB 480-498433/1-A	Method Blank	27

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFHxS (25-150)	PFHpA (25-150)	PFOA (70-130)	PFOS (70-130)	PFNA (25-150)
480-160866-1	WELL 1-2A	137	122	117	132 *	113
480-160866-1 MS	WELL 1-2A	147	124	121	131 *	116
480-160866-1 MSD	WELL 1-2A	145	124	122	126	121
480-160866-2	WELL 1-2A POST	139	127	124	130	117
480-160866-3	WELL 1-3	145	126	120	129	121
480-160866-4	WELL 1-3 POST	131	119	115	124	116
480-160866-5	DUP-1	136	122	123	121	113
LCS 320-332082/2-A	Lab Control Sample	138	119	105	124	110
MB 320-332082/1-A	Method Blank	136	125	119	129	117

Surrogate Legend

PFHxS = 18O2 PFHxS

PFHpA = 13C4 PFHpA

PFOA = 13C4 PFOA

PFOS = 13C4 PFOS

PFNA = 13C5 PFNA

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 480-498433/1-A

Matrix: Water

Analysis Batch: 498604

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 498433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.20	U	0.20	0.10	ug/L		10/16/19 15:19	10/17/19 15:20	1
Isotope Dilution	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8	27		15 - 110				10/16/19 15:19	10/17/19 15:20	1

Lab Sample ID: LCS 480-498433/2-A

Matrix: Water

Analysis Batch: 498604

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 498433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.00	1.21	E	ug/L		121	40 - 140
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
1,4-Dioxane-d8	29		15 - 110				

Lab Sample ID: 480-160866-1 MS

Matrix: Water

Analysis Batch: 498604

Client Sample ID: WELL 1-2A

Prep Type: Total/NA

Prep Batch: 498433

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	0.70		1.00	1.89	E	ug/L		120	40 - 140
Isotope Dilution	MS %Recovery	MS Qualifier	Limits						
1,4-Dioxane-d8	25		15 - 110						

Lab Sample ID: 480-160866-1 MSD

Matrix: Water

Analysis Batch: 498604

Client Sample ID: WELL 1-2A

Prep Type: Total/NA

Prep Batch: 498433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	0.70		1.00	1.89	E	ug/L		119	40 - 140	0	20
Isotope Dilution	MSD %Recovery	MSD Qualifier	Limits								
1,4-Dioxane-d8	27		15 - 110								

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-332082/1-A

Matrix: Water

Analysis Batch: 332118

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 332082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanesulfonic acid (PFBS)	2.00	U	2.00	0.92	ng/L		10/18/19 14:20	10/19/19 11:04	1
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	2.00	0.87	ng/L		10/18/19 14:20	10/19/19 11:04	1
Perfluoroheptanoic acid (PFHpA)	2.00	U	2.00	0.80	ng/L		10/18/19 14:20	10/19/19 11:04	1
Perfluorooctanoic acid (PFOA)	2.00	U	2.00	0.75	ng/L		10/18/19 14:20	10/19/19 11:04	1
Perfluorooctanesulfonic acid (PFOS)	2.00	U	2.00	1.28	ng/L		10/18/19 14:20	10/19/19 11:04	1
Perfluorononanoic acid (PFNA)	2.00	U	2.00	0.65	ng/L		10/18/19 14:20	10/19/19 11:04	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
18O2 PFHxS	136		25 - 150	10/18/19 14:20	10/19/19 11:04	1
13C4 PFHpA	125		25 - 150	10/18/19 14:20	10/19/19 11:04	1
13C4 PFOA	119		70 - 130	10/18/19 14:20	10/19/19 11:04	1
13C4 PFOS	129		70 - 130	10/18/19 14:20	10/19/19 11:04	1
13C5 PFNA	117		25 - 150	10/18/19 14:20	10/19/19 11:04	1

Lab Sample ID: LCS 320-332082/2-A

Matrix: Water

Analysis Batch: 332118

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 332082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	17.7	15.55		ng/L		88	72 - 151
Perfluorohexanesulfonic acid (PFHxS)	18.2	15.61		ng/L		86	73 - 157
Perfluoroheptanoic acid (PFHpA)	20.0	18.35		ng/L		92	71 - 138
Perfluorooctanoic acid (PFOA)	20.0	18.65		ng/L		93	70 - 130
Perfluorooctanesulfonic acid (PFOS)	18.6	14.34		ng/L		77	70 - 130
Perfluorononanoic acid (PFNA)	20.0	16.03		ng/L		80	73 - 147

Isotope Dilution	LCS LCS		Limits
	%Recovery	Qualifier	
18O2 PFHxS	138		25 - 150
13C4 PFHpA	119		25 - 150
13C4 PFOA	105		70 - 130
13C4 PFOS	124		70 - 130
13C5 PFNA	110		25 - 150

Lab Sample ID: 480-160866-1 MS

Matrix: Water

Analysis Batch: 332118

Client Sample ID: WELL 1-2A

Prep Type: Total/NA

Prep Batch: 332082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanesulfonic acid (PFBS)	2.00	U	16.3	13.48		ng/L		82	72 - 151
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	16.8	13.13		ng/L		78	73 - 157
Perfluoroheptanoic acid (PFHpA)	2.00	U	18.5	16.14		ng/L		87	71 - 138
Perfluorooctanoic acid (PFOA)	2.00	U	18.5	15.25		ng/L		83	70 - 130
Perfluorooctanesulfonic acid (PFOS)	2.00	U	17.2	11.04	*	ng/L		64	70 - 130
Perfluorononanoic acid (PFNA)	2.00	U	18.5	13.74		ng/L		74	73 - 147

Isotope Dilution	MS MS		Limits
	%Recovery	Qualifier	
18O2 PFHxS	147		25 - 150
13C4 PFHpA	124		25 - 150
13C4 PFOA	121		70 - 130
13C4 PFOS	131	*	70 - 130
13C5 PFNA	116		25 - 150

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Method: WS-LC-0025 Att1 - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 480-160866-1 MSD

Matrix: Water

Analysis Batch: 332118

Client Sample ID: WELL 1-2A

Prep Type: Total/NA

Prep Batch: 332082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid (PFBS)	2.00	U	16.3	11.80		ng/L		72	72 - 151	13	30
Perfluorohexanesulfonic acid (PFHxS)	2.00	U	16.8	11.82	*	ng/L		70	73 - 157	11	30
Perfluoroheptanoic acid (PFHpA)	2.00	U	18.5	14.84		ng/L		80	71 - 138	8	30
Perfluorooctanoic acid (PFOA)	2.00	U	18.5	13.17		ng/L		71	70 - 130	15	20
Perfluorooctanesulfonic acid (PFOS)	2.00	U	17.2	11.00	*	ng/L		64	70 - 130	0	20
Perfluorononanoic acid (PFNA)	2.00	U	18.5	12.49	*	ng/L		68	73 - 147	10	30
MSD MSD											
Isotope Dilution	%Recovery	Qualifier	Limits								
18O2 PFHxS	145		25 - 150								
13C4 PFHpA	124		25 - 150								
13C4 PFOA	122		70 - 130								
13C4 PFOS	126		70 - 130								
13C5 PFNA	121		25 - 150								

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

GC/MS Semi VOA

Prep Batch: 498433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160866-1	WELL 1-2A	Total/NA	Water	3510C	
480-160866-2	WELL 1-2A POST	Total/NA	Water	3510C	
480-160866-3	WELL 1-3	Total/NA	Water	3510C	
480-160866-4	WELL 1-3 POST	Total/NA	Water	3510C	
480-160866-5	DUP-1	Total/NA	Water	3510C	
MB 480-498433/1-A	Method Blank	Total/NA	Water	3510C	
LCS 480-498433/2-A	Lab Control Sample	Total/NA	Water	3510C	
480-160866-1 MS	WELL 1-2A	Total/NA	Water	3510C	
480-160866-1 MSD	WELL 1-2A	Total/NA	Water	3510C	

Analysis Batch: 498604

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160866-1	WELL 1-2A	Total/NA	Water	8270D SIM ID	498433
480-160866-2	WELL 1-2A POST	Total/NA	Water	8270D SIM ID	498433
480-160866-3	WELL 1-3	Total/NA	Water	8270D SIM ID	498433
480-160866-4	WELL 1-3 POST	Total/NA	Water	8270D SIM ID	498433
480-160866-5	DUP-1	Total/NA	Water	8270D SIM ID	498433
MB 480-498433/1-A	Method Blank	Total/NA	Water	8270D SIM ID	498433
LCS 480-498433/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	498433
480-160866-1 MS	WELL 1-2A	Total/NA	Water	8270D SIM ID	498433
480-160866-1 MSD	WELL 1-2A	Total/NA	Water	8270D SIM ID	498433

LCMS

Prep Batch: 332082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160866-1	WELL 1-2A	Total/NA	Water	PFAS Prep	
480-160866-2	WELL 1-2A POST	Total/NA	Water	PFAS Prep	
480-160866-3	WELL 1-3	Total/NA	Water	PFAS Prep	
480-160866-4	WELL 1-3 POST	Total/NA	Water	PFAS Prep	
480-160866-5	DUP-1	Total/NA	Water	PFAS Prep	
MB 320-332082/1-A	Method Blank	Total/NA	Water	PFAS Prep	
LCS 320-332082/2-A	Lab Control Sample	Total/NA	Water	PFAS Prep	
480-160866-1 MS	WELL 1-2A	Total/NA	Water	PFAS Prep	
480-160866-1 MSD	WELL 1-2A	Total/NA	Water	PFAS Prep	

Analysis Batch: 332118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160866-1	WELL 1-2A	Total/NA	Water	WS-LC-0025 Att1	332082
480-160866-2	WELL 1-2A POST	Total/NA	Water	WS-LC-0025 Att1	332082
480-160866-3	WELL 1-3	Total/NA	Water	WS-LC-0025 Att1	332082
480-160866-4	WELL 1-3 POST	Total/NA	Water	WS-LC-0025 Att1	332082
480-160866-5	DUP-1	Total/NA	Water	WS-LC-0025 Att1	332082
MB 320-332082/1-A	Method Blank	Total/NA	Water	WS-LC-0025 Att1	332082
LCS 320-332082/2-A	Lab Control Sample	Total/NA	Water	WS-LC-0025 Att1	332082

Eurofins TestAmerica, Buffalo

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

LCMS (Continued)

Analysis Batch: 332118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-160866-1 MS	WELL 1-2A	Total/NA	Water	WS-LC-0025 Att1	332082
480-160866-1 MSD	WELL 1-2A	Total/NA	Water	WS-LC-0025 Att1	332082

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Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-160866-1

Date Collected: 10/10/19 09:50

Matrix: Water

Date Received: 10/12/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			498433	10/16/19 15:19	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	498604	10/17/19 18:56	JMM	TAL BUF
Total/NA	Prep	PFAS Prep			332082	10/18/19 14:20	SAD	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1	332118	10/19/19 11:41	D1R	TAL SAC

Client Sample ID: WELL 1-2A POST

Lab Sample ID: 480-160866-2

Date Collected: 10/10/19 10:05

Matrix: Water

Date Received: 10/12/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			498433	10/16/19 15:19	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	498604	10/17/19 19:20	JMM	TAL BUF
Total/NA	Prep	PFAS Prep			332082	10/18/19 14:20	SAD	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1	332118	10/19/19 12:37	D1R	TAL SAC

Client Sample ID: WELL 1-3

Lab Sample ID: 480-160866-3

Date Collected: 10/10/19 10:10

Matrix: Water

Date Received: 10/12/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			498433	10/16/19 15:19	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	498604	10/17/19 19:43	JMM	TAL BUF
Total/NA	Prep	PFAS Prep			332082	10/18/19 14:20	SAD	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1	332118	10/19/19 12:55	D1R	TAL SAC

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-160866-4

Date Collected: 10/10/19 10:20

Matrix: Water

Date Received: 10/12/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			498433	10/16/19 15:19	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	498604	10/17/19 20:07	JMM	TAL BUF
Total/NA	Prep	PFAS Prep			332082	10/18/19 14:20	SAD	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1	332118	10/19/19 13:13	D1R	TAL SAC

Client Sample ID: DUP-1

Lab Sample ID: 480-160866-5

Date Collected: 10/10/19 00:00

Matrix: Water

Date Received: 10/12/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			498433	10/16/19 15:19	ATG	TAL BUF
Total/NA	Analysis	8270D SIM ID		1	498604	10/17/19 20:30	JMM	TAL BUF
Total/NA	Prep	PFAS Prep			332082	10/18/19 14:20	SAD	TAL SAC
Total/NA	Analysis	WS-LC-0025 Att1		1	332118	10/19/19 13:32	D1R	TAL SAC

Eurofins TestAmerica, Buffalo

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Laboratory: Eurofins TestAmerica, Buffalo

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

Laboratory: Eurofins TestAmerica, Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	11666	04-01-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
WS-LC-0025 Att1	PFAS Prep	Water	Perfluorobutanesulfonic acid (PFBS)
WS-LC-0025 Att1	PFAS Prep	Water	Perfluoroheptanoic acid (PFHpA)
WS-LC-0025 Att1	PFAS Prep	Water	Perfluorohexanesulfonic acid (PFHxS)
WS-LC-0025 Att1	PFAS Prep	Water	Perfluorononanoic acid (PFNA)

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Method	Method Description	Protocol	Laboratory
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	TAL BUF
WS-LC-0025 Att1	Fluorinated Alkyl Substances	TAL-SAC	TAL SAC
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL BUF
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	TAL SAC

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

TAL-SAC = TestAmerica Laboratories, West Sacramento, Facility Standard Operating Procedure.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

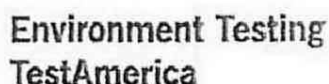
Job ID: 480-160866-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-160866-1	WELL 1-2A	Water	10/10/19 09:50	10/12/19 08:00	
480-160866-2	WELL 1-2A POST	Water	10/10/19 10:05	10/12/19 08:00	
480-160866-3	WELL 1-3	Water	10/10/19 10:10	10/12/19 08:00	
480-160866-4	WELL 1-3 POST	Water	10/10/19 10:20	10/12/19 08:00	
480-160866-5	DUP-1	Water	10/10/19 00:00	10/12/19 08:00	

Client Information		Lab PM: Stone, Judy L		Carrier Tracking No(s):		COC No: 480-135355-30456.1	
Client Contact: Aubrey Thomas		E-Mail: judy.stone@testamericainc.com		Page: Page 1 of 1		Job #:	
Company: ARCADIS U.S., Inc.		Analysis Requested					
Address: 855 Route 146 Suite 210		Due Date Requested:					
City: Clifton Park		TAT Requested (days): STANDARD					
State, Zip: NY, 12065		PO #: Project 00266401 0000					
Phone: 518-250-7300(Tel)		WO #: Contract D007618					
Email: Aubrey.Thomas@arcadis.com		Project #: 48005198					
Project Name: NYSDEC-Standby VESTAL - PFAS		SSOW#:					
Site: Vestal							

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=tissue, A=air)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	8270D, SIM, MS, ID - 1,4-Dioxane	PFAS, DL, DW - PFAS, UCMR List	Total Number of containers	Special Instructions/Note:
Well 1-2A	10/10/19	0950	G	Water	N	N	N	N	4	
Well 1-2A POST	10/10/19	1005	G	Water	N	N	N	N	4	
Well 1-3	10/10/19	1010	G	Water	N	N	N	N	4	
Well 1-3 POST	10/10/19	1020	G	Water	N	N	N	N	4	
DUP-1	10/10/19	0955	G	Water	N	N	N	N	4	MS
MS-Well 1-2Ams	10/10/19	1000	G	Water	N	N	N	N	4	MSD
MSD-Well 1-2AmsD	10/10/19									

Possible Hazard Identification		☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological	
Deliverable Requested: I, II, III, IV, Other (specify): CATEGORY A-BPT-1/MSDEC EWS		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months	
Empty Kit Relinquished by: <i>James H. ...</i>		Method of Shipment:	
Relinquished by: <i>James H. ...</i>		Date: 10-10-19	
Relinquished by: <i>James H. ...</i>		Date: 10-10-19	
Relinquished by: <i>James H. ...</i>		Date: 10-10-19	
Custody Seals Intact: ☒ Yes ☐ No		Custody Seal No.: # 3, 1, 4	



Sacramento
Sample Receiving Notes



480-160866 Field Sheet

Job:

Tracking #: 1054 8839 8161

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Notes:

Therm. ID: Alc 5 Corr. Factor: (+/-) 0.1 °C

Ice Wet Gel Other

Cooler Custody Seal: 1096800

Cooler ID: _____

Temp Observed: 0.4 °C Corrected: 0.5 °C

From: Temp Blank ☒ Sample ☐

Opening/Processing The Shipment	<u>Yes</u>	<u>No</u>	<u>NA</u>
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Cooler compromised/tampered with? ☐ ☒ ☐

Cooler Temperature is acceptable? ☒ ☐ ☐

CoC is complete w/o discrepancies? ☒ ☐ ☐

Samples received within holding time? ☒ ☐ ☐

Initials: 57 Date: 10/12/19

Unpacking/Labeling The Samples	<u>Yes</u>	<u>No</u>	<u>NA</u>
--------------------------------	------------	-----------	-----------

Samples compromised/tampered with? ☐ ☒ ☐

Sample containers have legible labels? ☒ ☐ ☐

Sample custody seal? ☐ ☒ ☐

Containers are not broken or leaking? ☒ ☐ ☐

Sample date/times are provided?	☒	☐	☐
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Appropriate containers are used? ☒ ☐ ☐

Sample bottles are completely filled? ☒ ☐ ☐

Sample preservatives verified?	☐	☐	☒
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Samples w/o discrepancies? ☒ ☐ ☐

Zero headspace?*	☐	☐	☒
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Alkalinity has no headspace? ☐ ☐ ☒

Perchlorate has headspace? ☐ ☐ ☒

(Methods 314, 331, 6850)

Multiphasic samples are not present? ☒ ☐ ☐

	<u>Yes</u>	<u>No</u>	<u>NA</u>
Non-conformance			

NCM Filed?	☐	☐	☒
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Initials: JG Date: 10/17/19

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")



Environment Testing
TestAmerica

Sacramento
Sample Receiving Notes

Place Field Sheet Label Here

Tracking #: 1034 8839 0053

SO (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other

Job:

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Notes: temp blank was partially
frozen with a corrected temperature
of -0.1. Samples were used
and received not frozen 5/10/19

Therm. ID: ALEF Corr. Factor: (+/-) 0.1 °C

Ice ☒ Wet ☒ Gel ☐ Other ☐

Cooler Custody Seal: 1097247

Cooler ID: 2 of 2

Temp Observed: ~~0.2~~ °C ^{5/10/19} 0.0 Corrected: ~~0.1~~ °C ^{5/10/19} 0.1

From: Temp Blank ☒ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐
CoC is complete w/o discrepancies?	☒	☐	☐
Samples received within holding time?	☒	☐	☐

Initials: SJ Date: 10/12/19

Unpacking/Labeling The Samples	Yes	No	NA
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☒	☐
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐
Non-conformance	Yes	No	NA
NCM Filed?	☐	☐	☒

Initials: JG Date: 10/17/19

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-160866-1

Login Number: 160866

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-160866-1

Login Number: 160866

List Source: Eurofins TestAmerica, Sacramento

List Number: 2

List Creation: 10/17/19 01:19 PM

Creator: Thompson, Sarah W

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1096800, 1097247, and 1096799
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	obs 0.4C corr 0.5C
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Town of Vestal

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363

Project Name: Town of Vestal Monthly/Quarterly

Project / PO Number: N/A
Received: 10/28/2019
Reported: 11/06/2019

Analytical Testing Parameters

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-01

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:20

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			11/01/19 1637	JAN
Bromoform	0.00078		0.00050	mg/L			11/01/19 1637	JAN
Bromomethane	<0.00050		0.00050	mg/L			11/01/19 1637	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Chloroform	<0.00050		0.00050	mg/L			11/01/19 1637	JAN
Chloromethane	<0.00050		0.00050	mg/L			11/01/19 1637	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Dibromochloromethane	0.00066		0.00050	mg/L			11/01/19 1637	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN

Microbac Laboratories, Inc.



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-01

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:20

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-01

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:20

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1637	JAN
Surrogate: 4-Bromofluorobenzene	114	Limit: 70-130		% Rec			11/01/19 1637	JAN
Surrogate: 1,2-Dichlorobenzene-d4	76.2	Limit: 70-130		% Rec			11/01/19 1637	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-02

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:25

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			11/01/19 1701	JAN
Bromoform	<0.00050		0.00050	mg/L			11/01/19 1701	JAN
Bromomethane	<0.00050		0.00050	mg/L			11/01/19 1701	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Chloroform	<0.00050		0.00050	mg/L			11/01/19 1701	JAN
Chloromethane	<0.00050		0.00050	mg/L			11/01/19 1701	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			11/01/19 1701	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-02

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:25

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-2A Finished

Sample Matrix: Drinking Water

Lab Sample ID: J9J1584-02

Collected By: Michael Emm-Lab

Collection Date: 10/28/2019 11:25

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1701	JAN
Surrogate: 4-Bromofluorobenzene	117	Limit: 70-130		% Rec			11/01/19 1701	JAN
Surrogate: 1,2-Dichlorobenzene-d4	81.4	Limit: 70-130		% Rec			11/01/19 1701	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-03

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:30

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			11/01/19 1724	JAN
Bromoform	0.00388		0.00050	mg/L			11/01/19 1724	JAN
Bromomethane	<0.00050		0.00050	mg/L			11/01/19 1724	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Chloroform	<0.00050		0.00050	mg/L			11/01/19 1724	JAN
Chloromethane	<0.00050		0.00050	mg/L			11/01/19 1724	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Dibromochloromethane	0.00091		0.00050	mg/L			11/01/19 1724	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-03

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-03

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1724	JAN
Surrogate: 4-Bromofluorobenzene	119	Limit: 70-130		% Rec			11/01/19 1724	JAN
Surrogate: 1,2-Dichlorobenzene-d4	79.8	Limit: 70-130		% Rec			11/01/19 1724	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-04

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:30

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			11/01/19 1748	JAN
Bromoform	<0.00050		0.00050	mg/L			11/01/19 1748	JAN
Bromomethane	<0.00050		0.00050	mg/L			11/01/19 1748	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Chloroform	<0.00050		0.00050	mg/L			11/01/19 1748	JAN
Chloromethane	<0.00050		0.00050	mg/L			11/01/19 1748	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			11/01/19 1748	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-04

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-04

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 11:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/01/19 1748	JAN
Surrogate: 4-Bromofluorobenzene	116	Limit: 70-130		% Rec			11/01/19 1748	JAN
Surrogate: 1,2-Dichlorobenzene-d4	79.6	Limit: 70-130		% Rec			11/01/19 1748	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-07

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 9:30

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			11/04/19 1248	JAN
Bromoform	<0.00050		0.00050	mg/L			11/04/19 1248	JAN
Bromomethane	<0.00050		0.00050	mg/L			11/04/19 1248	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Chloroform	<0.00050		0.00050	mg/L			11/04/19 1248	JAN
Chloromethane	<0.00050		0.00050	mg/L			11/04/19 1248	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			11/04/19 1248	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-07

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 9:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9J1584

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9J1584-07

Collected By: Michael Emm-Lab
Collection Date: 10/28/2019 9:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			11/04/19 1248	JAN
Surrogate: 4-Bromofluorobenzene	116	Limit: 70-130		% Rec			11/04/19 1248	JAN
Surrogate: 1,2-Dichlorobenzene-d4	86.0	Limit: 70-130		% Rec			11/04/19 1248	JAN

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

MCL: US EPA Maximum Contaminant Level
NYVOA: New York DOH Part 5 Public Water System MCLs
RL: Reporting Limit

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
11549

New York State Department of Health

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795

New York State Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Renee Lantz
Customer Relationship Specialist
Reported: 11/06/2019 12:13

Microbac Laboratories, Inc.

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Microbac Laboratories, Inc., New York Division

Chain of Custody

J9J1584

TAT 7 days

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 10/28/2019
Field Route ID: NY-Route 1 Bing

Client Sample ID: 1-2A Raw

Lab Sample ID: J9J1584-01

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 10-28-19 11:20

Analysis

524.2 VOC NY

Method

EPA 524.2, Rv 4.1

Field Results/CommentsContainer(s)

V-40ml Clear vial, HCL

V-40ml Clear vial, HCL

Hold Time

14.00 days

Designator

A

B

Client Sample ID: 1-2A Finished

Lab Sample ID: J9J1584-02

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 10-28-19 11:25

Analysis

524.2 VOC NY

Method

EPA 524.2, Rv 4.1

Field Results/CommentsContainer(s)

V-40ml Clear Vial, Ascorbic Acid, HCL

V-40ml Clear Vial, Ascorbic Acid, HCL

Hold Time

14.00 days

Designator

A

B

Client Sample ID: 1-3 Raw

Lab Sample ID: J9J1584-03

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 10-28-19 11:30

Analysis

524.2 VOC NY

Method

EPA 524.2, Rv 4.1

Field Results/CommentsContainer(s)

V-40ml Clear vial, HCL

V-40ml Clear vial, HCL

Hold Time

14.00 days

Designator

A

B

Client Sample ID: 1-3 Finished

Lab Sample ID: J9J1584-04

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 10-28-19 11:30



Microbac Laboratories, Inc., New York Division
Chain of Custody
J9J1584

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project / PO Number: N/A
Tenatively Scheduled: 10/28/2019
Field Route ID: NY-Route 1 Bing

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Raw

Lab Sample ID: J9J1584-05

Matrix: Drinking Water

Sampled Date & Time: 10-28-19 11:45

Type: Grab

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Finished

Lab Sample ID: J9J1584-06

Matrix: Drinking Water

Sampled Date & Time: 10-28-19 11:45

Type: Grab

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: Trip Blank

Lab Sample ID: J9J1584-07

Matrix: Drinking Water

Sampled Date & Time: 10-28-19 9:30

Type: Trip Blank

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A


Microbac Laboratories, Inc., New York Division
Chain of Custody
J9J1584
Town of Vestal
Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
 701 Vestal Parkway West
 Vestal, NY 13850-1363
 Phone: (607) 748-1514

Project / PO Number: N/A
 Tentatively Scheduled: 10/28/2019
 Field Route ID: NY-Route 1 Bing

Sampled/Relinquished by: <i>Michael Ben</i>	Date/Time: <i>10/28/19 16:00</i>	Received by: <i>[Signature]</i>
Printed Name: <i>Bethany Robinson</i> <i>Michael Ben</i>		Printed Name: <i>Paula Caputo</i>
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:

As Received at Laboratory: On Ice: ☒ Yes ☐ No Temp 0.5 °C Total Containers: 13

Microbac Laboratories may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to an appropriately accredited laboratory. By signing this document you are acknowledging that you have been informed by Microbac that testing could be subcontracted and agree with this arrangement.

Notes:

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

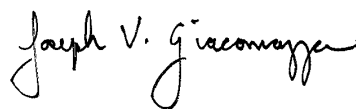
Laboratory Job ID: 480-163236-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:

12/12/2019 4:31:50 PM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

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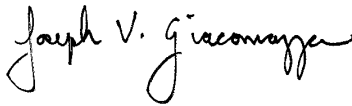
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed within the body of this report. Release of the data contained in this sample data package and in the electronic data deliverable has been authorized by the Laboratory Manager or his/her designee, as verified by the following signature.



Joe Giacomazza
Project Management Assistant II
12/12/2019 4:31:50 PM

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	The analyte was found in an associated blank, as well as in the sample.
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Job ID: 480-163236-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-163236-1

Comments

No additional comments.

Receipt

The samples were received on 11/23/2019 12:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) analyzed in batch 480-506741 was outside the method criteria for the following analyte: Methylene Chloride, a known common laboratory contaminant. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte should be evaluated accordingly.

Method 8260C: The LCS for 480-506741 recovered outside control limits for the analyte Methylene Chloride due to laboratory contamination. The following samples are impacted 480-163236-A-1, 480-163236-A-2, 480-163236-A-3, and 480-163236-A-4.

Method 8260C: The method blank for analytical batch 480-506741 contained Methylene Chloride above the reporting limit (RL). This compound is considered a common laboratory contaminant. The associated sample was not re-extracted and/or re-analyzed because the concentration of the common lab contaminant in the method blank was less than 5 times the RL.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-163236-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	2.0	* B	1.0	0.44	ug/L	1		8260C	Total/NA

Client Sample ID: WELL 1-3

Lab Sample ID: 480-163236-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	1.7	* B	1.0	0.44	ug/L	1		8260C	Total/NA

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-163236-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	1.6	* B	1.0	0.44	ug/L	1		8260C	Total/NA

Client Sample ID: TRIP BLANKS

Lab Sample ID: 480-163236-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	1.3	* B	1.0	0.44	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-163236-1

Date Collected: 11/22/19 10:30

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/26/19 11:45	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 11:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/26/19 11:45	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/26/19 11:45	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/26/19 11:45	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/26/19 11:45	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			11/26/19 11:45	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/26/19 11:45	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			11/26/19 11:45	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/26/19 11:45	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/26/19 11:45	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/26/19 11:45	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 11:45	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/26/19 11:45	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			11/26/19 11:45	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/26/19 11:45	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/26/19 11:45	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/26/19 11:45	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/26/19 11:45	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/26/19 11:45	1
Acetone	10	U	10	3.0	ug/L			11/26/19 11:45	1
Benzene	1.0	U	1.0	0.41	ug/L			11/26/19 11:45	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/26/19 11:45	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/26/19 11:45	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/26/19 11:45	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/26/19 11:45	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/26/19 11:45	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/26/19 11:45	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/26/19 11:45	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/26/19 11:45	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/26/19 11:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/26/19 11:45	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/26/19 11:45	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/26/19 11:45	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/26/19 11:45	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/26/19 11:45	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/26/19 11:45	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/26/19 11:45	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/26/19 11:45	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/26/19 11:45	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/26/19 11:45	1
Methylene Chloride	2.0	* B	1.0	0.44	ug/L			11/26/19 11:45	1
Styrene	1.0	U	1.0	0.73	ug/L			11/26/19 11:45	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/26/19 11:45	1
Toluene	1.0	U	1.0	0.51	ug/L			11/26/19 11:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/26/19 11:45	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/26/19 11:45	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/26/19 11:45	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/26/19 11:45	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-163236-1

Date Collected: 11/22/19 10:30

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/26/19 11:45	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/26/19 11:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120					11/26/19 11:45	1
4-Bromofluorobenzene (Surr)	109		73 - 120					11/26/19 11:45	1
Dibromofluoromethane (Surr)	98		75 - 123					11/26/19 11:45	1
Toluene-d8 (Surr)	101		80 - 120					11/26/19 11:45	1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-163236-2

Date Collected: 11/22/19 10:35

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/26/19 12:08	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 12:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/26/19 12:08	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/26/19 12:08	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/26/19 12:08	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/26/19 12:08	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			11/26/19 12:08	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/26/19 12:08	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			11/26/19 12:08	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/26/19 12:08	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/26/19 12:08	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/26/19 12:08	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 12:08	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/26/19 12:08	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			11/26/19 12:08	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/26/19 12:08	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/26/19 12:08	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/26/19 12:08	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/26/19 12:08	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/26/19 12:08	1
Acetone	10	U	10	3.0	ug/L			11/26/19 12:08	1
Benzene	1.0	U	1.0	0.41	ug/L			11/26/19 12:08	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/26/19 12:08	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/26/19 12:08	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/26/19 12:08	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/26/19 12:08	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/26/19 12:08	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/26/19 12:08	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/26/19 12:08	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/26/19 12:08	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/26/19 12:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/26/19 12:08	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/26/19 12:08	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/26/19 12:08	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/26/19 12:08	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: WELL 1-3

Lab Sample ID: 480-163236-2

Date Collected: 11/22/19 10:35

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/26/19 12:08	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/26/19 12:08	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/26/19 12:08	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/26/19 12:08	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/26/19 12:08	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/26/19 12:08	1
Methylene Chloride	1.7	* B	1.0	0.44	ug/L			11/26/19 12:08	1
Styrene	1.0	U	1.0	0.73	ug/L			11/26/19 12:08	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/26/19 12:08	1
Toluene	1.0	U	1.0	0.51	ug/L			11/26/19 12:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/26/19 12:08	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/26/19 12:08	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/26/19 12:08	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/26/19 12:08	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/26/19 12:08	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/26/19 12:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120		11/26/19 12:08	1
4-Bromofluorobenzene (Surr)	110		73 - 120		11/26/19 12:08	1
Dibromofluoromethane (Surr)	98		75 - 123		11/26/19 12:08	1
Toluene-d8 (Surr)	100		80 - 120		11/26/19 12:08	1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-163236-3

Date Collected: 11/22/19 10:40

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/26/19 12:31	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 12:31	1
1,1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/26/19 12:31	1
1,1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/26/19 12:31	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/26/19 12:31	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/26/19 12:31	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			11/26/19 12:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/26/19 12:31	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			11/26/19 12:31	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/26/19 12:31	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/26/19 12:31	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/26/19 12:31	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 12:31	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/26/19 12:31	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			11/26/19 12:31	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/26/19 12:31	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/26/19 12:31	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/26/19 12:31	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/26/19 12:31	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/26/19 12:31	1
Acetone	10	U	10	3.0	ug/L			11/26/19 12:31	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-163236-3

Date Collected: 11/22/19 10:40

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			11/26/19 12:31	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/26/19 12:31	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/26/19 12:31	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/26/19 12:31	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/26/19 12:31	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/26/19 12:31	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/26/19 12:31	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/26/19 12:31	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/26/19 12:31	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/26/19 12:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/26/19 12:31	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/26/19 12:31	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/26/19 12:31	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/26/19 12:31	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/26/19 12:31	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/26/19 12:31	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/26/19 12:31	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/26/19 12:31	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/26/19 12:31	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/26/19 12:31	1
Methylene Chloride	1.6	* B	1.0	0.44	ug/L			11/26/19 12:31	1
Styrene	1.0	U	1.0	0.73	ug/L			11/26/19 12:31	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/26/19 12:31	1
Toluene	1.0	U	1.0	0.51	ug/L			11/26/19 12:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/26/19 12:31	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/26/19 12:31	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/26/19 12:31	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/26/19 12:31	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/26/19 12:31	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/26/19 12:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120		11/26/19 12:31	1
4-Bromofluorobenzene (Surr)	113		73 - 120		11/26/19 12:31	1
Dibromofluoromethane (Surr)	102		75 - 123		11/26/19 12:31	1
Toluene-d8 (Surr)	99		80 - 120		11/26/19 12:31	1

Client Sample ID: TRIP BLANKS

Lab Sample ID: 480-163236-4

Date Collected: 11/22/19 00:00

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/26/19 12:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 12:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/26/19 12:54	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/26/19 12:54	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/26/19 12:54	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/26/19 12:54	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			11/26/19 12:54	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: TRIP BLANKS

Lab Sample ID: 480-163236-4

Date Collected: 11/22/19 00:00

Matrix: Water

Date Received: 11/23/19 12:05

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/26/19 12:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			11/26/19 12:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/26/19 12:54	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/26/19 12:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/26/19 12:54	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 12:54	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/26/19 12:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			11/26/19 12:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/26/19 12:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/26/19 12:54	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/26/19 12:54	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/26/19 12:54	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/26/19 12:54	1
Acetone	10	U	10	3.0	ug/L			11/26/19 12:54	1
Benzene	1.0	U	1.0	0.41	ug/L			11/26/19 12:54	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/26/19 12:54	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/26/19 12:54	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/26/19 12:54	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/26/19 12:54	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/26/19 12:54	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/26/19 12:54	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/26/19 12:54	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/26/19 12:54	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/26/19 12:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/26/19 12:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/26/19 12:54	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/26/19 12:54	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/26/19 12:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/26/19 12:54	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/26/19 12:54	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/26/19 12:54	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/26/19 12:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/26/19 12:54	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/26/19 12:54	1
Methylene Chloride	1.3	* B	1.0	0.44	ug/L			11/26/19 12:54	1
Styrene	1.0	U	1.0	0.73	ug/L			11/26/19 12:54	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/26/19 12:54	1
Toluene	1.0	U	1.0	0.51	ug/L			11/26/19 12:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/26/19 12:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/26/19 12:54	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/26/19 12:54	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/26/19 12:54	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/26/19 12:54	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/26/19 12:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120		11/26/19 12:54	1
4-Bromofluorobenzene (Surr)	105		73 - 120		11/26/19 12:54	1
Dibromofluoromethane (Surr)	100		75 - 123		11/26/19 12:54	1
Toluene-d8 (Surr)	97		80 - 120		11/26/19 12:54	1

Eurofins TestAmerica, Buffalo

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-163236-1	WELL 1-2A	98	109	98	101
480-163236-2	WELL 1-3	100	110	98	100
480-163236-3	WELL 1-3 POST	103	113	102	99
480-163236-4	TRIP BLANKS	97	105	100	97
LCS 480-506741/5	Lab Control Sample	109	108	99	99
MB 480-506741/7	Method Blank	100	110	106	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-506741/7

Matrix: Water

Analysis Batch: 506741

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			11/26/19 11:10	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 11:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			11/26/19 11:10	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			11/26/19 11:10	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			11/26/19 11:10	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			11/26/19 11:10	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			11/26/19 11:10	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			11/26/19 11:10	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			11/26/19 11:10	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			11/26/19 11:10	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			11/26/19 11:10	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			11/26/19 11:10	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/26/19 11:10	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			11/26/19 11:10	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			11/26/19 11:10	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			11/26/19 11:10	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			11/26/19 11:10	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			11/26/19 11:10	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			11/26/19 11:10	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			11/26/19 11:10	1
Acetone	10	U	10	3.0	ug/L			11/26/19 11:10	1
Benzene	1.0	U	1.0	0.41	ug/L			11/26/19 11:10	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			11/26/19 11:10	1
Bromoform	1.0	U	1.0	0.26	ug/L			11/26/19 11:10	1
Bromomethane	1.0	U	1.0	0.69	ug/L			11/26/19 11:10	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			11/26/19 11:10	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			11/26/19 11:10	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			11/26/19 11:10	1
Chloroethane	1.0	U	1.0	0.32	ug/L			11/26/19 11:10	1
Chloroform	1.0	U	1.0	0.34	ug/L			11/26/19 11:10	1
Chloromethane	1.0	U	1.0	0.35	ug/L			11/26/19 11:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			11/26/19 11:10	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			11/26/19 11:10	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			11/26/19 11:10	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			11/26/19 11:10	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			11/26/19 11:10	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			11/26/19 11:10	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			11/26/19 11:10	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			11/26/19 11:10	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			11/26/19 11:10	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			11/26/19 11:10	1
Methylene Chloride	1.48		1.0	0.44	ug/L			11/26/19 11:10	1
Styrene	1.0	U	1.0	0.73	ug/L			11/26/19 11:10	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			11/26/19 11:10	1
Toluene	1.0	U	1.0	0.51	ug/L			11/26/19 11:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			11/26/19 11:10	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			11/26/19 11:10	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			11/26/19 11:10	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-506741/7

Matrix: Water

Analysis Batch: 506741

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			11/26/19 11:10	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			11/26/19 11:10	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			11/26/19 11:10	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120					11/26/19 11:10	1
4-Bromofluorobenzene (Surr)	110		73 - 120					11/26/19 11:10	1
Dibromofluoromethane (Surr)	106		75 - 123					11/26/19 11:10	1
Toluene-d8 (Surr)	99		80 - 120					11/26/19 11:10	1

Lab Sample ID: LCS 480-506741/5

Matrix: Water

Analysis Batch: 506741

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	27.5		ug/L		110	73 - 126
1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		104	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	32.1		ug/L		128	61 - 148
1,1,2-Trichloroethane	25.0	26.0		ug/L		104	76 - 122
1,1-Dichloroethane	25.0	27.4		ug/L		110	77 - 120
1,1-Dichloroethene	25.0	26.9		ug/L		108	66 - 127
1,2,3-Trimethylbenzene	25.0	25.1		ug/L		101	78 - 120
1,2,4-Trichlorobenzene	25.0	22.7		ug/L		91	79 - 122
1,2,4-Trimethylbenzene	25.0	25.8		ug/L		103	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	22.6		ug/L		91	56 - 134
1,2-Dibromoethane	25.0	26.9		ug/L		108	77 - 120
1,2-Dichlorobenzene	25.0	26.1		ug/L		104	80 - 124
1,2-Dichloroethane	25.0	26.5		ug/L		106	75 - 120
1,2-Dichloropropane	25.0	27.7		ug/L		111	76 - 120
1,3,5-Trimethylbenzene	25.0	26.3		ug/L		105	77 - 121
1,3-Dichlorobenzene	25.0	26.6		ug/L		107	77 - 120
1,4-Dichlorobenzene	25.0	26.8		ug/L		107	80 - 120
2-Butanone (MEK)	125	125		ug/L		100	57 - 140
2-Hexanone	125	131		ug/L		105	65 - 127
4-Methyl-2-pentanone (MIBK)	125	130		ug/L		104	71 - 125
Acetone	125	131		ug/L		105	56 - 142
Benzene	25.0	28.3		ug/L		113	71 - 124
Bromodichloromethane	25.0	27.8		ug/L		111	80 - 122
Bromoform	25.0	27.0		ug/L		108	61 - 132
Bromomethane	25.0	26.1		ug/L		104	55 - 144
Carbon disulfide	25.0	29.4		ug/L		117	59 - 134
Carbon tetrachloride	25.0	27.2		ug/L		109	72 - 134
Chlorobenzene	25.0	26.4		ug/L		106	80 - 120
Chloroethane	25.0	25.7		ug/L		103	69 - 136
Chloroform	25.0	25.2		ug/L		101	73 - 127
Chloromethane	25.0	26.3		ug/L		105	68 - 124
cis-1,2-Dichloroethene	25.0	26.7		ug/L		107	74 - 124
cis-1,3-Dichloropropene	25.0	28.2		ug/L		113	74 - 124

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-506741/5

Matrix: Water

Analysis Batch: 506741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	27.9		ug/L		112	59 - 135
Dibromochloromethane	25.0	25.7		ug/L		103	75 - 125
Dichlorodifluoromethane	25.0	26.4		ug/L		105	59 - 135
Ethylbenzene	25.0	27.3		ug/L		109	77 - 123
Isopropylbenzene	25.0	27.2		ug/L		109	77 - 122
Methyl acetate	50.0	51.8		ug/L		104	74 - 133
Methyl tert-butyl ether	25.0	24.2		ug/L		97	77 - 120
Methylcyclohexane	25.0	28.9		ug/L		115	68 - 134
Methylene Chloride	25.0	31.5	*	ug/L		126	75 - 124
Styrene	25.0	25.9		ug/L		103	80 - 120
Tetrachloroethene	25.0	27.9		ug/L		111	74 - 122
Toluene	25.0	26.2		ug/L		105	80 - 122
trans-1,2-Dichloroethene	25.0	28.3		ug/L		113	73 - 127
trans-1,3-Dichloropropene	25.0	26.4		ug/L		106	80 - 120
Trichloroethene	25.0	28.5		ug/L		114	74 - 123
Trichlorofluoromethane	25.0	29.5		ug/L		118	62 - 150
Vinyl chloride	25.0	26.9		ug/L		108	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	109		77 - 120
4-Bromofluorobenzene (Surr)	108		73 - 120
Dibromofluoromethane (Surr)	99		75 - 123
Toluene-d8 (Surr)	99		80 - 120

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

GC/MS VOA

Analysis Batch: 506741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-163236-1	WELL 1-2A	Total/NA	Water	8260C	
480-163236-2	WELL 1-3	Total/NA	Water	8260C	
480-163236-3	WELL 1-3 POST	Total/NA	Water	8260C	
480-163236-4	TRIP BLANKS	Total/NA	Water	8260C	
MB 480-506741/7	Method Blank	Total/NA	Water	8260C	
LCS 480-506741/5	Lab Control Sample	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Client Sample ID: WELL 1-2A

Lab Sample ID: 480-163236-1

Date Collected: 11/22/19 10:30

Matrix: Water

Date Received: 11/23/19 12:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506741	11/26/19 11:45	CRL	TAL BUF

Client Sample ID: WELL 1-3

Lab Sample ID: 480-163236-2

Date Collected: 11/22/19 10:35

Matrix: Water

Date Received: 11/23/19 12:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506741	11/26/19 12:08	CRL	TAL BUF

Client Sample ID: WELL 1-3 POST

Lab Sample ID: 480-163236-3

Date Collected: 11/22/19 10:40

Matrix: Water

Date Received: 11/23/19 12:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506741	11/26/19 12:31	CRL	TAL BUF

Client Sample ID: TRIP BLANKS

Lab Sample ID: 480-163236-4

Date Collected: 11/22/19 00:00

Matrix: Water

Date Received: 11/23/19 12:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	506741	11/26/19 12:54	CRL	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2,3-Trimethylbenzene

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-163236-1

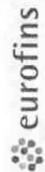
Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-163236-1	WELL 1-2A	Water	11/22/19 10:30	11/23/19 12:05	
480-163236-2	WELL 1-3	Water	11/22/19 10:35	11/23/19 12:05	
480-163236-3	WELL 1-3 POST	Water	11/22/19 10:40	11/23/19 12:05	
480-163236-4	TRIP BLANKS	Water	11/22/19 00:00	11/23/19 12:05	

4400 5198

Address: 10 Hazel Wood Drive Amherst, N.Y. 14228

Chain of Custody Record

381093

Environment Testing
TestAmerica

TAL-8210

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Company Name: Accardi's U.S. Inc.		Project Manager: J. Wyckoff		Site Contact: J. Wyckoff		COC No: 480-121422-2770-1	
Address: 855 Route 146 Suite 210 Clifton Rd		Tel/Email: 607-296-6262		Date: 11/22/19		Carrier: 1 of 1 COCs	
City/State/Zip: Clifton Park NY 12065		Analysis Turnaround Time		Lab Contact: Jody Stone		Sampler: L. Whalen	
Phone: 518-250-7300		☐ CALENDAR DAYS ☐ WORKING DAYS		Perform MS / MSD (Y / N)		For Lab Use Only:	
Fax:		TAT if different from Below		Filtered Sample (Y / N)		Walk-in Client:	
Project Name: NYSDCL Study by VESTAL		☐ 2 weeks		Sample Date		Lab Sampling:	
Site: Town of Vestal		☐ 1 week		Sample Time		Job / SDG No.:	
PO# 3000 1348 . 0300		☐ 2 days		Matrix			
		☐ 1 day		# of Cont.			
Sample Identification		Sample Type (C=Comp, G=Grab)		Matrix		Sample Specific Notes:	
Well 1-2A	11/24/19	1030	G	Water	3		
Well 1-3		1035	↓	Water	3		
Well 1-3 Post		1040	✓	Water	3		
Trip Blanks	-	-	-	W	2		
480-163236 Chain of Custody							
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							
☒ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown							
Special Instructions/QC Requirements & Comments:							
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Therm ID No.:	
Relinquished by:		Company:		Received by: J. Wyckoff		Company: TAB	
Relinquished by:		Company:		Received by:		Company:	
Relinquished by:		Company:		Received in Laboratory by:		Company:	

#1 3.4

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-163236-1

Login Number: 163236

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Yeager, Brian A

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Town of Vestal

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363

Project Name: Town of Vestal Monthly/Quarterly

Project / PO Number: N/A
Received: 11/25/2019
Reported: 12/11/2019

Analytical Testing Parameters

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-01

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:35

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			12/03/19 1352	JAN
Bromoform	0.00099		0.00050	mg/L			12/03/19 1352	JAN
Bromomethane	<0.00050		0.00050	mg/L			12/03/19 1352	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Chloroform	<0.00050		0.00050	mg/L			12/03/19 1352	JAN
Chloromethane	<0.00050		0.00050	mg/L			12/03/19 1352	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Dibromochloromethane	0.00061		0.00050	mg/L			12/03/19 1352	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN

Microbac Laboratories, Inc.



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-01

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:35

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN

Microbac Laboratories, Inc.

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-01

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:35

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1352	JAN
Surrogate: 4-Bromofluorobenzene	93.2	Limit: 70-130		% Rec			12/03/19 1352	JAN
Surrogate: 1,2-Dichlorobenzene-d4	83.6	Limit: 70-130		% Rec			12/03/19 1352	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-02

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:39

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			12/03/19 1416	JAN
Bromoform	<0.00050		0.00050	mg/L			12/03/19 1416	JAN
Bromomethane	<0.00050		0.00050	mg/L			12/03/19 1416	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Chloroform	<0.00050		0.00050	mg/L			12/03/19 1416	JAN
Chloromethane	<0.00050		0.00050	mg/L			12/03/19 1416	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			12/03/19 1416	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-02

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:39

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-02

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:39

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1416	JAN
Surrogate: 4-Bromofluorobenzene	90.6	Limit: 70-130		% Rec			12/03/19 1416	JAN
Surrogate: 1,2-Dichlorobenzene-d4	80.8	Limit: 70-130		% Rec			12/03/19 1416	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-03

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:44

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			12/03/19 1439	JAN
Bromoform	0.00362		0.00050	mg/L			12/03/19 1439	JAN
Bromomethane	<0.00050		0.00050	mg/L			12/03/19 1439	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Chloroform	<0.00050		0.00050	mg/L			12/03/19 1439	JAN
Chloromethane	<0.00050		0.00050	mg/L			12/03/19 1439	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Dibromochloromethane	0.00120		0.00050	mg/L			12/03/19 1439	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN

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CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-03

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:44

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-03

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:44

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1439	JAN
Surrogate: 4-Bromofluorobenzene	90.2	Limit: 70-130		% Rec			12/03/19 1439	JAN
Surrogate: 1,2-Dichlorobenzene-d4	87.4	Limit: 70-130		% Rec			12/03/19 1439	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-04

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:49

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			12/03/19 1503	JAN
Bromoform	<0.00050		0.00050	mg/L			12/03/19 1503	JAN
Bromomethane	<0.00050		0.00050	mg/L			12/03/19 1503	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Chloroform	<0.00050		0.00050	mg/L			12/03/19 1503	JAN
Chloromethane	<0.00050		0.00050	mg/L			12/03/19 1503	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Dibromochloromethane	<0.00050		0.00050	mg/L			12/03/19 1503	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-04

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:49

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN

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CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-04

Collected By: Thomas Webster
Collection Date: 11/25/2019 12:49

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/03/19 1503	JAN
Surrogate: 4-Bromofluorobenzene	92.4	Limit: 70-130		% Rec			12/03/19 1503	JAN
Surrogate: 1,2-Dichlorobenzene-d4	82.8	Limit: 70-130		% Rec			12/03/19 1503	JAN



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-07

Collected By: Thomas Webster
Collection Date: 11/05/2019 8:00

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Bromobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Bromochloromethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Bromodichloromethane	<0.00050		0.00050	mg/L			12/05/19 1217	JAN
Bromoform	0.00217		0.00050	mg/L			12/05/19 1217	JAN
Bromomethane	<0.00050		0.00050	mg/L			12/05/19 1217	JAN
tert-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
sec-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
n-Butylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Carbon tetrachloride	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Chlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Chloroethane (Ethyl chloride)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Chloroform	<0.00050		0.00050	mg/L			12/05/19 1217	JAN
Chloromethane	<0.00050		0.00050	mg/L			12/05/19 1217	JAN
2-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
4-Chlorotoluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Dibromochloromethane	0.00090		0.00050	mg/L			12/05/19 1217	JAN
Dibromomethane (Methylene bromide)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,4-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,3-Dichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Dichlorodifluoromethane (Freon-12)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1-Dichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
trans-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
cis-1,2-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1-Dichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-07

Collected By: Thomas Webster
Collection Date: 11/05/2019 8:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
2,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2-Dichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
trans-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
cis-1,3-Dichloropropene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Ethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Hexachlorobutadiene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Isopropylbenzene (Cumene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
4-Isopropyltoluene (p-Isopropyltoluene)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Methyl tert-butyl ether (MTBE)	<0.00050	0.01 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Methylene chloride (Dichloromethane)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Naphthalene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
n-Propylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Styrene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1,1,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1,2,2-Tetrachloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Tetrachloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Toluene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2,4-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2,3-Trichlorobenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1,1-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,1,2-Trichloroethane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Trichloroethene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Trichlorofluoromethane (Freon 11)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2,3-Trichloropropane	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
1,2,4-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9K1306

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9K1306-07

Collected By: Thomas Webster
Collection Date: 11/05/2019 8:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
1,3,5-Trimethylbenzene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Vinyl chloride	<0.00050	0.002 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
m,p-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
o-Xylene	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Xylenes (total)	<0.00050	0.005 NYVOA	0.00050	mg/L			12/05/19 1217	JAN
Surrogate: 4-Bromofluorobenzene	103	Limit: 70-130		% Rec			12/05/19 1217	JAN
Surrogate: 1,2-Dichlorobenzene-d4	99.0	Limit: 70-130		% Rec			12/05/19 1217	JAN

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

MCL: US EPA Maximum Contaminant Level
mg/L: Milligrams per Liter
NYVOA: New York DOH Part 5 Public Water System MCLs
RL: Reporting Limit
ug/L: Micrograms per Liter

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
11549

New York State Department of Health

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795

New York State Department of Health

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

Renee Lantz
Customer Relationship Specialist
Reported: 12/11/2019 19:18

Microbac Laboratories, Inc.

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Microbac Laboratories, Inc., New York Division

Chain of Custody

J9K1306**TAT 7 days**

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project/PO Number: N/A
Tenatively Scheduled: 11/19/2019
Field Route: NY-Route 1 Bing

Client Sample ID: 1-2A Raw

Lab Sample ID: J9K1306-01

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 11-25-19 / 1235

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-2A Finished

Lab Sample ID: J9K1306-02

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 11-25-19 / 1239

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-3 Raw

Lab Sample ID: J9K1306-03

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 11-25-19 / 1244

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-3 Finished

Lab Sample ID: J9K1306-04

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 11-25-19 / 1249



Microbac Laboratories, Inc., New York Division
Chain of Custody
J9K1306

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project/PO Number: N/A
Tenatively Scheduled: 11/19/2019
Field Route: NY-Route 1 Bing

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Raw

Lab Sample ID: J9K1306-05

Matrix: Drinking Water

Sampled Date & Time: 11-25-19 / 1258

Type: Grab

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Finished

Lab Sample ID: J9K1306-06

Matrix: Drinking Water

Sampled Date & Time: 11-25-19 / 1300

Type: Grab

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: Trip Blank

Lab Sample ID: J9K1306-07

Matrix: Drinking Water

Sampled Date & Time: 11-25-19 / 800

Type: Trip Blank

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A



Microbac Laboratories, Inc., New York Division

Chain of Custody

J9K1306

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project/PO Number: N/A
Tenatively Scheduled: 11/19/2019
Field Route: NY-Route 1 Bing

Sampled/Relinquished by: <i>Thomas Webster</i>	Date/Time: <i>11-25-19/1455</i>	Received by: <i>Kayla Conway</i>
Printed Name: Bethany Robinson <i>Thomas Webster</i>		Printed Name: <i>Kayla Conway</i>
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:

As Received at Laboratory: On Ice: ☒ Yes / No Temp 6.2 °C Total Containers: 13

Microbac Laboratories may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to an appropriately accredited laboratory. By signing this document you are acknowledging that you have been informed by Microbac that testing could be subcontracted and agree with this arrangement.

Notes:

ANALYTICAL REPORT

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

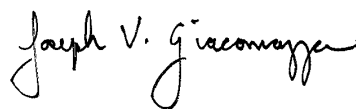
Laboratory Job ID: 480-164228-1

Client Project/Site: NYSDEC-Standby VESTAL

For:

ARCADIS U.S. Inc
855 Route 146
Suite 210
Clifton Park, New York 12065

Attn: Mr. Jeremy Wyckoff



Authorized for release by:

12/30/2019 2:16:58 PM

Joe Giacomazza, Project Management Assistant II
joe.giacomazza@testamericainc.com

Designee for

Judy Stone, Senior Project Manager
(484)685-0868
judy.stone@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Indicates an estimated value.
U	Analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DL C	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Job ID: 480-164228-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative
480-164228-1

Comments

No additional comments.

Receipt

The samples were received on 12/14/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA

Method 8260C: Due to the coelution of Ethyl Acetate with 2-Butanone in the full spike solution, these analytes exceeded control limits in the laboratory control sample (LCS) and/or laboratory control sample duplicate (LCSD) associated with batch 510218. The following samples were affected : WELL 1-2A-121319 (480-164228-1), WELL 1-3-121319 (480-164228-2), WELL 1-3 POST-121319 (480-164228-3) and TRIP BLANK-121319 (480-164228-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: WELL 1-2A-121319

Lab Sample ID: 480-164228-1

No Detections.

Client Sample ID: WELL 1-3-121319

Lab Sample ID: 480-164228-2

No Detections.

Client Sample ID: WELL 1-3 POST-121319

Lab Sample ID: 480-164228-3

No Detections.

Client Sample ID: TRIP BLANK-121319

Lab Sample ID: 480-164228-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.50	J	1.0	0.34	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: WELL 1-2A-121319

Lab Sample ID: 480-164228-1

Date Collected: 12/13/19 10:15

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			12/17/19 17:58	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 17:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			12/17/19 17:58	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/17/19 17:58	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			12/17/19 17:58	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/17/19 17:58	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			12/17/19 17:58	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			12/17/19 17:58	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			12/17/19 17:58	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			12/17/19 17:58	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			12/17/19 17:58	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			12/17/19 17:58	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 17:58	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			12/17/19 17:58	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			12/17/19 17:58	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			12/17/19 17:58	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			12/17/19 17:58	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			12/17/19 17:58	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			12/17/19 17:58	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			12/17/19 17:58	1
Acetone	10	U	10	3.0	ug/L			12/17/19 17:58	1
Benzene	1.0	U	1.0	0.41	ug/L			12/17/19 17:58	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			12/17/19 17:58	1
Bromoform	1.0	U	1.0	0.26	ug/L			12/17/19 17:58	1
Bromomethane	1.0	U	1.0	0.69	ug/L			12/17/19 17:58	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			12/17/19 17:58	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			12/17/19 17:58	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			12/17/19 17:58	1
Chloroethane	1.0	U	1.0	0.32	ug/L			12/17/19 17:58	1
Chloroform	1.0	U	1.0	0.34	ug/L			12/17/19 17:58	1
Chloromethane	1.0	U	1.0	0.35	ug/L			12/17/19 17:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			12/17/19 17:58	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			12/17/19 17:58	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			12/17/19 17:58	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			12/17/19 17:58	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			12/17/19 17:58	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			12/17/19 17:58	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			12/17/19 17:58	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			12/17/19 17:58	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			12/17/19 17:58	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			12/17/19 17:58	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			12/17/19 17:58	1
Styrene	1.0	U	1.0	0.73	ug/L			12/17/19 17:58	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			12/17/19 17:58	1
Toluene	1.0	U	1.0	0.51	ug/L			12/17/19 17:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			12/17/19 17:58	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			12/17/19 17:58	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			12/17/19 17:58	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			12/17/19 17:58	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: WELL 1-2A-121319

Lab Sample ID: 480-164228-1

Date Collected: 12/13/19 10:15

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.90	ug/L			12/17/19 17:58	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			12/17/19 17:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		77 - 120					12/17/19 17:58	1
4-Bromofluorobenzene (Surr)	107		73 - 120					12/17/19 17:58	1
Dibromofluoromethane (Surr)	105		75 - 123					12/17/19 17:58	1
Toluene-d8 (Surr)	96		80 - 120					12/17/19 17:58	1

Client Sample ID: WELL 1-3-121319

Lab Sample ID: 480-164228-2

Date Collected: 12/13/19 10:25

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			12/17/19 18:23	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 18:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			12/17/19 18:23	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/17/19 18:23	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			12/17/19 18:23	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/17/19 18:23	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			12/17/19 18:23	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			12/17/19 18:23	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			12/17/19 18:23	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			12/17/19 18:23	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			12/17/19 18:23	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			12/17/19 18:23	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 18:23	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			12/17/19 18:23	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			12/17/19 18:23	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			12/17/19 18:23	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			12/17/19 18:23	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			12/17/19 18:23	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			12/17/19 18:23	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			12/17/19 18:23	1
Acetone	10	U	10	3.0	ug/L			12/17/19 18:23	1
Benzene	1.0	U	1.0	0.41	ug/L			12/17/19 18:23	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			12/17/19 18:23	1
Bromoform	1.0	U	1.0	0.26	ug/L			12/17/19 18:23	1
Bromomethane	1.0	U	1.0	0.69	ug/L			12/17/19 18:23	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			12/17/19 18:23	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			12/17/19 18:23	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			12/17/19 18:23	1
Chloroethane	1.0	U	1.0	0.32	ug/L			12/17/19 18:23	1
Chloroform	1.0	U	1.0	0.34	ug/L			12/17/19 18:23	1
Chloromethane	1.0	U	1.0	0.35	ug/L			12/17/19 18:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			12/17/19 18:23	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			12/17/19 18:23	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			12/17/19 18:23	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			12/17/19 18:23	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: WELL 1-3-121319

Lab Sample ID: 480-164228-2

Date Collected: 12/13/19 10:25

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			12/17/19 18:23	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			12/17/19 18:23	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			12/17/19 18:23	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			12/17/19 18:23	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			12/17/19 18:23	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			12/17/19 18:23	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			12/17/19 18:23	1
Styrene	1.0	U	1.0	0.73	ug/L			12/17/19 18:23	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			12/17/19 18:23	1
Toluene	1.0	U	1.0	0.51	ug/L			12/17/19 18:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			12/17/19 18:23	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			12/17/19 18:23	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			12/17/19 18:23	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			12/17/19 18:23	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			12/17/19 18:23	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			12/17/19 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		77 - 120		12/17/19 18:23	1
4-Bromofluorobenzene (Surr)	110		73 - 120		12/17/19 18:23	1
Dibromofluoromethane (Surr)	108		75 - 123		12/17/19 18:23	1
Toluene-d8 (Surr)	98		80 - 120		12/17/19 18:23	1

Client Sample ID: WELL 1-3 POST-121319

Lab Sample ID: 480-164228-3

Date Collected: 12/13/19 10:35

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			12/17/19 18:47	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 18:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			12/17/19 18:47	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/17/19 18:47	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			12/17/19 18:47	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/17/19 18:47	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			12/17/19 18:47	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			12/17/19 18:47	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			12/17/19 18:47	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			12/17/19 18:47	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			12/17/19 18:47	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			12/17/19 18:47	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 18:47	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			12/17/19 18:47	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			12/17/19 18:47	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			12/17/19 18:47	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			12/17/19 18:47	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			12/17/19 18:47	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			12/17/19 18:47	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			12/17/19 18:47	1
Acetone	10	U	10	3.0	ug/L			12/17/19 18:47	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: WELL 1-3 POST-121319

Lab Sample ID: 480-164228-3

Date Collected: 12/13/19 10:35

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0	0.41	ug/L			12/17/19 18:47	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			12/17/19 18:47	1
Bromoform	1.0	U	1.0	0.26	ug/L			12/17/19 18:47	1
Bromomethane	1.0	U	1.0	0.69	ug/L			12/17/19 18:47	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			12/17/19 18:47	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			12/17/19 18:47	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			12/17/19 18:47	1
Chloroethane	1.0	U	1.0	0.32	ug/L			12/17/19 18:47	1
Chloroform	1.0	U	1.0	0.34	ug/L			12/17/19 18:47	1
Chloromethane	1.0	U	1.0	0.35	ug/L			12/17/19 18:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			12/17/19 18:47	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			12/17/19 18:47	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			12/17/19 18:47	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			12/17/19 18:47	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			12/17/19 18:47	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			12/17/19 18:47	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			12/17/19 18:47	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			12/17/19 18:47	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			12/17/19 18:47	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			12/17/19 18:47	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			12/17/19 18:47	1
Styrene	1.0	U	1.0	0.73	ug/L			12/17/19 18:47	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			12/17/19 18:47	1
Toluene	1.0	U	1.0	0.51	ug/L			12/17/19 18:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			12/17/19 18:47	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			12/17/19 18:47	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			12/17/19 18:47	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			12/17/19 18:47	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			12/17/19 18:47	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			12/17/19 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		77 - 120		12/17/19 18:47	1
4-Bromofluorobenzene (Surr)	110		73 - 120		12/17/19 18:47	1
Dibromofluoromethane (Surr)	105		75 - 123		12/17/19 18:47	1
Toluene-d8 (Surr)	96		80 - 120		12/17/19 18:47	1

Client Sample ID: TRIP BLANK-121319

Lab Sample ID: 480-164228-4

Date Collected: 12/13/19 00:00

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			12/17/19 19:12	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 19:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			12/17/19 19:12	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/17/19 19:12	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			12/17/19 19:12	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/17/19 19:12	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			12/17/19 19:12	1

Eurofins TestAmerica, Buffalo

Client Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: TRIP BLANK-121319

Lab Sample ID: 480-164228-4

Date Collected: 12/13/19 00:00

Matrix: Water

Date Received: 12/14/19 09:00

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			12/17/19 19:12	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			12/17/19 19:12	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			12/17/19 19:12	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			12/17/19 19:12	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			12/17/19 19:12	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 19:12	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			12/17/19 19:12	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			12/17/19 19:12	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			12/17/19 19:12	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			12/17/19 19:12	1
2-Butanone (MEK)	10	U *	10	1.3	ug/L			12/17/19 19:12	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			12/17/19 19:12	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			12/17/19 19:12	1
Acetone	10	U	10	3.0	ug/L			12/17/19 19:12	1
Benzene	1.0	U	1.0	0.41	ug/L			12/17/19 19:12	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			12/17/19 19:12	1
Bromoform	1.0	U	1.0	0.26	ug/L			12/17/19 19:12	1
Bromomethane	1.0	U	1.0	0.69	ug/L			12/17/19 19:12	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			12/17/19 19:12	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			12/17/19 19:12	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			12/17/19 19:12	1
Chloroethane	1.0	U	1.0	0.32	ug/L			12/17/19 19:12	1
Chloroform	0.50	J	1.0	0.34	ug/L			12/17/19 19:12	1
Chloromethane	1.0	U	1.0	0.35	ug/L			12/17/19 19:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			12/17/19 19:12	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			12/17/19 19:12	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			12/17/19 19:12	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			12/17/19 19:12	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			12/17/19 19:12	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			12/17/19 19:12	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			12/17/19 19:12	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			12/17/19 19:12	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			12/17/19 19:12	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			12/17/19 19:12	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			12/17/19 19:12	1
Styrene	1.0	U	1.0	0.73	ug/L			12/17/19 19:12	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			12/17/19 19:12	1
Toluene	1.0	U	1.0	0.51	ug/L			12/17/19 19:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			12/17/19 19:12	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			12/17/19 19:12	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			12/17/19 19:12	1
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			12/17/19 19:12	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			12/17/19 19:12	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			12/17/19 19:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		77 - 120		12/17/19 19:12	1
4-Bromofluorobenzene (Surr)	104		73 - 120		12/17/19 19:12	1
Dibromofluoromethane (Surr)	107		75 - 123		12/17/19 19:12	1
Toluene-d8 (Surr)	96		80 - 120		12/17/19 19:12	1

Eurofins TestAmerica, Buffalo

Surrogate Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (77-120)	BFB (73-120)	DBFM (75-123)	TOL (80-120)
480-164228-1	WELL 1-2A-121319	109	107	105	96
480-164228-2	WELL 1-3-121319	114	110	108	98
480-164228-3	WELL 1-3 POST-121319	112	110	105	96
480-164228-4	TRIP BLANK-121319	113	104	107	96
LCS 480-510218/5	Lab Control Sample	106	112	104	102
LCSD 480-510218/6	Lab Control Sample Dup	103	107	101	99
MB 480-510218/8	Method Blank	101	104	100	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 480-510218/8

Matrix: Water

Analysis Batch: 510218

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.82	ug/L			12/17/19 12:04	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 12:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.31	ug/L			12/17/19 12:04	1
1,1,2-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/17/19 12:04	1
1,1-Dichloroethane	1.0	U	1.0	0.38	ug/L			12/17/19 12:04	1
1,1-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/17/19 12:04	1
1,2,3-Trimethylbenzene	1.0	U	1.0	0.26	ug/L			12/17/19 12:04	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.41	ug/L			12/17/19 12:04	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.75	ug/L			12/17/19 12:04	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.39	ug/L			12/17/19 12:04	1
1,2-Dibromoethane	1.0	U	1.0	0.73	ug/L			12/17/19 12:04	1
1,2-Dichlorobenzene	1.0	U	1.0	0.79	ug/L			12/17/19 12:04	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			12/17/19 12:04	1
1,2-Dichloropropane	1.0	U	1.0	0.72	ug/L			12/17/19 12:04	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.77	ug/L			12/17/19 12:04	1
1,3-Dichlorobenzene	1.0	U	1.0	0.78	ug/L			12/17/19 12:04	1
1,4-Dichlorobenzene	1.0	U	1.0	0.84	ug/L			12/17/19 12:04	1
2-Butanone (MEK)	10	U	10	1.3	ug/L			12/17/19 12:04	1
2-Hexanone	5.0	U	5.0	1.2	ug/L			12/17/19 12:04	1
4-Methyl-2-pentanone (MIBK)	5.0	U	5.0	2.1	ug/L			12/17/19 12:04	1
Acetone	10	U	10	3.0	ug/L			12/17/19 12:04	1
Benzene	1.0	U	1.0	0.41	ug/L			12/17/19 12:04	1
Bromodichloromethane	1.0	U	1.0	0.39	ug/L			12/17/19 12:04	1
Bromoform	1.0	U	1.0	0.26	ug/L			12/17/19 12:04	1
Bromomethane	1.0	U	1.0	0.69	ug/L			12/17/19 12:04	1
Carbon disulfide	1.0	U	1.0	0.19	ug/L			12/17/19 12:04	1
Carbon tetrachloride	1.0	U	1.0	0.27	ug/L			12/17/19 12:04	1
Chlorobenzene	1.0	U	1.0	0.75	ug/L			12/17/19 12:04	1
Chloroethane	1.0	U	1.0	0.32	ug/L			12/17/19 12:04	1
Chloroform	1.0	U	1.0	0.34	ug/L			12/17/19 12:04	1
Chloromethane	1.0	U	1.0	0.35	ug/L			12/17/19 12:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.81	ug/L			12/17/19 12:04	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.36	ug/L			12/17/19 12:04	1
Cyclohexane	1.0	U	1.0	0.18	ug/L			12/17/19 12:04	1
Dibromochloromethane	1.0	U	1.0	0.32	ug/L			12/17/19 12:04	1
Dichlorodifluoromethane	1.0	U	1.0	0.68	ug/L			12/17/19 12:04	1
Ethylbenzene	1.0	U	1.0	0.74	ug/L			12/17/19 12:04	1
Isopropylbenzene	1.0	U	1.0	0.79	ug/L			12/17/19 12:04	1
Methyl acetate	2.5	U	2.5	1.3	ug/L			12/17/19 12:04	1
Methyl tert-butyl ether	1.0	U	1.0	0.16	ug/L			12/17/19 12:04	1
Methylcyclohexane	1.0	U	1.0	0.16	ug/L			12/17/19 12:04	1
Methylene Chloride	1.0	U	1.0	0.44	ug/L			12/17/19 12:04	1
Styrene	1.0	U	1.0	0.73	ug/L			12/17/19 12:04	1
Tetrachloroethene	1.0	U	1.0	0.36	ug/L			12/17/19 12:04	1
Toluene	1.0	U	1.0	0.51	ug/L			12/17/19 12:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.90	ug/L			12/17/19 12:04	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.37	ug/L			12/17/19 12:04	1
Trichloroethene	1.0	U	1.0	0.46	ug/L			12/17/19 12:04	1

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 480-510218/8

Matrix: Water

Analysis Batch: 510218

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	1.0	U	1.0	0.88	ug/L			12/17/19 12:04	1
Vinyl chloride	1.0	U	1.0	0.90	ug/L			12/17/19 12:04	1
Xylenes, Total	2.0	U	2.0	0.66	ug/L			12/17/19 12:04	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120					12/17/19 12:04	1
4-Bromofluorobenzene (Surr)	104		73 - 120					12/17/19 12:04	1
Dibromofluoromethane (Surr)	100		75 - 123					12/17/19 12:04	1
Toluene-d8 (Surr)	98		80 - 120					12/17/19 12:04	1

Lab Sample ID: LCS 480-510218/5

Matrix: Water

Analysis Batch: 510218

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	25.0	25.6		ug/L		102	73 - 126
1,1,2,2-Tetrachloroethane	25.0	22.5		ug/L		90	76 - 120
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		93	61 - 148
1,1,2-Trichloroethane	25.0	22.4		ug/L		90	76 - 122
1,1-Dichloroethane	25.0	22.7		ug/L		91	77 - 120
1,1-Dichloroethene	25.0	23.3		ug/L		93	66 - 127
1,2,3-Trimethylbenzene	25.0	25.7		ug/L		103	78 - 120
1,2,4-Trichlorobenzene	25.0	27.6		ug/L		110	79 - 122
1,2,4-Trimethylbenzene	25.0	26.3		ug/L		105	76 - 121
1,2-Dibromo-3-Chloropropane	25.0	24.7		ug/L		99	56 - 134
1,2-Dibromoethane	25.0	24.0		ug/L		96	77 - 120
1,2-Dichlorobenzene	25.0	25.7		ug/L		103	80 - 124
1,2-Dichloroethane	25.0	23.2		ug/L		93	75 - 120
1,2-Dichloropropane	25.0	21.7		ug/L		87	76 - 120
1,3,5-Trimethylbenzene	25.0	25.6		ug/L		103	77 - 121
1,3-Dichlorobenzene	25.0	25.1		ug/L		101	77 - 120
1,4-Dichlorobenzene	25.0	24.9		ug/L		100	80 - 120
2-Butanone (MEK)	125	179	*	ug/L		143	57 - 140
2-Hexanone	125	108		ug/L		86	65 - 127
4-Methyl-2-pentanone (MIBK)	125	108		ug/L		86	71 - 125
Acetone	125	104		ug/L		83	56 - 142
Benzene	25.0	22.4		ug/L		90	71 - 124
Bromodichloromethane	25.0	24.2		ug/L		97	80 - 122
Bromoform	25.0	26.7		ug/L		107	61 - 132
Bromomethane	25.0	23.0		ug/L		92	55 - 144
Carbon disulfide	25.0	22.5		ug/L		90	59 - 134
Carbon tetrachloride	25.0	25.8		ug/L		103	72 - 134
Chlorobenzene	25.0	24.0		ug/L		96	80 - 120
Chloroethane	25.0	20.9		ug/L		84	69 - 136
Chloroform	25.0	23.4		ug/L		94	73 - 127
Chloromethane	25.0	20.0		ug/L		80	68 - 124
cis-1,2-Dichloroethene	25.0	23.3		ug/L		93	74 - 124
cis-1,3-Dichloropropene	25.0	24.7		ug/L		99	74 - 124

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 480-510218/5

Matrix: Water

Analysis Batch: 510218

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	25.0	21.7		ug/L		87	59 - 135
Dibromochloromethane	25.0	25.8		ug/L		103	75 - 125
Dichlorodifluoromethane	25.0	25.7		ug/L		103	59 - 135
Ethylbenzene	25.0	24.2		ug/L		97	77 - 123
Isopropylbenzene	25.0	25.8		ug/L		103	77 - 122
Methyl acetate	50.0	39.5		ug/L		79	74 - 133
Methyl tert-butyl ether	25.0	23.7		ug/L		95	77 - 120
Methylcyclohexane	25.0	23.6		ug/L		94	68 - 134
Methylene Chloride	25.0	22.4		ug/L		90	75 - 124
Styrene	25.0	25.6		ug/L		102	80 - 120
Tetrachloroethene	25.0	27.9		ug/L		112	74 - 122
Toluene	25.0	23.6		ug/L		94	80 - 122
trans-1,2-Dichloroethene	25.0	23.4		ug/L		94	73 - 127
trans-1,3-Dichloropropene	25.0	24.8		ug/L		99	80 - 120
Trichloroethene	25.0	24.0		ug/L		96	74 - 123
Trichlorofluoromethane	25.0	24.6		ug/L		98	62 - 150
Vinyl chloride	25.0	22.5		ug/L		90	65 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	106		77 - 120
4-Bromofluorobenzene (Surr)	112		73 - 120
Dibromofluoromethane (Surr)	104		75 - 123
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: LCSD 480-510218/6

Matrix: Water

Analysis Batch: 510218

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	25.0	25.0		ug/L		100	73 - 126	2	15
1,1,1,2-Tetrachloroethane	25.0	22.7		ug/L		91	76 - 120	1	15
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	22.9		ug/L		92	61 - 148	1	20
1,1,2-Trichloroethane	25.0	23.3		ug/L		93	76 - 122	4	15
1,1-Dichloroethane	25.0	23.4		ug/L		94	77 - 120	3	20
1,1-Dichloroethene	25.0	22.7		ug/L		91	66 - 127	2	16
1,2,3-Trimethylbenzene	25.0	24.4		ug/L		98	78 - 120	5	20
1,2,4-Trichlorobenzene	25.0	26.6		ug/L		106	79 - 122	4	20
1,2,4-Trimethylbenzene	25.0	25.2		ug/L		101	76 - 121	4	20
1,2-Dibromo-3-Chloropropane	25.0	23.7		ug/L		95	56 - 134	4	15
1,2-Dibromoethane	25.0	25.4		ug/L		102	77 - 120	6	15
1,2-Dichlorobenzene	25.0	25.0		ug/L		100	80 - 124	3	20
1,2-Dichloroethane	25.0	23.7		ug/L		95	75 - 120	2	20
1,2-Dichloropropane	25.0	22.6		ug/L		90	76 - 120	4	20
1,3,5-Trimethylbenzene	25.0	24.3		ug/L		97	77 - 121	5	20
1,3-Dichlorobenzene	25.0	24.6		ug/L		98	77 - 120	2	20
1,4-Dichlorobenzene	25.0	24.3		ug/L		97	80 - 120	3	20
2-Butanone (MEK)	125	189	*	ug/L		151	57 - 140	5	20
2-Hexanone	125	111		ug/L		89	65 - 127	3	15

Eurofins TestAmerica, Buffalo

QC Sample Results

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 480-510218/6

Matrix: Water

Analysis Batch: 510218

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Methyl-2-pentanone (MIBK)	125	111		ug/L		89	71 - 125	3	35
Acetone	125	107		ug/L		85	56 - 142	3	15
Benzene	25.0	23.4		ug/L		94	71 - 124	4	13
Bromodichloromethane	25.0	25.5		ug/L		102	80 - 122	5	15
Bromoform	25.0	27.2		ug/L		109	61 - 132	2	15
Bromomethane	25.0	23.8		ug/L		95	55 - 144	3	15
Carbon disulfide	25.0	22.5		ug/L		90	59 - 134	0	15
Carbon tetrachloride	25.0	25.3		ug/L		101	72 - 134	2	15
Chlorobenzene	25.0	24.5		ug/L		98	80 - 120	2	25
Chloroethane	25.0	21.1		ug/L		84	69 - 136	1	15
Chloroform	25.0	23.9		ug/L		96	73 - 127	2	20
Chloromethane	25.0	20.4		ug/L		82	68 - 124	2	15
cis-1,2-Dichloroethene	25.0	23.9		ug/L		95	74 - 124	2	15
cis-1,3-Dichloropropene	25.0	26.1		ug/L		105	74 - 124	6	15
Cyclohexane	25.0	21.7		ug/L		87	59 - 135	0	20
Dibromochloromethane	25.0	26.4		ug/L		106	75 - 125	2	15
Dichlorodifluoromethane	25.0	26.1		ug/L		104	59 - 135	2	20
Ethylbenzene	25.0	24.5		ug/L		98	77 - 123	1	15
Isopropylbenzene	25.0	24.5		ug/L		98	77 - 122	5	20
Methyl acetate	50.0	41.2		ug/L		82	74 - 133	4	20
Methyl tert-butyl ether	25.0	24.8		ug/L		99	77 - 120	4	37
Methylcyclohexane	25.0	23.6		ug/L		94	68 - 134	0	20
Methylene Chloride	25.0	23.2		ug/L		93	75 - 124	3	15
Styrene	25.0	26.3		ug/L		105	80 - 120	2	20
Tetrachloroethene	25.0	28.6		ug/L		115	74 - 122	2	20
Toluene	25.0	23.8		ug/L		95	80 - 122	1	15
trans-1,2-Dichloroethene	25.0	23.7		ug/L		95	73 - 127	1	20
trans-1,3-Dichloropropene	25.0	25.4		ug/L		102	80 - 120	2	15
Trichloroethene	25.0	24.9		ug/L		100	74 - 123	4	16
Trichlorofluoromethane	25.0	23.9		ug/L		96	62 - 150	3	20
Vinyl chloride	25.0	22.7		ug/L		91	65 - 133	1	15

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		77 - 120
4-Bromofluorobenzene (Surr)	107		73 - 120
Dibromofluoromethane (Surr)	101		75 - 123
Toluene-d8 (Surr)	99		80 - 120

QC Association Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

GC/MS VOA

Analysis Batch: 510218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-164228-1	WELL 1-2A-121319	Total/NA	Water	8260C	
480-164228-2	WELL 1-3-121319	Total/NA	Water	8260C	
480-164228-3	WELL 1-3 POST-121319	Total/NA	Water	8260C	
480-164228-4	TRIP BLANK-121319	Total/NA	Water	8260C	
MB 480-510218/8	Method Blank	Total/NA	Water	8260C	
LCS 480-510218/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-510218/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Client Sample ID: WELL 1-2A-121319

Lab Sample ID: 480-164228-1

Date Collected: 12/13/19 10:15

Matrix: Water

Date Received: 12/14/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	510218	12/17/19 17:58	BTP	TAL BUF

Client Sample ID: WELL 1-3-121319

Lab Sample ID: 480-164228-2

Date Collected: 12/13/19 10:25

Matrix: Water

Date Received: 12/14/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	510218	12/17/19 18:23	BTP	TAL BUF

Client Sample ID: WELL 1-3 POST-121319

Lab Sample ID: 480-164228-3

Date Collected: 12/13/19 10:35

Matrix: Water

Date Received: 12/14/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	510218	12/17/19 18:47	BTP	TAL BUF

Client Sample ID: TRIP BLANK-121319

Lab Sample ID: 480-164228-4

Date Collected: 12/13/19 00:00

Matrix: Water

Date Received: 12/14/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	510218	12/17/19 19:12	BTP	TAL BUF

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Laboratory: Eurofins TestAmerica, Buffalo

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
New York	NELAP	10026	03-31-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260C		Water	1,2,3-Trimethylbenzene

Method Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-164228-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-164228-1	WELL 1-2A-121319	Water	12/13/19 10:15	12/14/19 09:00	
480-164228-2	WELL 1-3-121319	Water	12/13/19 10:25	12/14/19 09:00	
480-164228-3	WELL 1-3 POST-121319	Water	12/13/19 10:35	12/14/19 09:00	
480-164228-4	TRIP BLANK-121319	Water	12/13/19 00:00	12/14/19 09:00	

[illegible]

Login Sample Receipt Checklist

Client: ARCADIS U.S. Inc

Job Number: 480-164228-1

Login Number: 164228

List Source: Eurofins TestAmerica, Buffalo

List Number: 1

Creator: Wallace, Cameron

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ARCADIS
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363

Project / PO Number: N/A
Received: 12/20/2019
Reported: 01/07/2020

Analytical Testing Parameters

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-01

Collected By: Michael Emm
Collection Date: 12/20/2019 9:30

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Bromodichloromethane	<0.50		0.50	ug/L			12/30/19 1829	RSD
Bromoform	0.81		0.50	ug/L			12/30/19 1829	RSD
Bromomethane	<0.50		0.50	ug/L			12/30/19 1829	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Chloroform	<0.50		0.50	ug/L			12/30/19 1829	RSD
Chloromethane	<0.50		0.50	ug/L			12/30/19 1829	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Dibromochloromethane	0.54		0.50	ug/L			12/30/19 1829	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD

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CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-2A Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-01

Collected By: Michael Emm
Collection Date: 12/20/2019 9:30

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Styrene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			12/30/19 1829	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1829	RSD
Surrogate: 4-Bromofluorobenzene	98.8	Limit: 70-130		% Rec			12/30/19 1829	RSD
Surrogate: 1,2-Dichlorobenzene-d4	94.6	Limit: 70-130		% Rec			12/30/19 1829	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-2A Finished

Sample Matrix: Drinking Water

Lab Sample ID: J9L1186-02

Collected By: Michael Emm

Collection Date: 12/20/2019 9:35

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Bromodichloromethane	<0.50		0.50	ug/L			12/30/19 1853	RSD
Bromoform	<0.50		0.50	ug/L			12/30/19 1853	RSD
Bromomethane	<0.50		0.50	ug/L			12/30/19 1853	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Chloroform	<0.50		0.50	ug/L			12/30/19 1853	RSD
Chloromethane	<0.50		0.50	ug/L			12/30/19 1853	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Dibromochloromethane	<0.50		0.50	ug/L			12/30/19 1853	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-2A Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-02

Collected By: Michael Emm
Collection Date: 12/20/2019 9:35

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			12/30/19 1853	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1853	RSD
Surrogate: 4-Bromofluorobenzene	93.4	Limit: 70-130		% Rec			12/30/19 1853	RSD
Surrogate: 1,2-Dichlorobenzene-d4	84.6	Limit: 70-130		% Rec			12/30/19 1853	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-03

Collected By: Michael Emm
Collection Date: 12/20/2019 9:40

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Bromodichloromethane	<0.50		0.50	ug/L			12/30/19 1916	RSD
Bromoform	1.85		0.50	ug/L			12/30/19 1916	RSD
Bromomethane	<0.50		0.50	ug/L			12/30/19 1916	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Chloroform	<0.50		0.50	ug/L			12/30/19 1916	RSD
Chloromethane	<0.50		0.50	ug/L			12/30/19 1916	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Dibromochloromethane	<0.50		0.50	ug/L			12/30/19 1916	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-3 Raw
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-03

Collected By: Michael Emm
Collection Date: 12/20/2019 9:40

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			12/30/19 1916	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1916	RSD
Surrogate: 4-Bromofluorobenzene	101	Limit: 70-130		% Rec			12/30/19 1916	RSD
Surrogate: 1,2-Dichlorobenzene-d4	90.6	Limit: 70-130		% Rec			12/30/19 1916	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-04

Collected By: Michael Emm
Collection Date: 12/20/2019 9:45

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Bromodichloromethane	<0.50		0.50	ug/L			12/30/19 1940	RSD
Bromoform	<0.50		0.50	ug/L			12/30/19 1940	RSD
Bromomethane	<0.50		0.50	ug/L			12/30/19 1940	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Chloroform	<0.50		0.50	ug/L			12/30/19 1940	RSD
Chloromethane	<0.50		0.50	ug/L			12/30/19 1940	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Dibromochloromethane	<0.50		0.50	ug/L			12/30/19 1940	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: 1-3 Finished
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-04

Collected By: Michael Emm
Collection Date: 12/20/2019 9:45

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			12/30/19 1940	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			12/30/19 1940	RSD
Surrogate: 4-Bromofluorobenzene	97.0	Limit: 70-130		% Rec			12/30/19 1940	RSD
Surrogate: 1,2-Dichlorobenzene-d4	88.6	Limit: 70-130		% Rec			12/30/19 1940	RSD



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-07

Collected By: Michael Emm
Collection Date: 12/19/2019 16:00

Analyses Subcontracted to: Microbac Laboratories, Inc. - Dayville

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Method: EPA 524.2, Rv 4.1								
Benzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Bromobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Bromochloromethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Bromodichloromethane	<0.50		0.50	ug/L			01/02/20 1357	RSD
Bromoform	1.78		0.50	ug/L			01/02/20 1357	RSD
Bromomethane	<0.50		0.50	ug/L			01/02/20 1357	RSD
tert-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
sec-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
n-Butylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Carbon tetrachloride	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Chlorobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Chloroethane (Ethyl chloride)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Chloroform	<0.50		0.50	ug/L			01/02/20 1357	RSD
Chloromethane	<0.50		0.50	ug/L			01/02/20 1357	RSD
2-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
4-Chlorotoluene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Dibromochloromethane	<0.50		0.50	ug/L			01/02/20 1357	RSD
Dibromomethane (Methylene bromide)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,4-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,3-Dichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Dichlorodifluoromethane (Freon-12)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1-Dichloroethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
trans-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
cis-1,2-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1-Dichloroethene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,3-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
2,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2-Dichloropropane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
trans-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
cis-1,3-Dichloropropene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Ethylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Hexachlorobutadiene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Isopropylbenzene (Cumene)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
4-Isopropyltoluene (p-Isopropyltoluene)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Methyl tert-butyl ether (MTBE)	<0.50	10 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Methylene chloride (Dichloromethane)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Naphthalene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
n-Propylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD

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Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Client Sample ID: Trip Blank
Sample Matrix: Drinking Water
Lab Sample ID: J9L1186-07

Collected By: Michael Emm
Collection Date: 12/19/2019 16:00

Volatile Organic Compounds - GC/MS	Result	Limit(s)	RL	Units	Note	Prepared	Analyzed	Analyst
Styrene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1,1,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1,2,2-Tetrachloroethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Tetrachloroethene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Toluene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2,4-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2,3-Trichlorobenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1,1-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,1,2-Trichloroethane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Trichloroethene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Trichlorofluoromethane (Freon 11)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2,3-Trichloropropane	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,2,4-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
1,3,5-Trimethylbenzene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Vinyl chloride	<0.50	2 NYVOA	0.50	ug/L			01/02/20 1357	RSD
m,p-Xylene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
o-Xylene	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Xylenes (total)	<0.50	5 NYVOA	0.50	ug/L			01/02/20 1357	RSD
Surrogate: 4-Bromofluorobenzene	98.4	Limit: 70-130		% Rec			01/02/20 1357	RSD
Surrogate: 1,2-Dichlorobenzene-d4	91.0	Limit: 70-130		% Rec			01/02/20 1357	RSD

Results in **bold** have exceeded a limit defined for this project. Limits are provided for reference but as regulatory limits change frequently, Microbac Laboratories, Inc. advises the recipient of this report to confirm such limits and units of concentration with the appropriate Federal, state or local authorities before acting on the data.

Definitions

MCL: US EPA Maximum Contaminant Level
NYVOA: New York DOH Part 5 Public Water System MCLs
RL: Reporting Limit
ug/L: Micrograms per Liter

Project Requested Certification(s)

Microbac Laboratories, Inc. - Dayville
11549

New York State Department of Health

Microbac Laboratories, Inc., New York Division
NY Lab ID No.: 10795

New York State Department of Health



Microbac Laboratories, Inc., New York Division

CERTIFICATE OF ANALYSIS

J9L1186

Report Comments

Samples were received in proper condition and the reported results conform to applicable accreditation standard unless otherwise noted.

The data and information on this, and other accompanying documents, represents only the sample(s) analyzed. This report is incomplete unless all pages indicated in the footnote are present and an authorized signature is included.

Reviewed and Approved By:

A handwritten signature in black ink that reads "Renee Lantz". The signature is fluid and cursive, with the first name "Renee" and last name "Lantz" clearly distinguishable.

Renee Lantz

Customer Relationship Specialist

Reported: 01/07/2020 16:35



Microbac Laboratories, Inc., New York Division

Chain of Custody

J9L1186**TAT 7 days**

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project/PO Number: N/A
Tenatively Scheduled: 12/10/2019
Field Route: NY-Route 1 Bing

Client Sample ID: 1-2A Raw

Lab Sample ID: J9L1186-01

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 12-20-19 9:30

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-2A Finished

Lab Sample ID: J9L1186-02

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 12-20-19 9:35

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-3 Raw

Lab Sample ID: J9L1186-03

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 12-20-19 9:40

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 1-3 Finished

Lab Sample ID: J9L1186-04

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 12-20-19 9:45



Microbac Laboratories, Inc., New York Division
Chain of Custody
J9L1186

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project/PO Number: N/A
Tenatively Scheduled: 12/10/2019
Field Route: NY-Route 1 Bing

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Raw

Lab Sample ID: J9L1186-05

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 12-20-19 9:55

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: 4-2 Finished

Lab Sample ID: J9L1186-06

Matrix: Drinking Water

Type: Grab

Sampled Date & Time: 12-20-19 10:00

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear Vial, Ascorbic Acid, HCL V-40ml Clear Vial, Ascorbic Acid, HCL	14.00 days <u>Designator</u> A B

Client Sample ID: Trip Blank

Lab Sample ID: J9L1186-07

Matrix: Drinking Water

Type: Trip Blank

Sampled Date & Time: 12-19-19 16:00
12-20-19 16:00

<u>Analysis</u>	<u>Method</u>	<u>Field Results/Comments</u>	<u>Hold Time</u>
524.2 VOC NY	EPA 524.2, Rv 4.1	<u>Container(s)</u> V-40ml Clear vial, HCL	14.00 days <u>Designator</u> A



Microbac Laboratories, Inc., New York Division

Chain of Custody

J9L1186

Town of Vestal

Project Name: Town of Vestal Monthly/Quarterly

Scott Groats
701 Vestal Parkway West
Vestal, NY 13850-1363
Phone: (607) 748-1514

Project/PO Number: N/A
Tenatively Scheduled: 12/10/2019
Field Route: NY-Route 1 Bing

Sampled/Relinquished by: <i>Michael E</i>	Date/Time: <i>12-20-19 13:40</i>	Received by: <i>Michael E</i>
Printed Name: <i>Bethany Robinson</i>		Printed Name: <i>Michael E</i>
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:
Relinquished by:	Date/Time:	Received by:
Printed Name:		Printed Name:

As Received at Laboratory: On Ice: ☒ Yes / No Temp 1.1 °C Total Containers: 13

Microbac Laboratories may be unable to perform a portion of the requested testing in which case we will subcontract the analysis to an appropriately accredited laboratory. By signing this document you are acknowledging that you have been informed by Microbac that testing could be subcontracted and agree with this arrangement.

Notes:

[Faint, illegible handwritten notes]

APPENDIX B

Data Usability Report



Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, NY 12853

Phone (518) 251-4429

harry@frontiernet.net

December 18, 2019

Jasmine Mullins
Arcadis US, Inc.
855 Route 146 Suite 210
Clifton Park, NY 12065

RE: **Data Usability Summary Report (DUSR)** for the NYSDEC Vestal Site
Eurofins TA SDG No. 480-160866-1

Dear Ms. Mullins:

Review has been completed for the analytical data package noted above, generated by Eurofins TestAmerica that pertains to samples collected 10/10/19 at the NYSDEC Vestal site. Four aqueous samples and a field duplicate were processed for six site-specific per- and polyfluoroalkyl substances (PFAS) by a modified method ISO 25101 and 1,4-dioxane by SW846 method 8270D Selective Ion Monitoring (SIM).

The data packages submitted contain full deliverables for validation, and this DUSR is generated from review of the summary form information, with full validation review of sample raw data, and limited review of associated QC raw data. The reported summary forms have been reviewed for application of validation qualifiers, using guidance from the USEPA Region 2 validation SOPs, the USEPA CLP National Functional Guidelines for Organic Data Review, the specific laboratory methodologies, and professional judgment. The following items were reviewed:

- * Laboratory Narrative Discussion
- * Custody Documentation
- * Holding Times
- * Surrogate, Isotopic Dilution, and Internal Standard Recoveries
- * Preparation/Field/Trip Blanks
- * Laboratory Control Samples (LCSs)
- * Instrumental Tunes
- * Calibration Standards
- * Instrument IDLs
- * Sample Result Verification

The data review includes evaluation of the specific items noted in The NYS DER-10 Appendix B section 2.0 (c). The items listed above that show deficiencies are discussed within the text of this narrative. The laboratory QC forms illustrating the excursions can be found within the laboratory data packages.

In summary, analyses were conducted in compliance with the protocols, and results are usable as reported, with the exception of the minor qualification of one analyte result.

The sample identification summary is attached to this text. Also included with the report are validation qualifier definitions and the laboratory EQUIS EDD that is annotated in red to reflect the qualification recommended within this report.

Data completeness, accuracy, precision, comparability, and representativeness are acceptable.

The following text discusses quality issues of concern.

Blind Field Duplicate

The field duplicate evaluation of WELL 1-3 POST shows acceptable correlations.

1,4-Dioxane by EPA 8270D SIM

Holding times were met, and the blank shows no contamination. Calibration standards showed acceptable responses, and surrogate and internal standard recoveries are within laboratory acceptance ranges.

Matrix spikes of WELL 1-2A shows acceptable recoveries and correlations. LCS recoveries are compliant.

PFAS by Modified ISO 25101

Matrix spikes of WELL 1-2A show outlying recoveries (64%) for PFOS, the result for which is qualified as estimated, with a low bias, in the parent sample. LCS recoveries are compliant.

Holding times were met. Isotopic dilution/surrogate and internal standard recoveries are within validation action limits. The blank shows no contamination. Calibration standards show compliant responses.

Please do not hesitate to contact me if you have comments or questions regarding this report.

Very truly yours,



Judy Harry

Att: Validation Data Qualifier Definitions
Sample Identifications
Qualified Client EDD

VALIDATION DATA QUALIFIER DEFINITIONS

U	The analyte was analyzed for, but was not detected above the level of the associated reported quantitation limit.
J	The analyte was positively identified; the associated numerical value is an approximate concentration of the analyte in the sample.
J-	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased low.
J+	The analyte was positively identified; the associated numerical value is an estimated quantity that may be biased high.
UJ	The analyte was analyzed for, but was not detected. The associated reported quantitation limit is approximate and may be inaccurate or imprecise.
NJ	The detection is tentative in identification and estimated in value. Although there is presumptive evidence of the analyte, the result should be used with caution as a potential false positive and/or elevated quantitative value.
R	The data are unusable. The sample results are rejected due to serious deficiencies in meeting Quality Control limits. The analyte may or may not be present.
EMPC	The results do not meet all criteria for a confirmed identification. The quantitative value represents the Estimated Maximum Possible Concentration of the analyte in the sample.

Sample Summaries

Sample Summary

Client: ARCADIS U.S. Inc
Project/Site: NYSDEC-Standby VESTAL

Job ID: 480-160866-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
480-160866-1	WELL 1-2A	Water	10/10/19 09:50	10/12/19 08:00	
480-160866-2	WELL 1-2A POST	Water	10/10/19 10:05	10/12/19 08:00	
480-160866-3	WELL 1-3	Water	10/10/19 10:10	10/12/19 08:00	
480-160866-4	WELL 1-3 POST	Water	10/10/19 10:20	10/12/19 08:00	
480-160866-5	DUP-1	Water	10/10/19 00:00	10/12/19 08:00	

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending from the left edge of the page towards the right. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.