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To:	Spellman, John (DEC)
Cc:	O"Connor, Maryanne (DEC); "Darrel.Jackson@AVNET.COM"; "Karen H. Davis"; Goldsmith, Christopher
Subject:	RE: AVNET/Channel Master 2022 Annual Report , Ellenville NY
Date:	Thursday, June 15, 2023 3:03:16 PM
Attachments:	image002.png image004.png image005.png image006.png image007.png image001.png image009.png 2022 Annual Report Channel Master Final Rev 01.pdf

Good afternoon, John.

As discussed on our call earlier today, attached is the updated 2022 Annual Report for the former Channel Master Site. The following revisions were made:

- Table 2-2 was updated to include Total Arsenic to align with the results shown on Figure 2-1
- Appendix A was added to include the 2022 laboratory analytical data report

Please let me know if you have any further comments.

Thank you,
Katie

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Subject: AVNET/Channel Master 2022 Annual Report , Ellenville NY

Good morning, John.

Attached is the Annual Report for the 2022 Reporting Year for the former Channel Master Site. As approved by NYSDEC on March 23, 2022, groundwater and CEMR sampling has been reduced to once annually with the presentation of the results in a single comprehensive report.

This is the FIFTH REPORT under the RCRA Corrective Action and Post-Closure Care Order on Consent, dated February 6, 2018.

Please let me know of any questions or concerns.

Thank you,
Katie

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ARCADIS Design & Consultancy for natural and built assets

Avnet Inc.

FORMER CHANNEL MASTER SITE

ELLENVILLE, NEW YORK

ANNUAL REPORT – 2022 REPORTING YEAR

RCRA Corrective Action/Post Closure Consent Order

USEPA ID # NYD042457788

Index No. CO 3-20170802-152

Site No. 356025

May 2023

Rev 01: 6/15/23

,

2022 ANNUAL REPORT

Sampling and Data Evaluation of Annual Groundwater and Chemical Effectiveness Monitoring Report

Prepared for:

AVNET

Prepared by:

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May 12, 2023

Rev 01: 6/15/23

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Certified Project Manager

VERSION CONTROL

Revision No.	Date Issued	Description	Reviewed By
0	May 12, 2023	Submittal of Annual Report for Review and Approval	NYSDEC
1	June 15, 2023	Table 2-2 revision to include Total Arsenic Data and Lab Report Appendix	NYSDEC

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1 Background

Channel Master owned and operated a manufacturing facility in Ellenville, New York until the facility was sold to Imperial Schrade in 1984. Channel Master, which was owned by Avnet Inc. at that time, relocated its operations out of state and agreed to retain responsibility for identified environmental conditions associated with its Channel Master Division at the Ellenville, NY site. In October 1997, Avnet sold its Channel Master Division and again retained its responsibilities associated with its former operations at the Ellenville site, including assuming the role of permittee for a former Part 373 post-closure permit originally issued by the NYSDEC to Channel Master. During 2017-18, negotiations commenced between the State of New York - Department of Environmental Conservation and Avnet to enter into a new Resource Conservation and Recovery Act (RCRA) Corrective Action and Post-Closure Care Consent Order to replace the RCRA Permit (subject to this Annual Report). A final Order on Consent (Index # CO 3-20190802-152) was prepared in January 2018 and was signed on February 6, 2018 by the parties with all workplans of the Part 373 Permit being incorporated into and becoming enforceable under the RCRA Corrective Action and Post-Closure Care Order on Consent. The NYSDEC approved a reduction in the sampling frequency for both the groundwater and chemical effectiveness parameters to annually on March 23, 2022. A Site Management Plan was developed to align with the sampling frequency reductions and will be submitted to the NYSDEC along with the Environmental Easements for the Site.

During its period of operation, Channel Master treated its wastewater in a chemical treatment system within the plant building and in an outdoor surface impoundment (lagoon) on Channel Master's property (see Figure 1). The plant and the surface impoundment were decommissioned under RCRA in accordance with Channel Master's approved Closure Plan. Groundwater beneath the building was found to be contaminated with several volatile organic compounds (VOCs), the primary of which was 1,1,1-trichloroethane (TCA), a solvent used in degreasing. A groundwater recovery and treatment system were installed and has been operating since January 1987 to remedy the groundwater contamination beneath the building. Under its obligations since 1994 and through 2022, Avnet has prepared an Annual Report that included an annual summary of the post-closure care program and the analysis of data from the semi-annual Groundwater and Chemical Effectiveness Monitoring Reports (CEMR) to assure that significant changes could be detected, and corrective measures implemented per the data analysis. As indicated above, the annual report now presents the results from a single comprehensive sampling event for groundwater and chemical effectiveness parameters.

In the third and fourth quarters of 2015 and first quarter of 2016, the site owner at the time (Ellenville Development Partners LLC) performed a demolition of the former Channel Master manufacturing buildings. The demolition activities included removal of all above ground structures while maintaining the integrity of the building floor/pad to avoid potential issues of disrupting the groundwater flow patterns as well as the effectiveness of the groundwater recovery and treatment system. Arcadis monitored the progress of the demolition work to assure no disturbance of the well structures or the creation of infiltration pathways within the building pad occurred during the performance of the work. A relocation of the groundwater treatment system and the establishment of a new operational center on the building pad between the recovery well and BH-20 was performed in a manner that averted operational shutdowns beyond the Module III requirements of the site's former 373 Post Closure Permit. AVNET/Arcadis have carefully monitored the results of the semi-annual groundwater and CEMR permit activities since the

demolition to assure no adverse impact on the environment or the post closure compliance obligations resulted from the building demolition activity. Additionally, AVNET/Arcadis has been engaged in the redevelopment of the site that have commenced in 4th Quarter 2022 to monitor any potential impacts on the Environmental Easement Areas and associated compliance obligations.

2 CHEMICAL EFFECTIVENESS MONITORING

2.1 Historical Monitoring

Channel Master developed a Chemical Effectiveness Monitoring Plan (CEMR) to assess the effectiveness of the corrective action program. The purpose of the plan is to determine the rate of groundwater cleanup and verify that groundwater elevation gradients are being maintained toward the recovery well and BH-20. To satisfy these objectives, the plan proposed use of water quality and water level data collected from the recovery well, BH-20, and eight monitoring wells (BH-1, BH-2, BH-9, BH-11A, BH-11B, BH-16, BH-18, and BH-19).

Earlier evaluations of the effectiveness of the corrective action concluded that pumping the recovery well is effectively removing contaminants from the groundwater. However, during the period from 1989 to early 1992, monitoring well BH-19 had shown an increase in the concentration of TCA, which is used as the indicator parameter in this assessment. From 1993 to 1999, TCA concentrations in BH-19 generally followed a cyclical pattern before beginning a steady decrease in 1999. This monitoring well is located approximately ten feet from the recovery well and is screened deeper (41 to 51 feet below grade) than the others in the network, including the recovery well. To investigate the possibility of induced downward migration of contaminants, Channel Master proposed collecting analytical data from well BH-17 for at least one year. BH-17 is screened deeper than most wells at the site (from 22 to 32 feet below grade) and is in the area of greatest groundwater contamination. As proposed in the evaluation report, groundwater from BH-17 is being analyzed instead of BH-1 (which was originally part of the monitoring network) for comparison to groundwater data obtained from the other deep wells and to determine the significance of the earlier increase detected at BH-19. Although deep well BH-13 was also sampled during both semiannual sampling rounds in 2000 and 2001 to provide additional data on the deeper groundwater under the plant (as requested by the NYSDEC in its letter to Avnet dated January 18, 2000), the NYSDEC discontinued the requirement to sample BH-13 in 2002, since no significant concentrations of TCA were detected there in the four sampling rounds.

In September 1991, Channel Master began pumping an additional recovery well (BH-20) inside the plant building. BH-20 was installed in July 1990 approximately 70 feet west (upgradient) of the existing recovery well, near what was at that time the area of greatest groundwater contamination. BH-20 was not included in the Chemical Effectiveness Monitoring Plan, as it was not being operated at the time the plan was developed; however, the results of pumping BH-20 are evaluated in this Annual Report.

Until October 1992, groundwater samples were collected in the vicinity of both the lagoon area and the corrective action area and analyzed for selected chemical parameters on a quarterly basis, with sampling rounds typically conducted in January, April, July, and October. Several reductions in both the frequency and the number of wells to be sampled have been approved by the NYSDEC; these changes would be eventually incorporated into the Groundwater Monitoring Plan (April 1991). On January 13, 1994, the

NYSDEC issued a letter to Channel Master stating that the sampling of the wells in the lagoon area would be required only semiannually; therefore, beginning in July 1994, the lagoon area wells were not sampled in January and July. However, groundwater samples were still collected quarterly from off-site monitoring well MW-14 through January 1997 because concentrations of cyanide exceeding permit limits had been detected consistently in that well since 1990.

In September 1995 and April-May 1996, Channel Master conducted two phases of a RCRA facility assessment (RFA) to investigate the cyanide issue, and the results indicated that the former lagoon area was not the source of the cyanide contamination. Therefore, the sampling frequency for the entire site was reduced to semiannual as of the sampling round for April 1997. In addition, most of the sampling requirements for the outdoor wells have been eliminated, leaving only three of the wells in the former lagoon area to be sampled semi-annually for arsenic.

NYSDEC agreed in 2004 that there was no longer a need for any of the three off-site wells. In April 2004, personnel from the Town of Wawarsing and the NYSDEC were present to observe Avnet remove off-site monitoring wells MW-12S, MW-12D, and MW-14 in accordance with NYSDEC well decommissioning guidelines.

NYSDEC reduced the sampling frequency for the Site to annual on March 23, 2022, and the overall Site Management Plan was modified to align with this modification.

2.2 Current Monitoring Requirements

Water levels are now measured annually in all sub-slab locations (former “Building Indoor Wells”) and outdoor lagoon monitoring wells. Groundwater quality data, water level data, and groundwater elevation contour maps are now submitted to the NYSDEC in this annual report.

This report covers the period January 1 through December 31, 2022, which is the fifth report under the new RCRA Corrective Action/Post Closure Order on Consent [Note: This Annual Report represents the thirty second year of monitoring data collected after the effective date of the original Part 373]. This report is also being submitted in compliance with the annual assessment requirements of 6NYCRR 373-2.5(e).

As part of the assessment, water level measurements have been examined to identify groundwater level fluctuations and to characterize groundwater flow direction. Groundwater velocity has been characterized using previously reported values of hydraulic conductivity and effective porosity. In addition, measurements of water levels in the corrective action wells have been used to evaluate the influence of the pumping wells on the hydraulic gradient.

Chemical monitoring data for the former surface impoundment have been used to determine if any specific compound is increasing in concentration. Chemical monitoring of the groundwater beneath the former plant slab has been used to assess the effectiveness of the corrective action (pump and treat) program. For clarity, the results of the post-closure monitoring and the corrective action monitoring are discussed separately.

3 POST CLOSURE MONITORING OF THE FORMER SURFACE IMPOUNDMENT

3.1 Hydrology

Monitoring well locations for the lagoon area are shown on **Figure 2-1**.

Hydrogeologic characteristics in the area of the former surface impoundment remain relatively unchanged since 1986. Groundwater elevations have typically shown little seasonal variation. Due to the change in sampling frequency to annual, groundwater elevations from Fall 2021 were compared to Fall 2022 and are presented in the table below.

Monitoring Well	Groundwater Elevation November 2021	Groundwater Elevation Nov 2022	Difference (ft)
MW-2S	290.68	290.66	+0.02
MW-2D	291.00	290.94	+0.06
MW-3	288.23	288.34	-0.11
MW-4	293.46	292.886	+0.58
MW-6	293.82	294.26	-0.36
MW-7	293.19	292.74	+0.45
MW-8S	288.74	288.93	-0.19
MW-8D	288.71	288.77	-0.06
MW-10S	294.46	293.78	+0.68
MW-10D	294.65	293.84	+0.81
MW-11S	293.08	292.89	+0.19
MW-11D	293.03	292.81	+0.22
MW-13S	287.92	288.05	-0.13
MW-13D	288.06	288.09	-0.03
MW-18	283.35	283.43	-0.08

Groundwater flows to the southeast in the area of the former surface impoundment are presented in **Figure 2-1A** for the November 2022 sampling event. Farther downgradient, in the vicinity of the MW-8D and MW-8S well cluster, the flow direction turns eastward. This flow pattern was consistent for the 2022 reporting period and agrees with the assessments of groundwater flow presented in the First Determination Groundwater Analysis, submitted by Malcolm Pirnie for Channel Master in April 1986.

Groundwater flow velocity was estimated using the hydraulic gradient from the November 2022 monitoring event, as shown in **Table 2-1**. The gradient was calculated using the current water level

elevations at wells on common flow paths. The hydraulic conductivity values used to calculate velocity were determined by in situ hydraulic conductivity tests (slug tests) in 1985 and were presented in the First Determination Groundwater Analysis. The effective porosity (N) was assumed to be 0.3 for all calculations, as was done for all previous velocity determinations for the shallow groundwater at this site. This porosity value is representative of the silty sand that comprises most of the material in the shallow water-bearing zone.

In the immediate area of the former lagoon, the groundwater flow velocity was calculated to be approximately 43.8 feet per year in the November 2022 event. This value is based on a flow vector across the former impoundment from MW-10S to MW-2S (groundwater elevation measurements have consistently indicated this to be the approximate direction of groundwater flow in this area). The groundwater flow velocity in the floodplain area downgradient of the former impoundment can no longer be calculated, since off-site monitoring wells MW-14, MW-12S, and MW-12D were removed in April 2004. The last such calculation, using 2003 data, indicated a flow velocity of 373 feet per year using the flow vector from MW-13S to former well MW-14. Calculations and input values are presented in **Table 2-1** and the flow velocities results over the past 20 years have decreased approximately 9-fold. Based upon the estimated flow velocities, the time for groundwater to flow from the southern extent of the former surface impoundment to Sandburg Creek would be in the range of six to seven years.

Contaminants that exited the surface impoundment prior to closure in 1986 should have reached Sandburg Creek before 1990, assuming that the contaminants moved at the same rate as the groundwater. However, even though the source of the contamination was removed, the concentrations of some contaminants decreased very slowly since monitoring began in 1987, indicating that the migration of contaminants in the groundwater had been strongly attenuated, as the rate of contaminant movement was significantly slower than groundwater flow. Retardation of contaminant movement is common in media such as the silty sand in the area of the former impoundment.

3.2 Chemical Monitoring Results for Groundwater

3.2.1 Historical Basis

Beginning in May 1997, groundwater sampling and analyses were eliminated for all monitoring wells in the former lagoon area except for MW-3, MW-8D, and MW-10S, which continued to be sampled semiannually and analyzed only for arsenic through 2021. NYSDEC reduced the sampling frequency for the Site to annual on March 23, 2022, and the overall Site Management Plan was modified to align with this modification. The purpose of this monitoring is to determine if the concentration of dissolved arsenic in these wells continues to exceed the NYSDEC groundwater protection concentration (GWPC) for arsenic and to determine if arsenic concentrations exhibit a statistically significant increasing trend over time. Groundwater samples from the lagoon area are no longer analyzed for cyanide or volatile organic compounds (VOCs).

3.2.2 Current Monitoring Data Results

The new RCRA Corrective Action and Post-Closure Care Order on Consent requires an annual assessment of the sampling data as previously performed under the former Part 373 permit. As part of

this assessment, concentrations for dissolved arsenic detected in monitoring wells MW-3, MW-8D, and MW-10S are summarized in **Table 2-2.**

As presented in **Table 2-2**, dissolved arsenic in MW-3 and MW-10S was below the detection limit during the November 2022 sampling event. MW-8D dissolved arsenic concentration was detected at 14ug/L during the November 2022 sampling event. Linear regression analysis of historic sampling data (discussed in detail in Section 5.3 and presented in **Tables 4-8** and **4-9**) revealed a statistically significant decreasing trend in MW-8D for dissolved arsenic concentrations for all sampling events since January 1987 (most likely related to the decreasing trend in groundwater flow velocities allowing for more natural attenuation) as well as no statistically significant decreasing trend for MW-3. For the most recent 10 years (2013 to 2022), there was a statistically significant decreasing trend in concentration of dissolved arsenic calculated for MW-3 and no statistically significant decreasing trend in concentration of dissolved arsenic in MW-8D over the past decade.

4 CORRECTIVE MEASURE MONITORING BENEATH THE PLANT BUILDING SLAB

4.1 Hydrogeology

Monitoring well locations for the Plant Building/Slab Area are shown on **Figure 3-1**.

As was the case with the former lagoon area wells, the water levels in the shallow and deep wells located in the former building slab area have shown higher water levels in the springtime than the fall which has been the historically typical seasonal variation. The groundwater levels beneath the building slab are also affected by variations in the rate of pumping in the recovery well and BH-20 but do not appear to have had a significant impact related to the demolition of the building structures. Due to the change in sampling frequency to annual, groundwater elevations from Fall 2021 were compared to Fall 2022 and are presented in the table below.

Monitoring Well	Groundwater Elevation Nov 2021	Groundwater Elevation Nov 2022	Difference (ft)
BH-1	297.42	298.22	-0.80
BH-2	297.31	298.13	-0.82
BH-3	298.06	298.74	-.068
BH-4	300.03	300.55	-0.52
BH-7	298.51	299.11	-0.60
BH-9	297.30	298.16	-0.86
BH-10	297.28	297.95	-0.67
BH-11A	301.05	301.45	-0.40
BH-11B	297.33	298.20	-0.87
BH-12	297.18	298.19	-1.01
BH-13	296.86	297.92	-1.06
BH-14	298.81	302.46	-3.65
BH-15	297.40	298.28	-0.88
BH-16	299.10	299.80	-0.70
BH-17	301.00	301.45	-0.45
BH-18	298.18	298.92	-0.74
BH-19	300.99	301.43	-0.44
BH-20	295.50	296.38	-0.88
REC WELL	293.45	282.61	10.88
PZ-1	297.30	298.15	-0.85
PZ-2	297.16	298.12	-0.96

PZ-3	297.10	298.02	-0.92

Groundwater flow beneath the plant building has remained generally constant since the recovery well began pumping in January 1987 as well as since the 2015-16 demolition of the building structures. The current configuration of the contour lines indicates that groundwater beneath the plant building is drawn toward the recovery well and BH-20 as presented in **Figure 3-1A** for the November 2022 sampling event. Groundwater from the area around shallow wells BH-11B and BH-16, which generally contains the highest contaminant concentrations at the site, flows directly towards the recovery well.

BH-20 has been pumped intermittently (due to low sustainable yields) from September 1991 to April 2001 and from October 2002 to the present. During pumping tests in the well after installation in July 1990, drawdown was observed in neighboring wells BH-14, BH-16 and BH-18, indicating that the pumping of BH-20 also induced groundwater flow from the area of greatest contamination. However, the area of greatest contamination in recent years has moved somewhat away from BH-20 and toward the recovery well. BH-20 was not pumped from April 2001, when its pump failed, until October 2002, when BH-20 and its pump were rehabilitated.

The depiction of water level contours in the area of the recovery well is generally consistent from one monitoring event to the next, and the groundwater flow velocities also remain generally consistent with time. The groundwater flow velocity typically increases as the gradient increases toward the pumping wells. [Note: Prior to pumping, groundwater contours indicated groundwater flow toward the east. These contours were relatively parallel and straight, indicating no external influences.]

4.2 Chemical Monitoring Results for Groundwater

4.2.1 Historical Basis

In January 1987, Channel Master began operating a groundwater recovery and treatment system to remedy groundwater contamination beneath the former manufacturing building slab. This corrective action program was developed to remove organic compounds that had been released from leaks in process sewer lines. Groundwater beneath the plant had been sampled on a quarterly basis; however, the NYSDEC approved semi-annual sampling starting in May 1997. Beginning in 2001 per NYSDEC approval, groundwater samples have been collected using passive diffusion bag (PDB) samplers. Although field parameter measurements for temperature, pH, and conductivity are generally not necessary when the PDB method of groundwater sampling is used, measurements of these field parameters continued to compare the historical data with current data.

The RCRA Corrective Action and Post-Closure Care Order on Consent requires Avnet/Channel Master to evaluate monitoring data semiannually to determine the effectiveness of the corrective action program.

NYSDEC reduced the sampling frequency for the Site to annual on March 23, 2022, and the overall Site Management Plan was modified to align with this modification.

Monitoring the shallow groundwater is a key indicator on the effectiveness of the remedy while continuing to monitor the water quality of the deeper groundwater (BH-11A, BH-17, and BH-19) assists in identifying trends in movement of contaminants vertically.

4.2.2 Current Monitoring Data Results

The annual field parameters measured in the building sub-slab (formerly the “building indoor wells”) wells are summarized in **Table 3-1**. The annual concentration values for the VOCs observed in the 2022 sampling events are summarized in **Table 3-2**. **Table 3-3** presents the groundwater protection concentrations (GWPC) for the VOCs that are listed in the new RCRA Corrective Action and Post-Closure Care Order on Consent [adopted from the former Part 373 Permit] which are used for comparing the groundwater contaminants results.

An iso-concentration map (**Figure 3-2**) was constructed using the annual concentrations of TCA in BH-2, BH-9, BH-11B, BH-16, BH-18, BH-20, and the recovery well. This map also shows that the recovery well and BH-20 are positioned near the area of greatest TCA concentrations.

Table 3-2 presents the groundwater results from the shallow monitoring wells BH-2, BH-9, BH-11B, BH-16, and BH-18. 1,1,1-trichloroethane is the key chemical contaminant of concern with monitoring wells BH-11B and BH-16 at annual concentrations exceeding the GWPC of 5 µg/l. Monitoring well BH-2 had a concentration of 1.70 µg/l, BH-9 had a concentration of 2.50µg/l, BH-11B had a concentration of 48 µg/l and BH-16 had a concentration of 400 µg/l. Shallow monitoring wells BH-2, BH-9, BH-11B, and BH-16 also contained other degradation products of 1,1,1-trichloroethane. Groundwater from BH-11B and BH-16 consistently contains the highest concentrations of all contaminants, and the contaminants that appear most frequently and at the highest concentrations are 1,1,1-trichloroethane (TCA) and its degradation products1,1,2-trichloroethane, 1,1-dichloroethane (DCA), 1,1-dichloroethene (DCE), chloroethane, and trichloroethene. Monitoring well BH-16 contained 1,1-dichloroethane at a concentration of 260 µg/l exceeding the GWPC of 5 µg/l as well as contained 1,1,2 Trichloroethane at a concentration of 2.50µg/l exceeding its respective GWPC of 1 µg/l. Monitoring well BH-11B contained 1,1-dichloroethane at a concentration of 26 µg/l exceeding the GWPC of 5 µg/l. Contaminant concentrations did not exceed GWPC in the other shallow wells sampled in 2022.

Table 3-2 presents the groundwater results from the deeper monitoring wells BH-11A, BH-17, and BH-19. No detectable contaminants were found in the deep wells during the 2022 sampling event.

TCA is used as the indicator of the effectiveness of the Channel Master cleanup because of its frequent occurrence at high concentrations in the groundwater. Although high concentrations of TCA remain, sampling results indicate that pumping the recovery well is effectively removing the mass of contaminants from the groundwater. Linear regression analyses applied to the overall historic groundwater quality data show statistically significant decreasing trends (i.e., with at least 95% confidence) in TCA concentrations for samples collected from wells BH-2, BH-9, BH-11A, BH-11B, BH-16, BH-17, BH-18, BH-19, BH-20, and the recovery well. A discussion of linear regression analysis and statistical significance is presented in Section 5. The decreasing trends are evidence that the corrective action program is effectively reducing the concentrations of the key contaminant - 1,1,1-trichloroethane.

5 EVALUATION

5.1 Influence of Pumping on Groundwater Flow

Groundwater elevations were measured in the monitoring wells beneath the building slab (former "Indoor Wells") on November 22, 2022. This data has been used to generate a groundwater contour map which is presented in **Figures 3-1A**. Before the recovery well began operating in 1986, shallow groundwater contours indicated flow toward the east. These contours were parallel and relatively straight. The current bending of the contour lines around the recovery well indicates that shallow groundwater beneath the former plant building slab is drawn toward the recovery well. Groundwater from the area around monitoring wells BH-11B and BH-16, which is the most highly contaminated groundwater at the site, flows generally toward the recovery well as shown on **Figure 3-1A**. The recovery well does not appear to have a significant effect on the deeper groundwater beneath the former plant building slab.

The most recent groundwater contour map (**Figure 3-1A**) and the annual iso-concentration map (**Figure 3-2**) indicate that the contaminant plume appears to be contained by the capture zone when the recovery well is operating. The results of water elevation surveys continue to support the conclusion that the groundwater recovery system is effectively controlling the contamination in the shallow groundwater.

5.2 Quantities of Contaminant Recovered and Removal Rates

TCA has been used in the Annual Report as the indicator of contamination beneath the former Channel Master Plant building. As discussed in the Chemical Effectiveness Monitoring Plan, TCA has been detected in every groundwater monitoring well within the building although not necessarily during every sampling event. TCA has been detected consistently at concentrations higher than other contaminants.

TCA concentrations in the recovery well have been monitored since 1986. TCA concentrations in BH-20 have been monitored since installation of the well in July 1990. TCA concentration data on the recovery well are presented in **Table 4-1**, and data on BH-20 are presented in **Table 4-2**.

To estimate the mass of TCA recovered from the recovery well and from BH-20, the concentration of TCA in the groundwater was multiplied by the volume of water pumped during the period of time between that sampling date and the preceding sampling date (the volume of groundwater pumped from the wells is recorded weekly) using the following equation:

cvA = Mass of TCA removed, in pounds

Where: c = Concentration of TCA, in µg/l

v = Volume of groundwater pumped, in gallons

A= 8.34 x 10^{-9} (pounds/µg)(l/gallon), a conversion factor

Estimates of the mass of TCA recovered from each well since the start of pumping are presented in **Tables 4-1** and **4-2**. The total amount of TCA removed from the recovery well and BH-20 from January 1987 through December 2022 is calculated to be approximately 869.47 pounds, with approximately 0.50

pounds removed in 2022. The year with the greatest removal was 1991, which accounted for more than 170 pounds.

5.3 Determination of Water Quality Trends

5.3.1 Plant Area

5.3.1.1 Historical Basis

In accordance with the RCRA Corrective Action and Post-Closure Care Consent Order, Channel Master has evaluated groundwater sampling data as part of the corrective action program to assess the effect of TCA removal on groundwater quality beneath the plant building. Although the original permit required the sampling of eight monitoring wells (BH-1, BH-2, BH-9, BH-11A, BH-11B, BH-16, BH-18, and BH-19), concentrations of TCA have been monitored in ten wells since 1986. Six of the wells (BH-1, BH-2, BH-9, BH-11B, BH-16 and BH-18) are approximately 20 feet deep and are monitored for both chemical constituents as well as the water table elevations. Four of the wells (BH-11A, BH-13, BH-17, and BH-19) are screened in the deeper zones of the water-bearing formation and are 38, 32, 32, and 51 feet deep, respectively. Before October 1991, deep well BH-17 was only sampled twice: in September 1985 and August 1986. This well is now being sampled instead of BH-1 to investigate the possibility of downward migration of contaminants as discussed later in this section. Deep well BH-13 was sampled twice in 2000 and twice in 2001 to provide additional information about the TCA detected in deep wells BH-11A, BH-17, and BH-19. Since TCA was not detected above GWPC in any of the four samples from BH-13, the well is no longer sampled.

In October 1991, to further investigate the then-increasing concentrations of TCA at BH-19, Channel Master began sampling deep monitoring well BH-17 during quarterly sampling events. BH-17 is in the area of highest groundwater contamination, between wells BH-11B and BH-16, but is screened deeper in the water-bearing zone (22 to 32 feet below ground level). Until 2002, TCA concentrations in BH-17 typically had been at least an order of magnitude less than those detected in BH-16 and BH-11B. However, the TCA concentrations in BH-17 in 2002 and 2003 were of the same order of magnitude as those found in BH-16 (largely because of the significant decrease in TCA concentrations in BH-16 in recent years), although they were still at least an order of magnitude lower than those in BH-11B. In 2006, the historic linear regression analysis for the first time indicated a slight decreasing trend in BH-17, although it was not statistically significant. Even though TCA was detected in the October 2007 sample at 77 µg/l (the first-time TCA had exceeded GWPC in BH-17 since 2003), analysis of historic TCA data through 2022 still indicates a statistically decreasing trend in BH-17. Concentrations in BH-19 have been steadily decreasing since 1992, and TCA has not exceeded GWPC in BH-19 since 2000.

Water quality data collected before the start of the corrective action program were used to determine the average background concentration of TCA in the monitoring wells. Generally, two or three values are available from each well, as shown on **Table 4-3**. These values have been used as initial concentrations for comparison of sampling results since 1987.

TCA data collected since the start of the corrective action program (January 1987) to the present (shown in **Table 4-4**) were used to determine trends in the water quality. Linear regression analysis, a statistical

analysis method considered acceptable by the NYSDEC for this purpose, was used to analyze for trends in the changes in concentration of TCA in each of nine monitoring wells and the two pumping wells from January 1987 through the present (**Table 4-5**). Although contaminant concentrations generally do not vary in accordance with a linear relationship over a long period of time (in fact, they are often best represented by first-order equations of the form $C=Coe^{-Kt}$), linear regression analysis can nonetheless provide a good qualitative indication of whether concentrations are increasing or decreasing and whether or not such trends are statistically significant. Typically, in the case of a contaminant that is attenuating over time, the rate of decrease in concentration is greatest in the beginning but then grows smaller as the concentration starts to level off after some time. Because of this, linear regression analyses using all historic data can obscure recent concentration trends caused by changing conditions. Therefore, to better identify any recent concentration trends, additional linear regression analyses were performed for each well using sampling results from only the most recent 10 years (**Table 4-6**).

The Linear Regression Analysis was performed using a Microsoft Excel 2021 add-in statistical modeling program (Data Analysis ToolPak) which contains advanced features – correlation, one-sample, independent samples, and paired samples t-tests; chi square; repeated and single factor ANOVA, and regression. For the statistical analysis of the Channel Master wells, the key features utilized included the use of correlation, analysis of variance (single factor), hypothesis testing, and regression. The Data Analysis ToolPak report was then interpreted as its information applied to the specific well data obtained in the one sampling event conducted in 2022.

Linear regression analysis produces a number of results, three of which are of particular interest: a correlation coefficient, the equation of the regression line expressed as a slope and Y intercept, and the statistical significance of the analysis. The correlation coefficient (R) is the measure of strength of the linear relationship between the two variables. The value of R ranges from +1 to -1. A value of R equal to +1 indicates a perfect linear relationship between the two variables, while a value of R equal to -1 indicates a perfect inverse relationship between the two variables. A value of R equal to zero indicates no correlation at all between the two variables, meaning that the closer R is to zero, the less likely it is that the two variables are related to each other in a predictable manner.

For the linear regressions performed on the monitoring well data, the y-axis represents TCA concentration while the x-axis represents time. Assuming the relationship is linear, the equation of the regression line allows the estimation of one variable from another. The y-intercept for a given well represents the initial TCA concentration as predicted by the linear regression line (not necessarily equal to the actual initial concentration) while the slope of the regression line represents the time rate of change in the concentration of TCA. However, because groundwater contaminant concentrations generally do not change over time in a linear manner (as explained above), the rate of change calculated in the linear regression analysis should be considered only a rough approximation of the significance of concentration change over time.

The significance factor is a function of both R and the number of data points. Statistically, it is equal to the probability that the null hypothesis has been falsely rejected and, therefore, that the trend indicated by the linear regression is not significant. For the purposes of this evaluation, a five-percent significance level was used (a commonly used value), meaning that the trend for a given well is considered to be statistically significant if the significance factor was less than or equal to 0.05 (i.e., a 95% or greater confidence level).

5.3.1.2 Linear Regression Analyses for Building Sub-Slab (Former Indoor) Wells – Historic to Present Data

The results of the linear regression analyses for the TCA contaminant in building sub-slab (former indoor) plant wells using all historic data and data from only the most recent 10 years are presented in **Tables 4-5** and **4-6**, respectively.

As shown in **Table 4-5**, the linear regression trends are statistically significant at a five-percent level for the recovery well, pumping well BH-20, and all monitoring wells BH-2, BH-9, BH-11A, BH-11B, BH-16, BH-17, BH-18, and BH-19. **Figures 4-1 through 4-10** show the linear regressions and data plots of TCA concentration versus time for all data through 2021 for BH-2, BH-9, BH-11A, BH-11B, BH-16, BH-17, BH-18, BH-19, BH-20, and the recovery well.

Shallow Zone

Linear regression analysis of data from the highest contaminant level shallow monitoring well, BH-16, produces a slope of approximately -10.05 µg/l/year, suggesting that the concentration of TCA has been decreasing at a rate of 3,670 µg/l per year since pumping began (**Table 4-5**). The analysis also indicates that this decreasing trend is statistically significant, although TCA concentrations in BH-16 are now much lower (the concentration for 2022 was 400 µg/l), and the actual rate of decrease is not nearly as significant as it was initially (see **Figure 4-5**). Groundwater from this well had exhibited the highest annual average concentrations of TCA in any well until 1991, after which shallow well BH-11B had consistently exhibited the highest concentrations up to 2011. Since the fall of 2006, the concentrations in both wells have not exceeded the 1000 µg/l level and have been generally fluctuating in the 100 - 400 µg/l range. See **Figure 4-4** for this statistically significant decreasing trend.

Statistically significant decreasing concentration trends were also revealed in other shallow wells. Analyses of data from BH-2 (see **Figure 4-1**), BH-9 (see **Figure 4-2**), and BH-18 (see **Figure 4-7**), indicate that the concentration of TCA is decreasing in those wells at approximate rates of 2.24 µg/l/year, 0.84 µg/l/year, and 46 µg/l/year through 2022, respectively, as shown in **Table 4-5**. **Table 4-5** also indicates that the x-intercept for all wells occurs at a date earlier than this year. This demonstrates that the linear regression analysis, although a good qualitative indicator of increasing/decreasing trends, is not truly indicative of the quantitative relationship between concentration and time, especially when using all the historic data since pumping began.

Deeper Zone

Linear regression analysis of data indicates that the TCA concentration in deep well BH-19 (see **Figure 4-8**), which had exhibited a slight increasing trend through 1999, now exhibits a decreasing trend that is statistically significant. The TCA concentration began to increase in 1989, peaked in early 1992, and then decreased throughout 1992. Since 1993, sampling results essentially followed a stable, cyclical pattern through late 1998. Since then, concentrations have been decreasing steadily, and TCA has not been detected above GWPC in BH-19 since 2000.

TCA concentrations in deep wells BH-11A, and BH-17 are typically below GWPC, and no sample has exceeded GWPC since 2001 for BH-11A and since 2011 for BH-17. Linear regression analysis of data indicates no change in BH-11A and a slight decreasing trend in BH-17 (see **Figures 4-3** and **4-6**) with BH-11A statistically significant and BH-17 statistically significant.

Recovery Wells

Linear regression analysis of BH-20 and the recovery well indicates statistically significant decreasing concentration trends (see **Figures 4-9** and **4-10**). The concentration of TCA is decreasing in those wells at approximate rates of 70 µg/l/year and 26.9 µg/l/year through 2022, respectively, as shown in **Table 4-5**.

5.3.1.3 Linear Regression Analyses for Building Sub-Slab (Former Indoor) Wells – Data from Last 10 Years

As shown in **Table 4-6**, the linear regression trends over the last 10 years are significant at a five-percent level for the monitoring well BH-11B and BH-17which exhibit statistically significant decreasing concentration trends while BH-19 exhibits a statistically significant increasing trend over the 2013-2022 period (as in previous annual report evaluations) however it is at in minimal rate of 0.01 µg/l/year. The significant trends observed in wells BH-2, BH-9, BH-11A, BH-16, BH-18 and BH-19 and BH-20, using historic concentrations is no longer significant when the analysis includes only the results from the last ten years. **Figures 4-11 through 4-20** show the 10-year linear regression data plots of TCA concentration versus time for 2013 data through 2022 for BH-2, BH-9, BH-11A, BH-11B, BH-16, BH-17, BH-18, BH-19, BH-20, and the recovery well.

Shallow Zone

Linear regression analysis **(see Table 4-6)** of the past 10 years of data from the highest contaminant level shallow monitoring well, BH-16, produces a slope of approximately 0.0071 µg/l/year, suggesting that the concentration of TCA has decreased at a rate of 0.3 µg/l per year over the 10-year period 2013-2022; however, the linear regression analysis indicates that this trend is not statistically significant over the 10-year period 2013-2022 (see **Figure 4-15**). Linear regression analysis of past 10 years of data from the second highest contaminant level shallow monitoring well, BH-11B, produces a slope of approximately -0.021 µg/l/year and continues to exhibit a statistically significant decreasing trend at a rate of 8 µg/l per year over the 10-year period 2013-2022 (see **Figure 4-14**). BH-18 produces a slope of approximately 0.000003 µg/l/year and exhibits a slightly increasing trend at a rate of 0.001 µg/l per year that is not significant over the 10-year period 2013-2022

Statistically significant decreasing concentration trends were not revealed in the other two shallow wells using data over the 10-year period 2013-2022. Linear regression analyses of data from BH-2 indicate that the concentration of TCA is decreasing in BH-2 wells at a rate of 0.31 µg/l/year over the 10-year period 2013-2022 (see **Figure 4-11**). However, BH-9 is showing a slight increase in concentration at 0.23 µg/l/year that is not significant over the 10-year period 2013-2022 (see **Figure 4-12**).

Deeper Zone

Linear regression analysis of the past 10 years of data from the deeper wells BH-11A and BH-19 is showing a neutral to slight increase status over the 10-year period 2013-2022 (See **Figure 4-13** and **4-18**). **Table 4-6** suggests that the concentration of TCA has been increasing at a rate of 0.19 µg/l per year for BH-11A and increasing at a rate of 0.02 µg/l per year for BH-19 over the 10-year period 2013-2022.

BH-17 revealed a statistically significant decreasing trend over the 10-year period 2013-2022 at a rate of 0.20 µg/l per year.

Recovery Wells

Linear regression analysis of the past 10 years of data from the recovery well did reveal a statistically significant decreasing trend over the 10-year period 2013-2022 (See **Table 4-6** and **Figure 4-20**) supporting the overall historic data which showed a statistically significant decrease. A more detailed evaluation of the recovery well (**Figure 4-20**) suggests that the TCA data had been approaching more neutral trend; however, an abnormal high result in the second half of 2013 (66 µg/l) impacts the 10-year trend. It should be noted that the recovery well shows a decreasing trend in concentrations at a rate of 2.4 µg/l per year over the 10-year period 2013-2022 which is statistically significant. Linear regression analysis of the past 10 years of data from BH-20 did not reveal a statistically significant trend in this well over the 10-year period 2013-2022 (See **Table 4-6** and **Figure 4-19**) even though there is a significant decreasing trend over all historic data. However, the linear regression trend for BH-20 is showing a potential decrease in contaminant concentrations reaching this well at a rate of 3.7 µg/l per year.

5.3.2 Lagoon Area

5.3.2.1 Historical and Statistical Basis

The annual groundwater concentrations of dissolved arsenic did not exceed GWPC in any of the monitoring wells during the 2022 events (see **Table 2-2**). When the annual concentration of a contaminant exceeds GWPC in a particular well in the post-closure monitoring program, the RCRA Corrective Action and Post-Closure Care Order on Consent requires a statistical analysis to be performed on the water quality data from that well to determine if a statistically significant increasing trend exists. If a significant increasing trend is indicated, the need for a change in the monitoring approach must be evaluated, possibly resulting in a permit modification. The permit requires that this determination be made using a statistical method acceptable to the NYSDEC. Because the NYSDEC has approved the use of linear regression analyses for this determination in previous annual reports, this method was again used for this purpose. Concentrations measured in wells were assessed individually as a function of time. When a parameter was not detected, a value of one half of the detection limit, as specified in the RCRA Corrective Action and Post-Closure Care Order on Consent, was used in the calculation.

For the linear regressions performed on the former Lagoon Area monitoring well data, the y-axis represents dissolved arsenic concentration while the x-axis represents time. Assuming the relationship is linear; the equation of the regression line allows the estimation of one variable from another. The y-intercept for a given well represents the initial dissolved arsenic concentration as predicted by the linear regression line (not necessarily equal to the actual initial concentration) while the slope of the regression line represents the time rate of change in the concentration of dissolved arsenic. However, because groundwater contaminant concentrations generally do not change over time in a linear manner (as explained above), the rate of change calculated in the linear regression analysis should be considered only a rough approximation of the significance of concentration behavior over time.

The Linear Regression Analysis was performed using a Microsoft Excel 2021 add-in statistical modeling program (Data Analysis ToolPak). The linear regression interpretations were performed using the same

procedures as those used for the plant sub-slab (formerly indoor wells), and a significance level of five percent was again used to determine if a given trend was statistically significant. The dissolved arsenic data from 1987 to the present is in **Table 4-7**.

5.3.2.2 Linear Regression Analyses for Lagoon Area – Historic to Present Data

The annual dissolved arsenic concentrations (see **Table 2-2**) in MW-3 and MW-8D were non-detect (10U µg/l) and 14 µg/l, respectively, with both below the 25 µg/l GWPC for dissolved arsenic. Linear regression analysis of historic dissolved arsenic data from 1987 to the present is shown in **Table 4-8** and was performed on both wells even though not required by the permit. **Table 4-8** indicates a decreasing trend in MW-3 at a rate of 0.37 µg/l/year over all historical data (see **Figure 4-21**) which is not statistically significant and a decreasing trend in MW-8D at a rate of 1.12 µg/l/year over all historical data (see **Figure 4-22**) which is statistically significant.

5.3.2.3 Linear Regression Analyses for Lagoon Area – Data from Last 10 Years

Linear regression analysis using the dissolved arsenic data over the 10-year period 2013-2022 reveals a decreasing trend in MW-3 (see **Figure 4-23**) and in MW-8D (see **Figure 4-24**). **Table 4-9** reveals that the decreasing at rate of 5.34 µg/l/year in MW-3 which is statistically significant and decreasing rate of 4.85 µg/l/year in MW-8D which is not statistically significant. Therefore, modification of the monitoring plan is not necessary under the permit conditions. In addition, the background dissolved arsenic concentration, as determined from the upgradient well MW-10S, has been variable at times and has exceeded GWPC on three occasions since 1987 (no detection of dissolved arsenic was determined in 2022), indicating that arsenic concentrations in groundwater both upgradient and downgradient of the former lagoon may be affected by a source other than the former lagoon.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Shallow Zone and Recovery Wells

Water quality data and water level data collected from wells located beneath the building sub-slab (formerly the “inside wells”) of the former plant building continue to indicate that pumping from the recovery well is removing contaminants from the groundwater and preventing the plume from migrating off-site. Groundwater quality in BH-16 and BH-11B, the two most contaminated shallow wells, has improved significantly as a result of the pumping. A comparison of the most recent groundwater contour maps (**Figures 3-1A**) and the annual iso-concentration map (**Figure 3-2**) indicate that the contaminant plume is effectively contained within the capture zones of the recovery well and pumping well BH-20. There appears to be no statistical significance of the recent elevated levels in the downgradient well BH-9 and over the entire history still show a statistically significant decreasing trend. In 2022, TCA was not detected in BH-9 in November 2022. Also, there has not been any significant changes in the contaminated well network concentration profile or groundwater elevation contours which indicates that the shallow zone is not being affected by the demolition of the building structures. These facts continue to support the conclusion that the current corrective action program is effectively controlling the contaminant plume and therefore should continue.

Linear regression analysis of the shallow groundwater monitoring wells and the two recovery wells indicates that all wells show a statistically significant decreasing TCA trend when evaluating the historic groundwater data. Considering the most recent 10-year period of 2013 to 2022, BH-11B shows statistically significant decreasing trends when evaluating the TCA data over the 10-year period while all other shallow wells neither show a statistically significant increasing nor decreasing trend when evaluating the TCA data over the 10-year period.

Shallow wells BH-2, BH-9, BH-11B, BH-16, and BH-18 will continue to be sampled as required under the RCRA Corrective Action and Post-Closure Care Order on Consent. In addition, the recovery well and pumping well BH-20 will continue to be sampled in 2023 in accordance with the SPDES discharge permit, and this data will also be used to help assess groundwater conditions beneath the former plant building especially since the demolition of the building that occurred in the second half of 2015 and the first quarter of 2016.

6.2 Deeper Zone

Historic sampling results from the deeper wells indicate that downward contaminant migration might have occurred to some degree, although TCA concentrations in the deep wells now appear to be stabilizing below GWPC since 2001 in BH-11A and since 2000 in BH-19. TCA was detected above GWPC in BH-17 since 2003 only once marginally in 2009.

Linear regression analysis of the deeper groundwater monitoring wells indicates that all wells (BH-11A, BH-17 and BH-19) show statistically significant decreasing TCA trend when evaluating the entire historic groundwater data. When evaluating the 10-year data from 2013 to 2022, BH-17 and BH-19 indicate a statistically significant decreasing or neutral trend when evaluating the TCA data over the 10-year period

2013 to 2022 and BH-11A does not indicate a statistically significant increasing trend when evaluating the TCA data over the 10-year period 2013 to 2022.

Deep wells BH-11A, BH-17, and BH-19 will continue to be sampled in 2023 to monitor contaminant concentrations in the deep groundwater as required by the RCRA Corrective Action and Post-Closure Care Order on Consent.

6.3 Lagoon Area

Annual dissolved arsenic concentrations in monitoring well MW-3 and MW-8D are below the GWPC of 25 µg/l for 2022 events.

Linear regression analysis of historic dissolved arsenic data indicates a decreasing trend in both MW-3 which is not statistically significant and MW-8D which is statistically significant. Linear regression analysis over the 10-year period 2013 to 2022 reveals a statistically significant decreasing trend in MW-3 and a decreasing trend in MW-8D that is not statistically significant.

Arsenic concentrations will continue to be monitored in MW-3 and MW-8D as well as the upgradient well MW-10S in 2023, as required by the RCRA Corrective Action and Post-Closure Care Order on Consent.

TABLES

TABLE 2-1

CALCULATION OF GROUNDWATER VELOCITIES BETWEEN WELL PAIRS AT FORMER SURFACE IMPOUNDMENT AREA 2022 Former Channel Master Site Ellenville, NY

Former Lagoon Area

DATE	GROUNDWATER ELEVATION (ft msl)			Horizontal Separation (ft)	I (ft/ft)	K (ft/day)	N	V (ft/day)	V (ft/year)
	MW-10S	MW-2S	Difference (ft)						
November 21, 2022	293.78	290.66	3.12	260	0.0120	3.0	0.3	0.120	43.8

Downgradient Floodplain Area (2003) *

DATE	GROUNDWATER ELEVATION (ft msl)			Horizontal Separation (ft)	I (ft/ft)	K (ft/day)	N	V (ft/day)	V (ft/year)
	MW-13S	MW-14 *	Difference (ft)						
May 29, 2003	288.39	284.50	3.89	190	0.0205	15.0	0.3	1.02	374
October 23, 2003	288.26	284.38	3.88	190	0.0204	15.0	0.3	1.021	373

Notes:

I = Hydraulic gradient
N = Effective Porosity
V = KI/N
Values for hydraulic conductivity (K) and effective porosity (N) are from the First Determination Groundwater Analysis, 1987
* MW-14 decommissioned and removed April 2004

TABLE 2-2

FORMER CHANNEL MASTER SITE
POST-CLOSURE GROUNDWATER MONITORING -
FORMER LAGOON AREA
DISSOLVED AND TOTAL ARSENIC
2022 Annual Report
SAMPLING DATE: November 21-22, 2022

PARAMETER	MW-3	MW-8D	MW-10S	GWPC *
Dissolved Arsenic	10 U	14	10 U	25
Total Arsenic	**85**	**340**	**28**	

Notes:

Concentrations in ug/l

U - Compound was undetected at the specified detection limit

* Groundwater protection concentration from Part 373 Permit Module V. Sec 8(a)

TABLE 3-1

FIELD PARAMETERS IN PLANT WELLS
2022
Former Channel Master Site
Ellenville, NY

MONITORING WELL NUMBER	TEMPERATURE (degrees celsius)	pH (std units)	CONDUCTIVITY (umhos)
BH-2	12.09	7.11	499
BH-9	13.73	6.87	462
BH-11A	13.61	6.79	417
BH-11B	13.61	6.55	370
BH-16	14.90	6.53	364
BH-17	13.38	6.94	621
BH-18	13.35	5.22	367
BH-19	12.90	6.78	282

TABLE 3-2

CONCENTRATIONS OF VOLATILE ORGANIC COMPOUNDS IN PLANT WELLS (ug/L)
2022
Former Channel Master Site
Ellenville, NY

			WELL NUMBER															
PARAMETER	GWPC	MDL	BH-2		BH-9		BH-11A		BH-11B		BH-16		BH-17		BH-18		BH-19	
1,1,1-Trichloroethane	5.0	0.24	1.70		2.50		0.50	U	**48.00**		**400.00**	**D**	0.50	U	0.50	U	0.50	U
1,1,2,2-Tetrachloroethane	*	0.50	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U
1,1,2-Trichloroethane	1	0.20	0.43	U	0.43	U	0.43	U	0.39	U	**2.50**		0.43	U	0.43	U	0.43	U
1,1-Dichloroethane	5	0.27	1.10		3.10		0.42	U	**26.00**		**260.00**	**D**	0.42	U	0.42	U	0.42	U
1,1-Dichloroethene	*	0.27	0.42	U	0.42	U	0.42	U	0.42	U	3.40		0.42	U	0.42	U	0.42	U
1,2-Dichlorobenzene	5	0.18	0.50	U	0.50	U	0.50	U	0.50	U	0.42	U	0.50	U	0.50	U	0.50	U
1,2-Dichloroethane	0.6	0.30	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U	0.42	U
1,2-Dichloroethene (total)	5	0.30	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
1,2-Dichloropropane	1	0.30	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
1,3-Dichlorobenzene	5	0.20	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U	0.50	U
1,4-Dichlorobenzene	5	0.20	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U	0.54	U
2-Chloroethylvinylether	*	0.31	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
Bromoform	*	0.21	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U	0.78	U
Bromomethane	5	0.27	0.60	U	0.60	U	0.60	U	0.60	U	0.60	U	0.60	U	0.60	U	0.60	U
Carbon tetrachloride	5	0.30	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
Chlorobenzene	5	0.26	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U	0.41	U
Chlorodibromomethane	*	0.22	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
Chloroethane	*	0.50	0.43	U	0.43	U	0.43	U	0.43	U	5.50		0.43	U	0.43	U	0.43	U
Chloroform	7	0.19	0.69	U	0.69	U	0.69	U	0.69	U	0.35	U	0.69	U	0.69	U	0.69	U
Chloromethane	*	0.39	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U
cis-1,3-Dichloropropene	0.4	0.18	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U	0.43	U
Dichlorobromomethane	*	0.29	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U	0.44	U
Dichlorodifluoromethane	5	0.34	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U	0.35	U
Methylene chloride	5	0.27	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U	1.00	U
Tetrachloroethene	*	0.31	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U	0.45	U
trans-1,3-Dichloropropene	0.4	0.29	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U	0.51	U
Trichloroethene	5	0.28	0.45	U	0.45	U	0.45	U	0.45	U	1.00		0.45	U	0.45	U	0.45	U
Trichlorofluoromethane	5	0.25 U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U	0.52	U
Vinyl chloride	2	0.15	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U	0.49	U

GWPC - Groundwater Protection Concentration, from Table III-3 of NYSDEC Post-Closure Permit

* - Well is screened deeper than other wells

** - From New York State Water Quality Regulations - Title 6, Chapter 10 Parts 700-705, as amended August 1999

U - Compound undetected at the specified detection limit.

Mean value uses full J values and one-half of the detection limit for ND to calculate mean.

Blank - indicates that compound was not detected (ND) in all sampling events.

Compound detected

TABLE 3-3

GROUNDWATER PROTECTION CONCENTRATIONS FOR VOLATILE ORGANIC COMPOUNDS
Former Channel Master Site
Ellenville, NY

PARAMETER	CONCENTRATION (ug/L)
Benzene	ND [1]
Chlorobenzene	5
Chloroform	7 [2]
1,2-Dichlorobenzene	3 [2]
1,3-Dichlorobenzene	3 [2]
1,1-Dichloroethane	5
1,2-Dichloroethane	5
1,1-Dichloroethylene	5
Trans-1,2-Dichloroethylene	5
Methylene Chloride	5
1,1,2,2-Tetrachloroethane	5
Toluene	5
1,1,1-Trichloroethane	5
Trichloroethylene	5

NOTES:

(1) Not Detected using EPA Method 624
(2) GWPC listed is from New York State Water Quality Regulations - Title 6, Chapter 10 Parts 700-705, as revised March 1999

TABLE 4-1

1,1,1-TCA CONCENTRATIONS AND REMOVAL IN RECOVERY WELL
Former Channel Master Site
Chemical Effectiveness Monitoring

SAMPLING DATE	TCA CONCENTRATION IN WATER (ug/l)	WATER PUMPED* (gallons)	TCA REMOVED (pounds)	TCA REMOVAL RATE (lbs/day)
3/18/1986	19	0		
12/3/1986	7500	0		
12/8/1986	3100	81000	2.1	0.419
1/14/1987	2300	180910	3.5	0.094
2/20/1987	920	941560	7.2	0.195
3/20/1987	630	873500	4.6	0.164
4/29/1987	860	1120240	8.0	0.201
5/27/1987	150	608350	0.76	0.027
6/11/1987	1100	295070	2.7	0.180
7/28/1987	710	966190	5.7	0.122
8/18/1987	520	569900	2.5	0.118
9/15/1987	670	732400	4.1	0.146
10/12/1987	1100	751920	6.9	0.255
11/19/1987	860	944670	6.8	0.178
1/20/1988	1900	1611970	26	0.412
2/17/1988	1300	227410	2.5	0.088
3/18/1988	2200	620380	11	0.379
4/7/1988	840	556180	3.9	0.195
5/18/1988	450	571190	2.1	0.052
6/7/1988	660	0	0.0	0.000
7/12/1988	620	0	0.0	0.000
8/30/1988	730	569960	3.5	0.071
9/30/1988	640	164950	0.88	0.028
10/27/1988	460	439310	1.7	0.062
11/30/1988	360	1225510	3.7	0.108
12/22/1988	750	462160	2.9	0.131
1/17/1989	470	446290	1.7	0.067
2/8/1989	670	475070	2.7	0.121
3/29/1989	330	1199950	3.3	0.067
5/2/1989	170	319080	0.45	0.013
5/22/1989	5.1	262740	0.011	0.001
6/30/1989	470	464420	1.8	0.047
7/6/1989	320	0	0.0	0.000
8/2/1989	370	363790	1.1	0.042
9/12/1989	260	1680180	3.6	0.089
10/4/1989	320	985570	2.6	0.120
10/25/1989	380	975570	3.1	0.147
12/13/1989	290	1739400	4.2	0.086
1/9/1990	480	431730	1.7	0.064
2/6/1990	1000	528180	4.4	0.157
3/3/1990	1100	426570	3.9	0.157
4/2/1990	640	923500	4.9	0.164
5/10/1990	460	1152430	4.4	0.116
6/4/1990	380	1419860	4.5	0.180
7/1/1990	290	0	0.0	0.000
8/7/1990	250	3049880	6.4	0.172
9/4/1990	220	1703420	3.1	0.112

TABLE 4-1

1,1,1-TCA CONCENTRATIONS AND REMOVAL IN RECOVERY WELL
Former Channel Master Site
Chemical Effectiveness Monitoring

SAMPLING DATE	TCA CONCENTRATION IN WATER (ug/l)	WATER PUMPED* (gallons)	TCA REMOVED (pounds)	TCA REMOVAL RATE (lbs/day)
10/8/1990	320	2054910	5.5	0.161
11/6/1990	250	1261917	2.6	0.091
12/10/1990	280	1791263	4.2	0.123
1/9/1991	640	8086540	4.2	0.140
2/9/1991	330	1093430	3.0	0.097
3/6/1991	310	862420	2.2	0.089
4/20/1991	290	2432100	5.9	0.131
7/24/1991	270	2639010	5.9	0.063
10/15/1991	5000	3464990	144	1.741
12/21/1991	430	3211800	12	0.172
6/19/1992	890	7858630	58	0.322
12/7/1992	310	5733730	15	0.087
7/9/1993	195	4164728	6.8	0.032
12/6/1993	300	3789014	9.5	0.063
10/25/1994	970	8423700	68	0.211
3/28/1995	2000	4139800	69	0.448
7/12/1995	970	3354600	27	0.256
12/5/1995	200	4766100	7.9	0.054
6/11/1996	780	4398500	29	0.151
12/17/1996	1800	4297700	65	0.341
6/10/1997	160	3151400	4.2	0.024
12/16/1997	120	4643400	4.6	0.025
4/28/1998	360	4258800	13	0.096
12/10/1998	160	5930800	7.9	0.035
6/24/1999	66	3907100	2.2	0.011
12/28/1999	170	5397900	7.7	0.041
6/13/2000	340	4098800	11.6	0.069
12/29/2000	270	5491500	12.4	0.062
6/12/2001	170	5710200	8.1	0.049
12/26/2001	36	6573900	2.0	0.010
6/25/2002	36	4680800	1.4	0.0078
12/31/2002	26	5184000	1.1	0.0059
6/24/2003	40	5627400	1.9	0.011
12/30/2003	140	5525800	6.5	0.034
6/29/2004	130	6198100	6.7	0.037
12/28/2004	0	5540600	0.0	0.000
6/28/2005	32	5317700	1.4	0.0078
12/27/2005	0	4438700	0.0	0.000
6/28/2006	23	4667300	0.90	0.0049
12/27/2006	41	5061500	1.7	0.010
6/26/2007	16	5288400	0.71	0.0039
12/24/2007	15	5007800	0.63	0.0035
6/24/2008	19	4378500	0.69	0.0038
12/30/2008	39	3677500	1.20	0.0063
6/30/2009	13	3752500	0.41	0.0022
12/30/2009	16	4403800	0.59	0.0032
6/29/2010	12	3898500	0.39	0.0022

TABLE 4-1

1,1,1-TCA CONCENTRATIONS AND REMOVAL IN RECOVERY WELL
Former Channel Master Site
Chemical Effectiveness Monitoring

SAMPLING DATE	TCA CONCENTRATION IN WATER (ug/l)	WATER PUMPED* (gallons)	TCA REMOVED (pounds)	TCA REMOVAL RATE (lbs/day)
12/28/2010	19	4132300	0.65	0.0036
6/15/2011	11	4750000	0.44	0.0026
12/28/2011	9.4	4941900	0.00	0.0000
6/30/2012	14	4951000	0.58	0.0031
12/26/2012	22	5283500	0.97	0.0054
6/28/2013	16	5503000	0.73	0.0040
12/31/2013	66	5214300	2.87	0.0154
6/25/2014	22	4860400	0.89	0.0051
12/30/2014	18	4812400	0.72	0.0038
6/5/2015	14	4427300	0.52	0.0033
12/29/2015	18	5227600	0.78	0.0038
6/30/2016	19	3794107	0.60	0.0033
12/30/2016	26	4926193	1.07	0.0058
6/30/2017	23	4090300	0.78	0.0043
12/27/2017	14	3594000	0.42	0.0023
6/30/2018	13	4158500	0.45	0.0024
12/31/2018	14	5078800	0.59	0.0032
6/3/2019	14	4241800	0.50	0.0032
12/1/2019	15	2691900	0.34	0.0019
6/30/2020	16	3011700	0.40	0.0019
12/31/2020	6	4571400	0.23	0.0012
6/29/2021	6	4513800	0.23	0.0013
12/28/2021	9.2	3491900	0.27	0.0015
6/28/2022	11	3031800	0.28	0.0015
12/27/2022	10	2349700	0.20	0.0011
TOTALS		350,349,542	830.50	

Notes:
* Gallons pumped is measured from previous sampling date.
Updated 1/2023

TABLE 4-2

1,1,1-TCA CONCENTRATIONS AND REMOVAL IN BH-20
Former Channel Master Site
Chemical Effectiveness Monitoring

SAMPLING DATE	TCA CONCENTRATION IN WATER (ug/l)	WATER PUMPED* (gallons)	TCA REMOVED (pounds)	TCA REMOVAL RATE (lbs/day)
7/13/1990	4300	12,487	0.45	0.090
7/25/1990	270	0	0.00	0.000
10/17/1990	860	0	0.00	0.000
1/9/1991	2100	0	0.00	0.000
10/15/1991	2700	16,410	0.37	0.018
12/21/1991	4800	88,290	3.5	0.053
1/15/1992	2800	32,880	0.77	0.031
6/19/1992	4100	201,990	6.9	0.044
12/7/1992	1800	182,170	2.7	0.016
7/7/1993	740	330,450	2.0	0.010
12/6/1993	790	118,620	0.78	0.0051
10/25/1994	3000	324,410	8.1	0.025
3/28/1995	1700	124,490	1.8	0.011
7/12/1995	930	85,160	0.66	0.0062
12/5/1995	850	124,840	0.88	0.0061
6/11/1996	630	217,360	1.1	0.0060
12/17/1996	1400	192,540	2.2	0.012
6/10/1997	560	190,070	0.89	0.0051
12/16/1997	600	153,750	0.77	0.0041
4/28/1998	370	156,550	0.48	0.0036
12/10/1998	350	226,630	0.66	0.0029
6/24/1999	190	194,730	0.31	0.0016
12/28/1999	130	146,970	0.16	0.0009
6/13/2000	410	250,780	0.86	0.0051
12/29/2000	240	266,290	0.53	0.0027
12/31/2002	0	209,410	0.00	0.0000
6/24/2003	34	226,960	0.064	0.00037
12/30/2003	170	296,080	0.42	0.0022
6/29/2004	75	239,060	0.15	0.00082
12/28/2004	21	108,140	0.019	0.00010
6/28/2005	48	254,480	0.10	0.00056
12/27/2005	130	189,520	0.21	0.00113
6/28/2006	110	192,330	0.18	0.00096
12/27/2006	160	200,010	0.27	0.00147
6/26/2007	41	234,690	0.080	0.00044
12/24/2007	59	104,060	0.051	0.00028
6/24/2008	84	174,380	0.14	0.00075
12/30/2008	350	68,000	0.14	0.00105
6/30/2009	65	84,360	0.05	0.00025
12/30/2009	71	84,380	0.05	0.00027
6/29/2010	45	137,270	0.05	0.00028
12/28/2010	83	70,630	-1.80	-0.00991
6/15/2011	45	138,690	1.06	0.00626
12/28/2011	50	206,800	0.08	0.00043
6/30/2012	52	66,660	0.03	0.00015
12/26/2012	65	61,170	0.03	0.00019
6/28/2013	55	89,650	0.04	0.00022
12/31/2013	63	96,070	0.05	0.00027
6/25/2014	17	88,060	0.01	0.00007
12/30/2014	133	63,540	0.07	0.00037
6/5/2015	41	67,840	0.02	0.00013
12/29/2015	32	40,990	0.067	0.00003
6/30/2016	13	31,590	0.003	0.00002
12/30/2016	160	19,400	0.026	0.00014
6/30/2017	92	54,880	0.042	0.00023
12/27/2017	26	47,610	0.010	0.00006
6/30/2018	14	71,340	0.008	0.00005
12/31/2018	15	61,310	0.008	0.00004
6/3/2019	46	62,980	0.024	0.00016
12/1/2019	20	28,440	0.005	0.00003
6/30/2020	110	62,620	0.057	0.00027
12/31/2020	29	40,650	0.010	0.00005
6/29/2021	62	135,880	0.070	0.00039
12/28/2021	4	99,720	0.003	0.00002
6/28/2022	7.3	80,930	0.005	0.00003
12/27/2022	32	64,290	0.017	0.00009
TOTALS		8,292,737	38.97	

Notes:
* Gallons pumped is measured from previous sampling date.
Pumping of BH-20 ceased in April 2001 and was continued in July 2002.

Updated 1/2023

TABLE 4-3

INITIAL 1,1,1-TCA CONCENTRATIONS
Former Channel Master Site
Ellenville, NY

SAMPLING EVENT DATE

Well Screen Interval (ft bgl)	BH-1 10-20	BH-2 10-20	BH-9 10-20	BH-11A 28-38	BH-11B 10-20	BH-16 10-20	BH-17 22-32	BH-18 10-20	BH-19 41-51
1985									
13-Jun	0.5 *	19.5	17.0						
17-Jul	2.0	17.0	4.0						
17-Sep				0.5 *	37,800	276,000	226	19,930	
17-Dec					13,300				
1986									
18-Mar				30.0					18.0
20-Jun		0.5 *	0.5 *						
16-Sep	9.3		38.0		140,000	900,000	0.8 *	9,200	0.8 *
03-Dec						170,000			
Sample average (1985-86)	3.9	12.3	14.9	15.3	63700.0	448667	113	14565	9.4

NOTES: Blank space indicates well was not sampled
* indicates a value of one-half the detection limit for samples in which TCA was not detected
ft bgl = feet below grade level
All concentrations presented in units of ug/l.

TABLE 4-4

1,1,1-TCA CONCENTRATION HISTORY
Former Channel Master Site, Ellenville, NY
Chemical Effectiveness Monitoring Network

Well No.		BH-1	BH-2	BH-9	BH-11A	BH-11B	BH-16	BH-17	BH-18	BH-19
Well Screen Interval (ft bgl)		10-20	10-20	10-20	28-38	10-20	10-20	22-32	10-20	41-51
Average Initial Concentration (data collected 1985-1986)		3.9	12.3	14.9	15.3	63,700	448,667	113	14,565	9.4
1987	20-Feb						304,000			
	29-Apr					24,000	90,000			9.4
	27-May					100,000	470,000			14.0
	18-Aug		94	30	0.15 *	41,000	170,000		1,600	93.0
average			94	30	0.15 *	55,000	258,500		1,600	39
1988	20-Jan		57	65	0.15 *	46,000	69,000		560	1.1
	07-Apr		260	23	2.5	39,000	150,000		950	4.8
	21-Jul		380	8.3	1.2	3,500	66,000		990	0.55
	27-Oct		31	17	2.7	11,000	210,000		410	0.95
average			182	28	1.6	24,875	123,750		728	1.9
1989	17-Jan		38	7.4	1.9	17,000	370,000		1,300	2.5
	01-May	1.5	17		1.2	12,000	48,000		120	0.4
	05-Jul	2.1	200	180	0.33	22,000	26,000		660	130.0
	25-Oct	8.8	79	16	11.0	20,000	110,000		330	92.0
average		4.1	84	68	3.6	17,750	138,500		603	56
1990	23-Jan	100	50	6.2	0.15 *	36,000	78,000		450	46
	10-May	100	160	19	1.6	18,000	63,000		150	54
	25-Jul	8.3	43	11	1.1	18,000	28,000		3,600	47
	17-Oct	3.2	16	7.4	1.0	25,000	59,000		490	190
average		53	67	11	0.96	24,250	57,000		1,173	84
1991	09-Jan	10	58	7.0	1.4	13,000	12,000		700	130
	24-Apr	3.2	54	11	3.4	6,100	16,000		310	170
	24-Jul	4.4	32	9.7	0.48	28,000	12,000		160	70
	15-Oct		41	4.8	4.8	19,000	19,000	11	12	190
average		5.9	46	8	2.5	16,525	14,750	11	296	140
1992	16-Jan		32	10	0.2 *	31,000	2,400	1.6	1,100	250
	07-Apr		14	7.8	5.4	17,000	6,100	1.5	1,700	250
	22-Jul		12	7.3	6.8	18,000	11,000	89	1,900	140
	20-Oct		8.0	5.3	0.7	6,700	13,000	2.8	160	160
average			17	7.6	3.3	18,175	8,125	24	1,215	200
1993	26-Jan				5.7	14,000	4,200	0.75	2,300	68
	07-Apr		9.0	300.0	2.0	180	5,500	0.80	4.1	14
	06-Jul		14	6.8	0.25 *	11,800	3,270	18.4	13	21
	02-Nov		0.25 *	0.25 *	0.25 *	13,000	12,000	160	150	93
average			7.8	102	2.1	9,745	6,243	45	617	49
1994	01-Feb		6.3	17	7.2	9,000	4,900	62	450	41
	13-Apr		4.5	21	6.0	9,000	5,000	0.25 *	120	23
	06-Jul		32	1.2	2.9	10,000	4,000	190	180	18
	12-Oct		21	3.2	2.1	5,300	8,400	110	300	90
average			16	11	4.6	8,325	5,575	91	263	43
1995	10-Jan		7.7	3.6	0.25 *	5,800	2,300	2.7	620	37
	11-Apr		25	1.9	2.5	5,600	1,500	6.4	120	13
	12-Jul		12	3.8	0.25 *	5,400	7,900	120	3.5	35
	25-Oct		17	2.6	4.6	2,900	13,000	39	19	140
average			15	3.0	1.9	4,925	6,175	42	191	56
1996	25-Jan		17	1.2	2.3	1,900	4,300	0.25 *	4.5	26
	03-Apr		16	1.3	3.2	3,100	1,700	14	9.5	18
	10-Jul		28	1.1	0.80	6,800	4,800	32	9.0	42
	08-Oct		46	0.90	2.4	6,500	4,000	28	10	67
average			27	1.1	2.2	4,575	3,700	19	8.3	38
1997	14-Jan		12	1.8	0.25 *	7,500	1,200	75.0	110	49
	29-May		12	2.5	0.32	6,800	1,100	3.4	10	5.1
	22-Oct		19	1.4	1.7	690	4,910	260	2.9	76
average			14	1.9	0.76	4,997	2,403	113	41	43
1998	28-Apr		22	1.0	1.7	3,900	1,700	135.0	260	37
	27-Oct		30	1.0	4.3	1,800	2,200	360.0	0.24	110
average			26	1.0	3.0	2,850	1,950	248	130	74
1999	08-Apr		3.7	2.0	1.4	3,000	360	22	130	64
	20-Oct		26	1.7	4.9	6,300	2,300	180	2.5	38
average			15	1.9	3.2	4,650	1,330	101	66	51

TABLE 4-4

1,1,1-TCA CONCENTRATION HISTORY
Former Channel Master Site, Ellenville, NY
Chemical Effectiveness Monitoring Network

Well No.		BH-1	BH-2	BH-9	BH-11A	BH-11B	BH-16	BH-17	BH-18	BH-19
Well Screen Interval (ft bgl)		10-20	10-20	10-20	28-38	10-20	10-20	22-32	10-20	41-51
2000	19-Apr		16	0.99	1.1	4,300	380	5.9	6.9	20
	17-Oct		9.9	0.59	2.9	5,900	1,600	67	2.0	21
	average		13	0.79	2.0	5,100	990	36	4.5	21
2001	31-May		8.1	1.3	12	4,200	840	62	1.6	4.1
	29-Oct		2.3	0.79	9.6	1,600	960	79	1.4	0.17
	average		5.2	1.0	11	2,900	900	71	1.5	2.1
2002	18-Apr		6.6	0.73	4.7	2,900	420	110	1.4	0.24
	09-Oct		3.0	1.1	3.7	730	700	140	1.4	0.11 *
	average		4.8	0.92	4.2	1,815	560	125	1.4	0.18
2003	29-May		9.8	1.3	4.3	3,000	210	120	1.3	0.37
	23-Oct		23	0.7	3.3	900	120	75	1.3	0.13 *
	average		16	1.0	3.8	1,950	165	98	1.3	0.25
2004	07-Apr		11	0.71 J	3.0	1,200	75	0.5 *	3.1	0.5 *
	22-Oct		27	1.8	3.0	2,800	120	0.5 *	5.6	0.5 *
	average		19	1.3	3.0	2,000	98	0.5	4.4	0.5
2005	29-Apr		3.1	0.94	3.4	300	170	0.5 *	2.6	0.5 *
	21-Oct		4.0	18	3.6	240	390	0.5 *	2.0	0.5 *
	average		3.6	9.5	3.5	270	280	0.5	2.3	0.5
2006	20-Apr		12	0.76 J	2.3	1,500	110	0.84 J	1.3	0.55 J
	10-Oct		17	0.55	2.3	33	120	0.5 *	0.95 J	0.5 *
	average		14.5	0.66	2.3	767	115	0.7	1.1	0.5
2007	21-Apr		4.4	0.94 J	2.0	140	160	0.5 *	4.2	0.5 *
	30-Oct		9.5	1.7	0.5 *	530	120	77	0.78 J	0.5 *
	average		7.0	1.32	1.3	335	140	38.8	2.5	0.5
2008	03-Apr		3.9	1.3	0.5 *	77	490	2.1	3.0	0.5 *
	22-Oct		6.8	0.28 J	0.5 *	240	210	0.36 J	0.80 J	0.5 *
	average		5.4	0.79	0.5	159	350	1.2	1.9	0.5
2009	10-Apr		6.0	2.3	0.5 *	160	430	5.2	3.2	0.53
	23-Nov		9.0	1.1	0.12 *	240	220	1.8	0.93	
	average		7.5	1.7	0.31	200	325	3.5	2.1	0.53
2010	15-Jun			0.98	0.12 *	220	430	0.12 *	0.95	
	10-Nov		16	0.78	0.12 *	170	210	0.12 *	0.98	0.12
	average		16.0	0.9	0.12	195	320	0.12	1.0	0.12
2011	02-May		6.2	1.6	0.12 *	22	300 E	4.7	12	0.39
	22-Nov		2.6	5.9	0.12 *	94 E	180 E	0.12 *	0.87	0.12 *
	average		4.4	3.8	0.12	58	240	2.41	6.4	0.26
2012	01-May		3.5	4.3	0.12 *	110 E	250 E	4.7	3.5	0.12 *
	25-Oct		8.3	5.2	0.12 *	61	280 E	0.12 *	1.6	0.12 *
	average		5.9	4.8	0.12 *	86	265	2.41	2.6	0.12 *
2013	03-May		3.1	6.1	0.12 *	26	220 E	2.5	3.4	0.12 *
	24-Oct		5.5	0.46	0.12 *	150 E	520 E	0.12 *	0.72	0.12 *
	average		4.3	3.3	0.12 *	88	370	1.31	2.1	0.12 *
2014	07-May		1.2	0.2	0.12 *	38	320 E	2.9	4.80	0.12 *
	28-Oct		5.1	0.26	0.12 *	160	59	0.35	0.55	0.12 *
	average		3.2	0.23	0.12 *	99	190 E	1.63	2.68	0.12 *
2015	15-Apr		**5.5**	0.81	0.12 *	36	340	3.3	3.00	0.12 *
	13-Nov		8.6	1.60	0.12	26	410	0.12 *	1.2	0.12 *
	average		7.1	1.2	0.1 *	31.0	375.0	1.7 *	2.1	0.12 *

TABLE 4-4

1,1,1-TCA CONCENTRATION HISTORY
Former Channel Master Site, Ellenville, NY
Chemical Effectiveness Monitoring Network

Well No. / Well Screen Interval (ft bgl)		BH-1 10-20	BH-2 10-20	BH-9 10-20	BH-11A 28-38	BH-11B 10-20	BH-16 10-20	BH-17 22-32	BH-18 10-20	BH-19 41-51
2016	20-May		2.7	1.70	0.12 *	71	410	0.36	0.47	0.12 *
	04-Nov		12	0.39	0.12 *	180	450	0.12 *	0.44	0.29
average			7.4	1.05	0.12 *	126	430	0.24	0.46	0.21 *
2017	07-May		5.2	15.00	0.12 *	75	330	0.12 *	1.00	0.12 *
	22-Nov		7.14	0.12 *	0.12 *	120	990	0.12 *	0.56 J	0.12 *
average			6.2	7.56	0.12 *	98	660	0.12	0.78	0.12 *
2018	19-May		2.9	0.80 J	0.12 *	80	130	0.12 *	0.68 J	0.12 *
	20-Nov		3.4	9.60	0.12 *	18	640	0.12 *	0.72 J	0.12 *
average			3.2	5.20	0.12 *	49	385	0.12	0.70	0.12 *
2019	17-May		2.7	7.20	0.12 *	20	180	0.12 *	0.54 J	0.12 *
	25-Nov		3.6	6.20	0.61 J	36	580	0.12 *	0.64 J	0.28 J
average			2.9	0.80	0.12 *	80	130	0.12 *	0.68	0.12 *
2020	05-May		1.2	5.10	0.48 J	30	370	0.12 *	0.41 J	0.25 J
2020	24-Nov		4.8	0.56 J	0.92 J	34	340	0.32 *	0.64 J	0.28 J
average			3.0	2.83	0.70 J	32	355	0.22 *	0.53	0.27 *
2021	26-May		1.1	1.90	0.48 J	21	89	0.21 *	0.21 J	0.21 J
2021	25-Nov		3.8	4.00	0.54 J	1	250	0.21 *	10.00	0.21 J
average			2.5	2.95	0.51 J	11	170	0.21 *	5.11	0.21 *
2022	22-Nov		1.7	2.50	0.25 *	48	400 D	0.25 *	0.25 *	0.25 *
average			1.7	2.50	0.25 J	48	400	0.25 *	0.25	0.25 *
(Feb 1987- December 2022)		24	28	11	2	8,552	28,610	39	266	38

NOTES:

Blank spaces indicate well was not sampled

J - estimated value; detected below quantitation limit

* - indicates a value of one-half the detection limit for samples in which TCA was not detected

E- Result exceeded calibration range, secondary dilution required

ft bgl = feet below grade level

All concentrations presented in units of ug/l.

TABLE 4-7

DISSOLVED ARSENIC CONCENTRATIONS IN LAGOON WELLS
Former Channel Master Site
Ellenville, NY

SAMPLE DATE	MW-3	MW-8D
Jan-87	NA	NA
Apr-87	NA	NA
Jul-87	68	48
Oct-87	85	43
Jan-88	NA	NA
Apr-88	33	93
Jul-88	81	228
Oct-88	84	60
Jan-89	46	226
May-89	25.2	25
Jul-89	25.9	84.3
Oct-89	58.4	54
Jan-90	38.7	126
May-90	42.2	56.3
Jul-90	43	71
Oct-90	26	52
Jan-91	14.9	24.7
Apr-91	15	26.5
Jul-91	46.7	105
Oct-91	51.8	150
Jan-92	33.4	14.1
Apr-92	30	28.5
Jul-92	71.8	47.4
Oct-92	61.3	183
Apr-93	34.4	67.2
Nov-93	46	45
Apr-94	46	52
Oct-94	60	89
Apr-95	49	41
Oct-95	74	55
Apr-96	43	35
Oct-96	63	70
May-97	67	79
Oct-97	67	26
Apr-98	45	51
Oct-98	64	36
Apr-99	48	61
Oct-99	70	29
Apr-00	71	67
Oct-00	68	71
May-01	17	25
Oct-01	22	114
Apr-02	11	1.7 *
Oct-02	7.1	38
May-03	8.3	11
Oct-03	87	97
Apr-04	51	110
Oct-04	80	85
Apr-05	68	55
Oct-05	62	31
Apr-06	56	65
Oct-06	67	350 **

TABLE 4-7

DISSOLVED ARSENIC CONCENTRATIONS IN LAGOON WELLS
Former Channel Master Site
Ellenville, NY

SAMPLE DATE	MW-3	MW-8D
Apr-07	34	75
Nov-07	69	88
Apr-08	62	76
Oct-08	72	81
Apr-09	58	61
Nov-09	70	77
Jun-10	43	53
Nov-10	76	110
Apr-11	64	67
Nov-11	69	31
May-12	59	69
Nov-12	84	80
May-13	51	63
Oct-13	81	79
May-14	51	60
Oct-14	71	84
Apr-15	39	50
Nov-15	37	10
May-16	20	47
Nov-16	15	14
May-17	18	10
Nov-17	94	85
May-18	18	17
Nov-18	10	10
May-19	40	34
Nov-19	240	10
May-20	21	10
Nov-20	10	10
May-21	21	10
Nov-21	10	10
Nov-22	10	14

Concentrations in ug/l
NA - Sample was not analyzed for arsenic.
* Arsenic not detected - value shown is one-half the detection limit
** Anomalous result attributed to sampling or laboratory error; result is nearly identical to unfiltered total arsenic concentration in MW-8D. Not used in linear regression analysis.

TABLE 4-8

LINEAR REGRESSION ANALYSES:
DISSOLVED ARSENIC CONCENTRATIONS VS. TIME
USING HISTORIC GROUNDWATER DATA (1987 TO PRESENT)
Former Channel Master Site
Ellenville, NY

WELL	NUMBER OF SAMPLES	LINEAR REGRESSION EQUATION [1]	CORRELATION COEFFICIENT (R)	SIGNIFICANT AT 5% LEVEL?	CALCULATED Y-INTERCEPT [2] (ug/l)	RATE OF CHANGE (ug/l/year)
MW-3	80	Y = (-1.015E-03) X + 53.9	0.171	NO	53.9	-0.37
MW-8D	79	Y = (-3.065E-3) X + 80.2	0.251	YES	80.2	-1.12

Notes:

1. Y= Concentration of TCA, in ug/l
   X= Time since start of monitoring, in days
   Slope= Rate of change in ug/l/day
2. Initial concentrations calculated by linear regression at the start of monitoring 1987
3. Where the concentration of dissolved arsenic equals zero

TABLE 4-9

LINEAR REGRESSION ANALYSES:
DISSOLVED ARSENIC CONCENTRATIONS VS. TIME
USING GROUNDWATER DATA FROM MOST RECENT 10 YEARS (2013 to 2022)
Former Channel Master Site
Ellenville, NY

WELL	NUMBER OF SAMPLES	LINEAR REGRESSION EQUATION [1]	CORRELATION COEFFICIENT (R)	SIGNIFICANT AT 5% LEVEL?	CALCULATED Y-INTERCEPT [2] (ug/l)	RATE OF CHANGE (ug/l/year)
MW-3	20	Y = (-1.463E-2) X + 58.63	0.610	YES	58.63	-5.34
MW-8D	19	Y = (-1.329E-2) X + 65.96	0.253	NO	65.96	-4.85

Notes:
1. Y= Concentration of TCA, in ug/l
   X= Time since start of monitoring, in days
   Slope= Rate of change in ug/l/day
2. Initial concentrations calculated by linear regression at the start of monitoring 1987
3 Where the concentration of dissolved arsenic equals zero

FIGURES

LEGEND:

- FORMER BUILDING PAD
- FORMER LAGOON AREA
- BORE HOLE
- MONITORING WELL
- PIEZOMETER
- RECOVERY WELL

NOTES:

1. SITE AERIAL PHOTOGRAPH ADOPTED FROM GOOGLE EARTH PRO WITH AN IMAGERY DATE OF 04/16/2016.
2. LOCATIONS OF BORE HOLES, PIEZOMETERS, AND RECOVERY WELL PROVIDED BY BORBAS SURVEYING & MAPPING, LLC. SURVEY DATE OF NOVEMBER 22, 2016.
3. THE LOCATIONS OF THE FORMER LAGOON AND ASSOCIATED MONITORING WELLS ARE TAKEN FROM DRAWING PROVIDED BY ROY H. PAULI, LAND SURVEYORS, P.C., TITLED "WELL LOCATIONS AT FORMER CHANNELMASTER CORPORATION SITE". LOCATIONS ARE APPROXIMATE.
4. FORMER BUILDING PAD DIGITIZED FROM AERIAL IMAGE AND INFORMATION FROM DRAWING "WELL LOCATIONS AT FORMER CHANNELMASTER CORPORATION SITE" (SEE NOTE 3).

0 100' 200'

APPROXIMATE SCALE IN FEET

FORMER CHANNELMASTER CORPORATION SITE
VILLAGE OF ELLENVILLE, TOWN OF WAWARSING
ULSTER COUNTY, NEW YORK

SITE PLAN AND MONITORING WELLS

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FIGURE 1

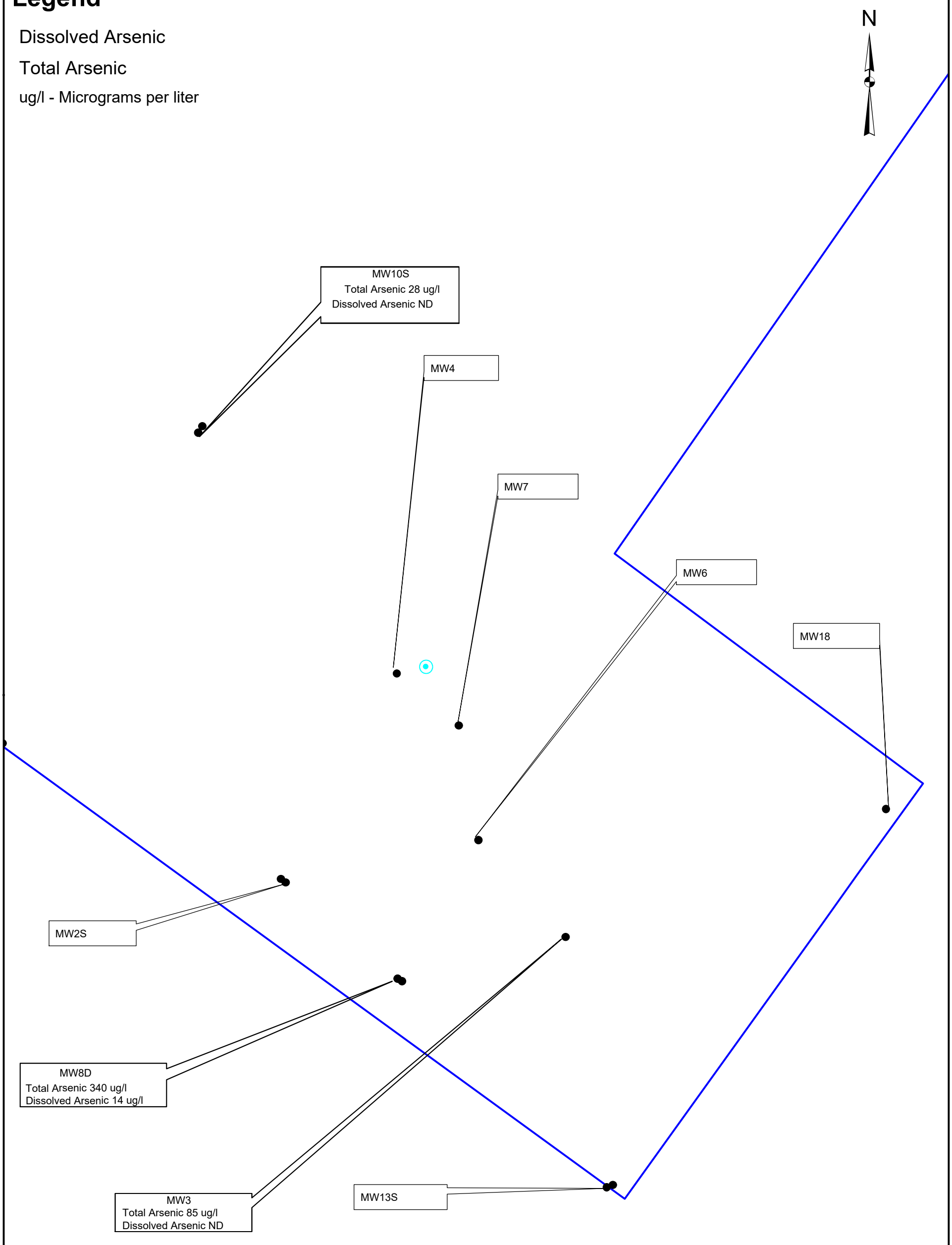
CITY:SYRACUSE-NY DIV/GROUP:ENV DB:A.SANCHEZ LD:ALS PIC:(Opt) PM:(Reqd) TM:(Opt) LYR:(Opt)ON=*;OFF=*REF* PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 9/21/2017 1:32 PM BY: SANCHEZ, ADRIAN
LAYOUT: 1 SAVED: 9/20/2017 5:20 PM ACADVER: 19.1S (LMS TECH)
XREFS: IMAGES: PROJECTNAME: ----

Legend

Dissolved Arsenic

Total Arsenic

ug/l - Micrograms per liter



Elevations: feet MSL.

Document Path: G:\Project\0395052 Channel Master AVNET\GIS\ChannelMaster-Lagoon.mxd

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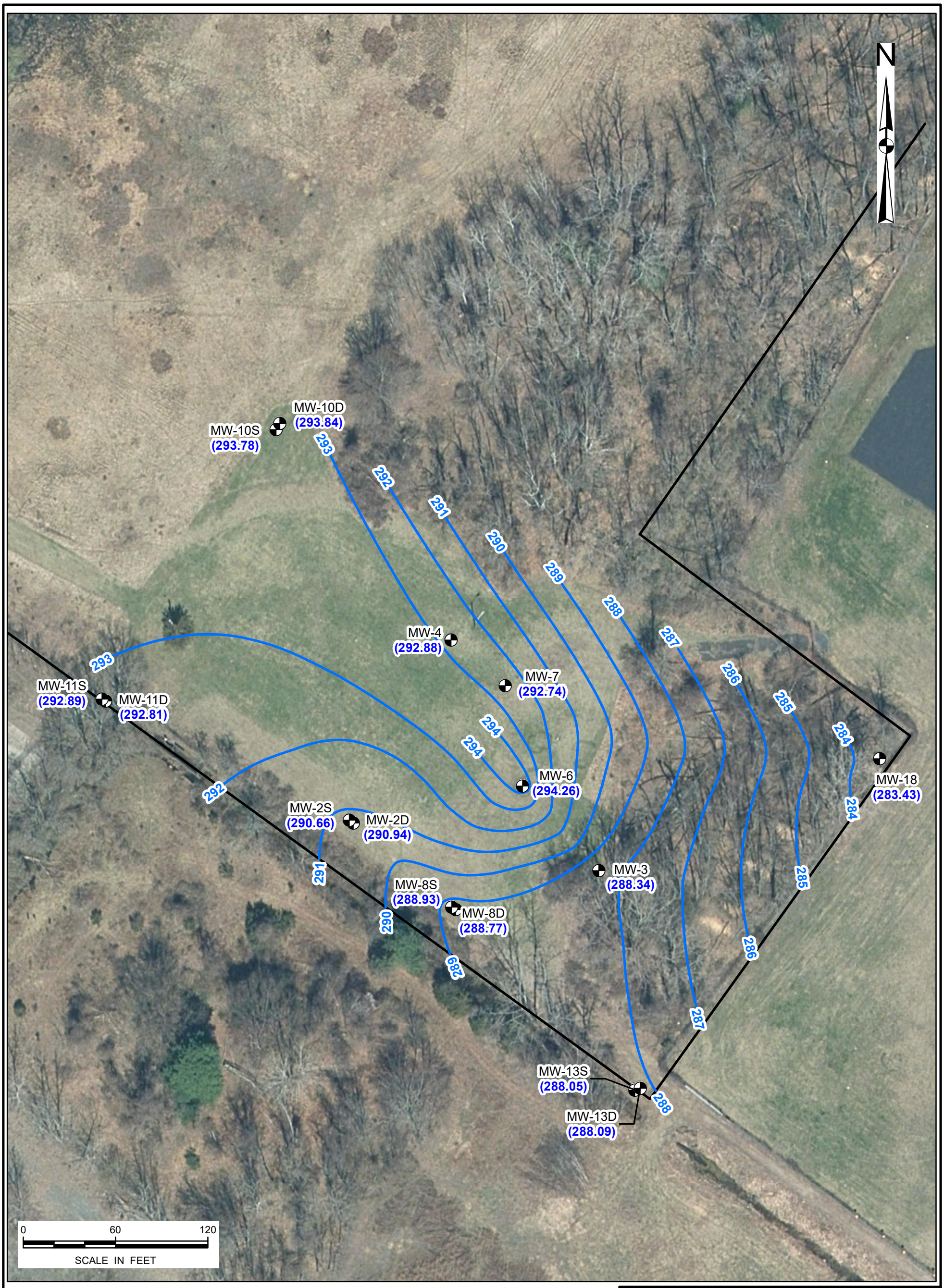
CHANNEL MASTER, ELLENVILLE, NEW YORK
MONITORING WELL LOCATIONS - LAGOON AREA
ANNUAL GROUNDWATER ANALYTICAL RESULTS
November 21, 2022

FIGURE 2-1



Legend

- MONITORING WELL
- BOUNDARY
- 293 GROUNDWATER ELEVATION CONTOUR
- (293.78) GROUNDWATER ELEVATION

CHANNEL MASTER
ELLENVILLE, NEW YORK 12428

2022 ANNUAL REPORT

WATER TABLE ELEVATION CONTOUR MAP
FORMER LAGOON AREA WELLS - NOVEMBER 22, 2022

ARCADIS

FIGURE 2-1A

Document Path: T:_ENV\Chevron\Chevron_Avnet_Channel Master\MXD\Figure 2-1A_Monitoring_Wells.mxd

Legend

1,1,1-TCA - Trichloroethane

ug/l - Micrograms per liter

ND - Not Detected

N

BH10

BH3

BH2
1,1,1-TCA 1.7 ug/l

BH15

BH14

BH19
1,1,1-TCA ND

Recovery

BH12

BH16
1,1,1-TCA 400 ug/l

BH9
1,1,1-TCA 2.5 ug/l

BH17
1,1,1-TCA ND

BH20

PZ3

PZ2

BH11B
1,1,1-TCA 48 ug/l
BH11A
1,1,1-TCA ND

BH18
1,1,1-TCA ND

PZ1

BH13

BH1

BH4

BH7

0 25 50 100 Feet

Elevations: feet MSL

Document Path: G:\Project\0395052 Channel Master AVNET\GIS\ChannelMaster.mxd

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CHANNEL MASTER ELLENVILLE, NEW YORK
MONITORING WELL LOCATIONS - PLANT AREA
ANNUAL GROUNDWATER ANALYTICAL
RESULTS NOVEMBER 22, 2022

FIGURE 3-1

N

BH-3
(298.74)

BH-10
(297.95)

298

BH-14
(302.46)

302

BH-2
(298.13)

REC WELL
(282.61)

BH-15
(298.28)

BH-12
(298.19)

300

BH-16
(299.80)

PZ-3
(298.02)

BH-9
(298.16)

298

BH-19
(301.43)

BH-20
(296.38)

PZ-2
(298.12)

BH-17
(301.45)

PZ-1
(298.15)

284

288

292

296

BH-18
(298.92)

BH-11A
(301.45)

BH-11B
(298.20)

298

BH-1
(298.22)

298

BH-13
(297.92)

300

BH-4
(300.55)

300

BH-7
(299.11)

0 50 100

SCALE IN FEET

Source: Esri, Maxar, Earthstar Geographics,

Legend

- MONITORING WELL
- BOUNDARY
- 300 — GROUNDWATER ELEVATION CONTOUR
- (300.55) GROUNDWATER ELEVATION

CHANNEL MASTER
ELLENVILLE, NEW YORK 12428

2022 ANNUAL REPORT

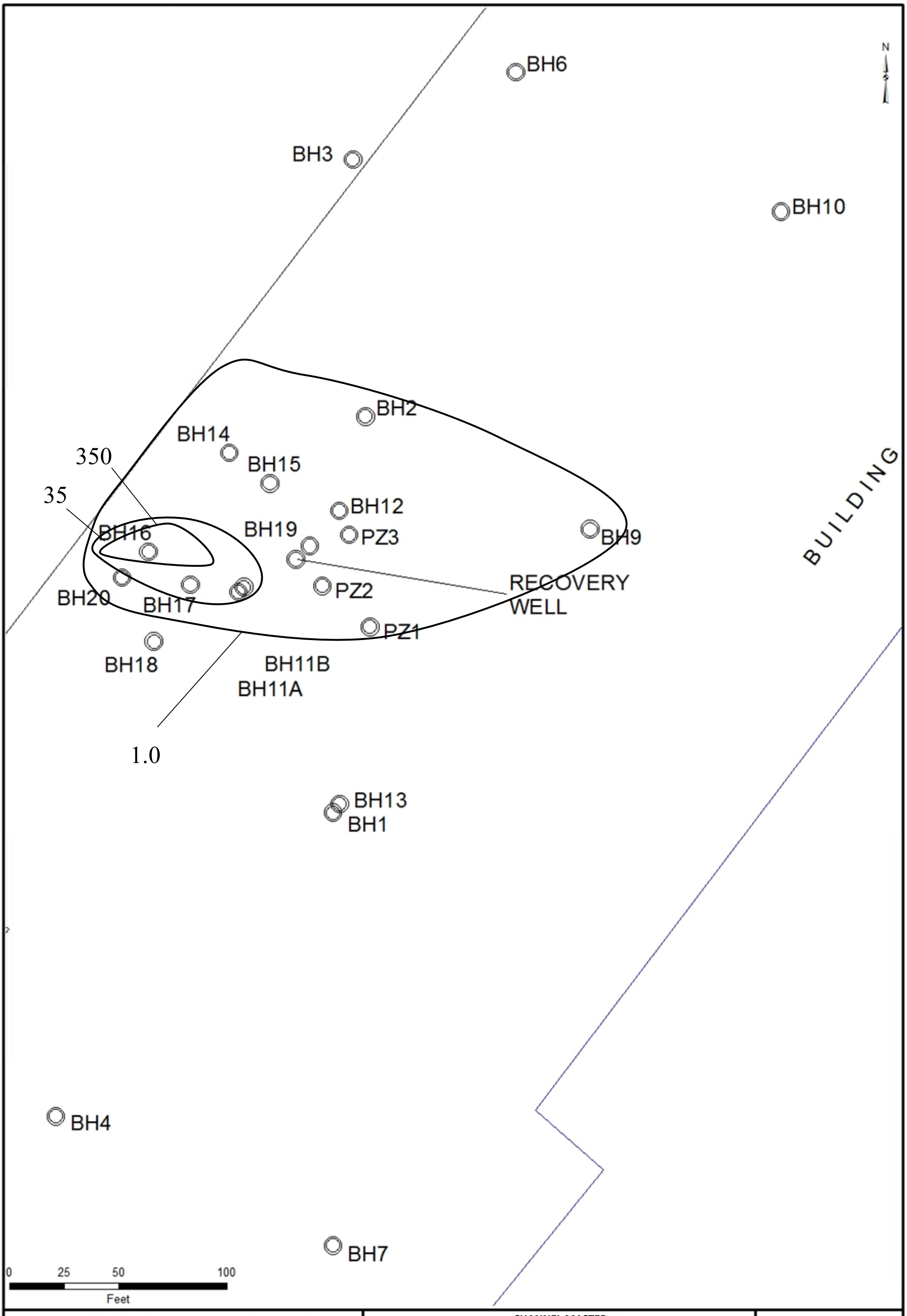
WATER TABLE ELEVATION CONTOUR MAP
FORMER PLANT AREA WELLS - NOVEMBER 22, 2022

ARCADIS

FIGURE
3-1A

Document Path: T:_ENV\Chevron\Chevron_Avnet_Channel Master\MXD\Figure 3-1_BH_Wells.mxd

Path: G:\Model\ChannelMaster_0395052\Channel_Master.mxd



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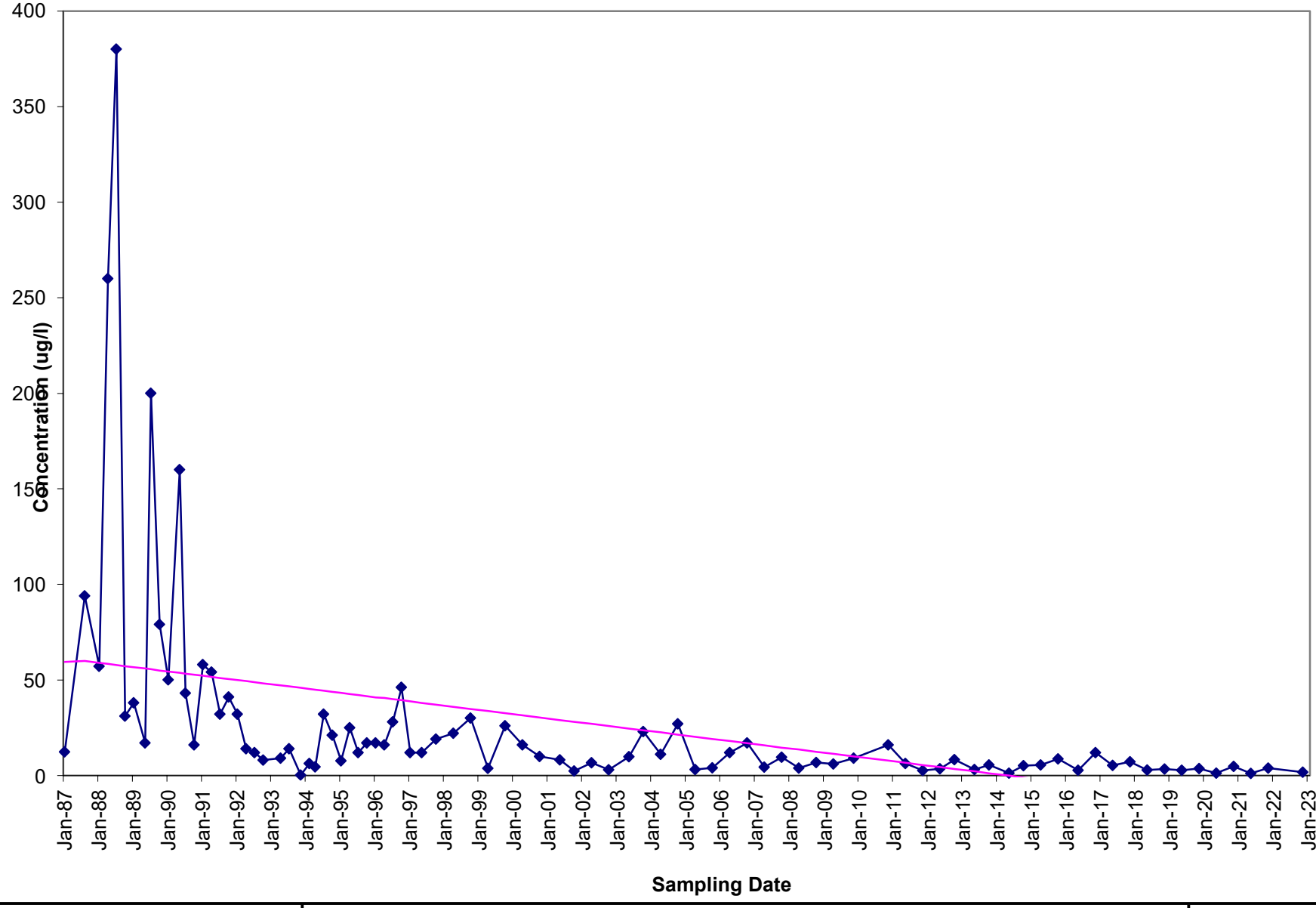
CHANNEL MASTER
ELLENVILLE NEW YORK
ISO-CONCENTRATION MAP - 1,1,1-TRICHLOROETHANE (µg/l)
SHALLOW PLANT AREA WELLS – 2022 ANNUAL CONCENTRATIONS

0395-052-108
FIGURE 3-2



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

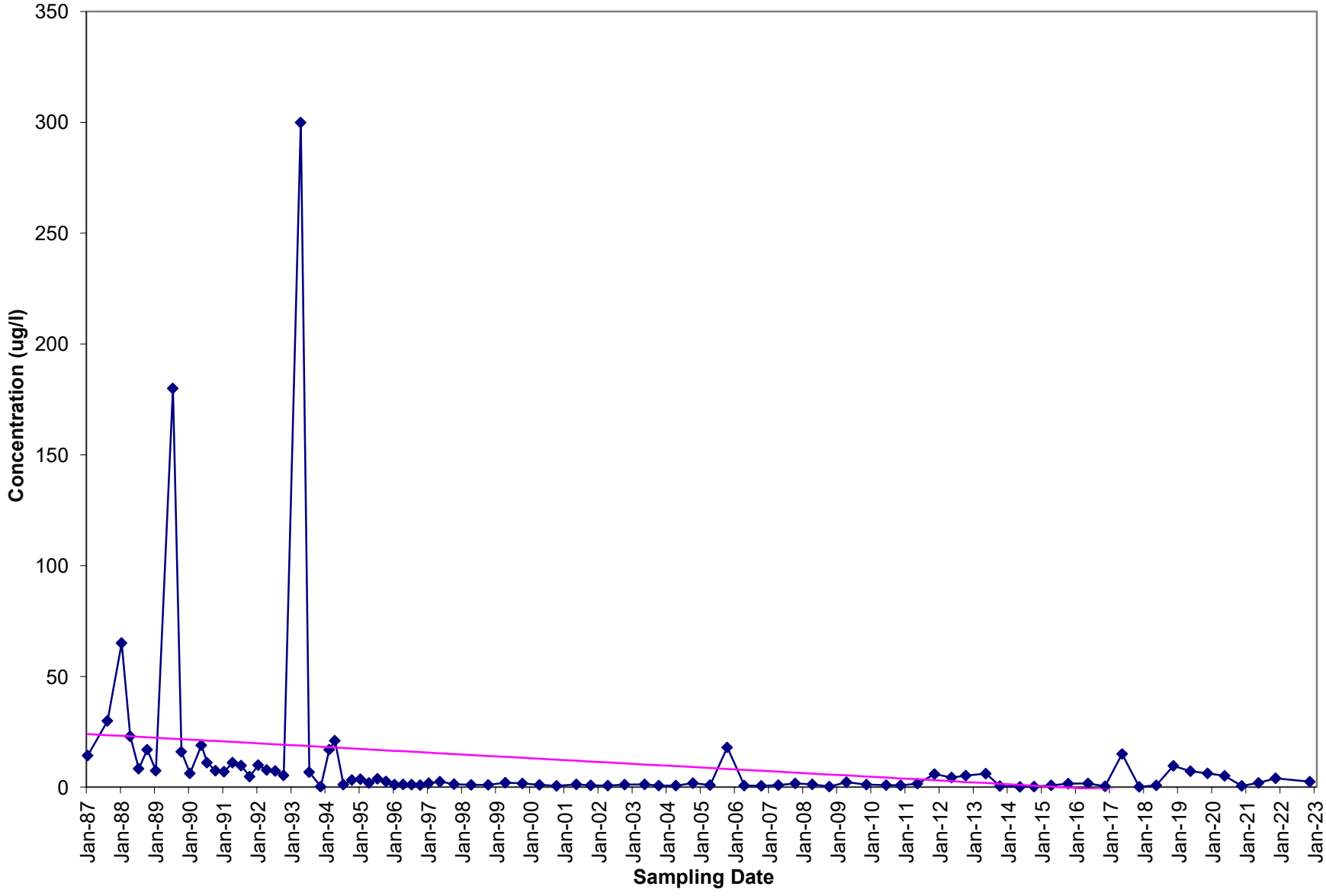
TCA CONCENTRATION VS. TIME IN BH-2

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-1



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

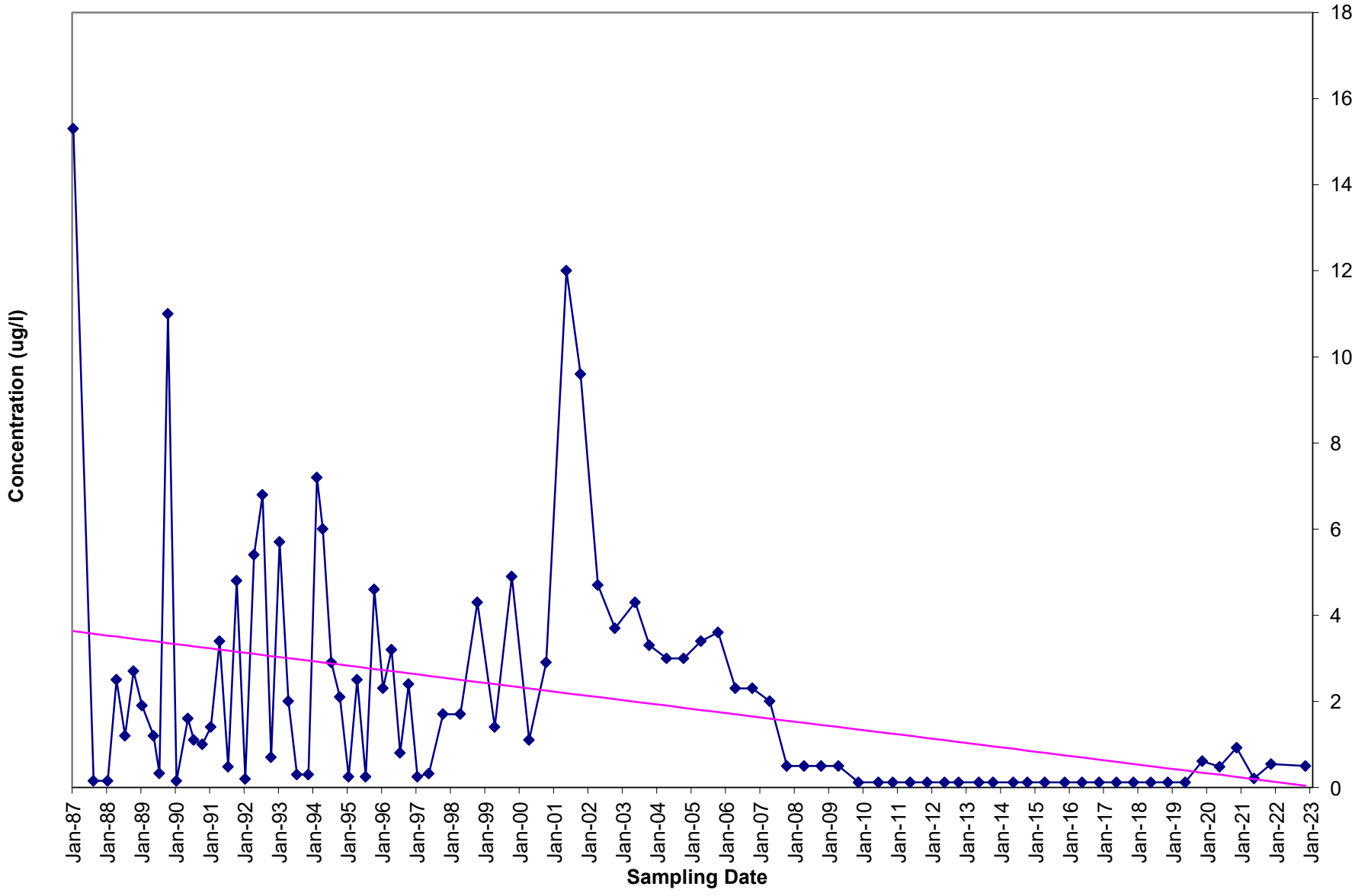
TCA CONCENTRATION VS. TIME IN BH-9

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-2



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

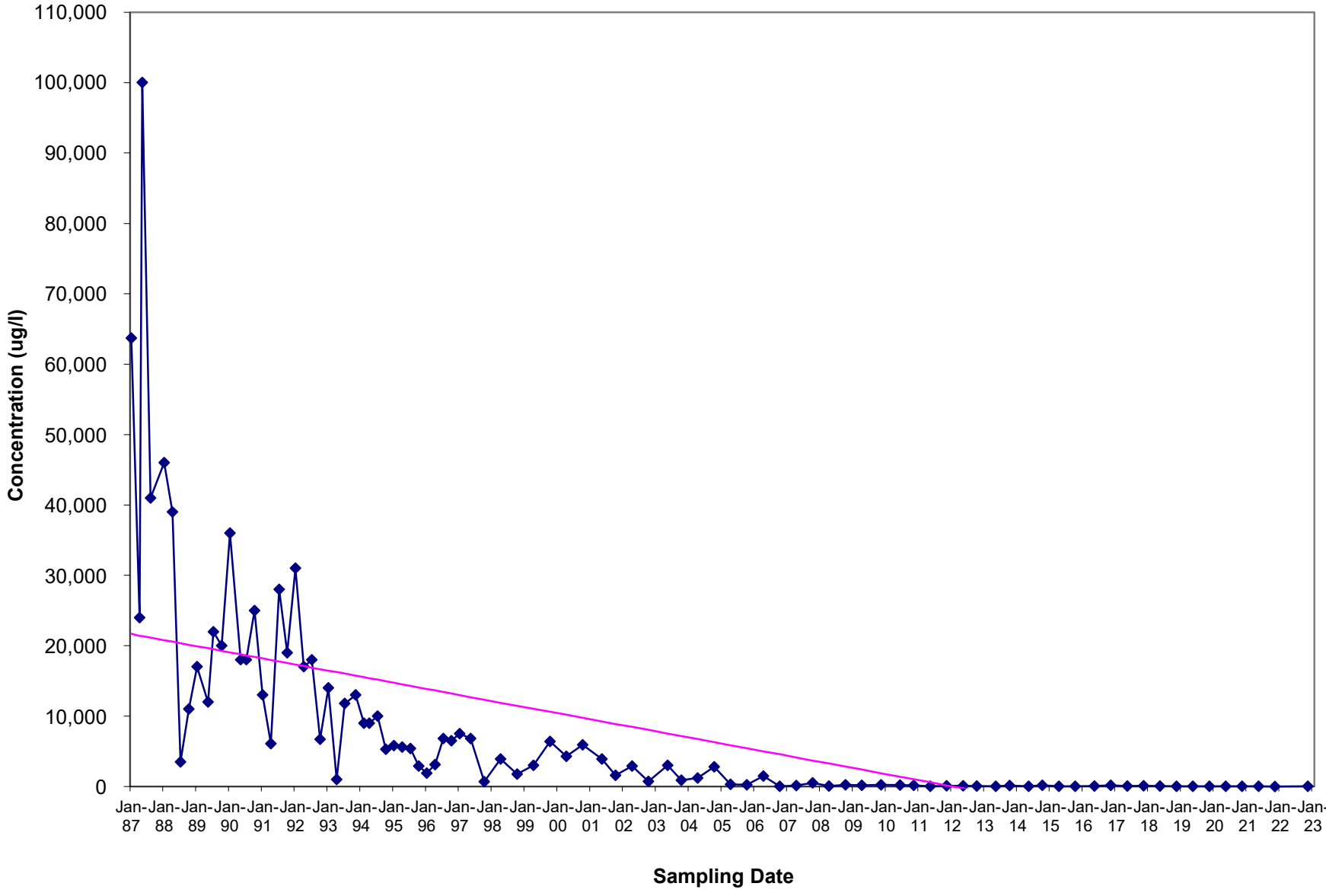
TCA CONCENTRATION VS. TIME IN BH-11A

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-3



ARCADIS Design & Consultancy for natural and built assets

AVNET, INC

FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

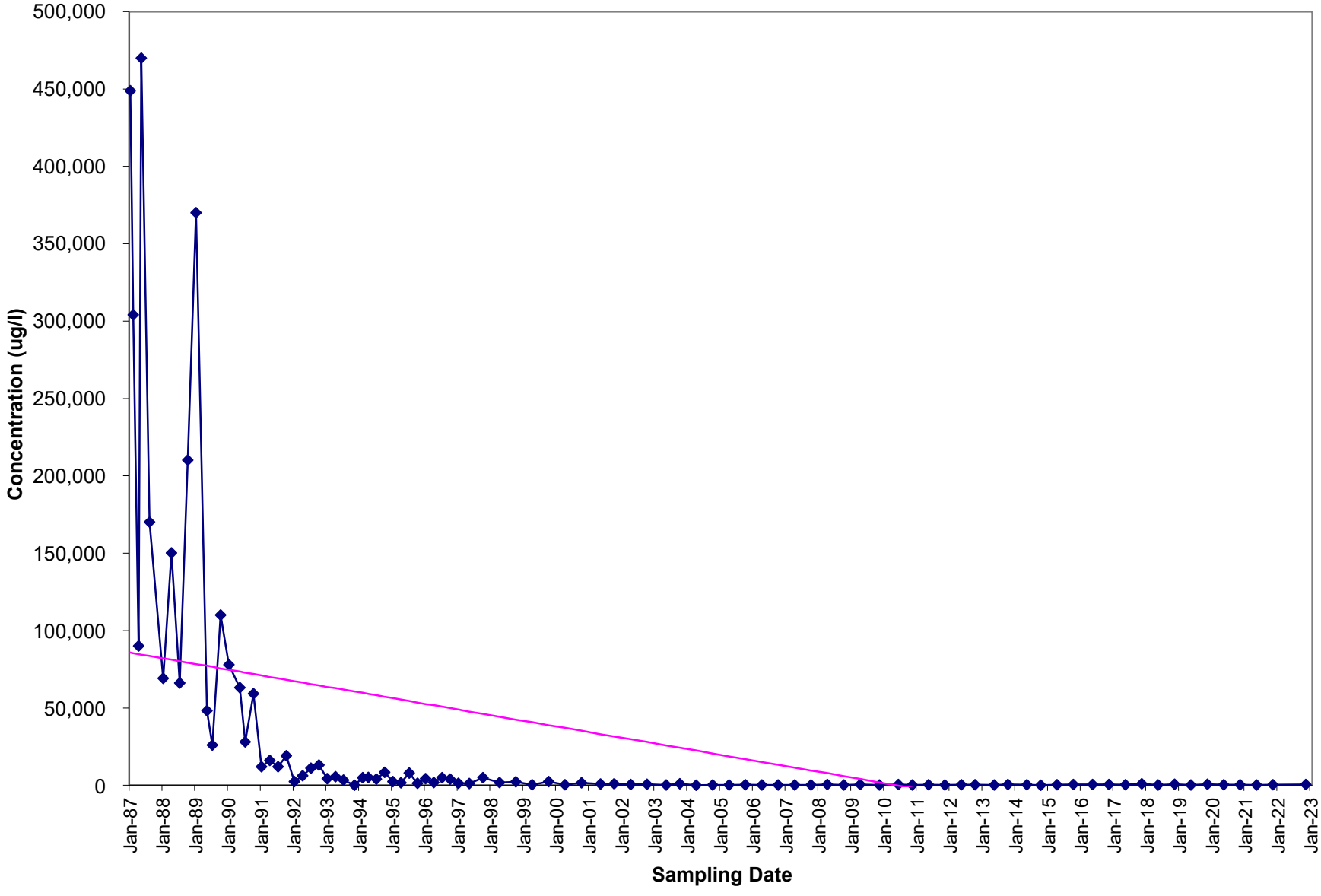
TCA CONCENTRATION VS. TIME IN BH-11B

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-4



ARCADIS Design & Consultancy for natural and built assets

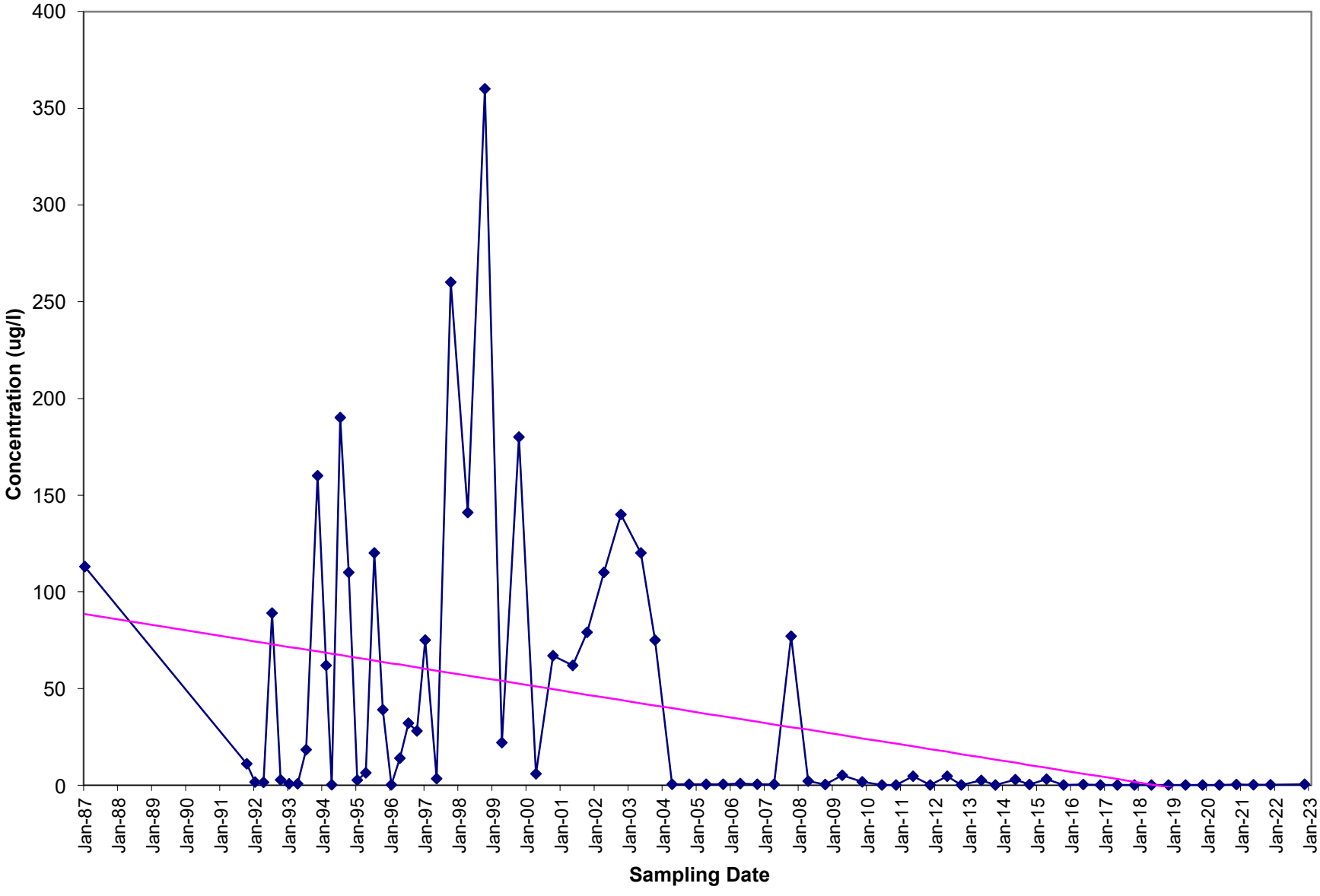
AVNET, INC.
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

TCA CONCENTRATION VS. TIME IN BH-16
HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-5



ARCADIS Design & Consultancy for natural and built assets

AVNET, INC.
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

TCA CONCENTRATION VS. TIME IN BH-17
HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

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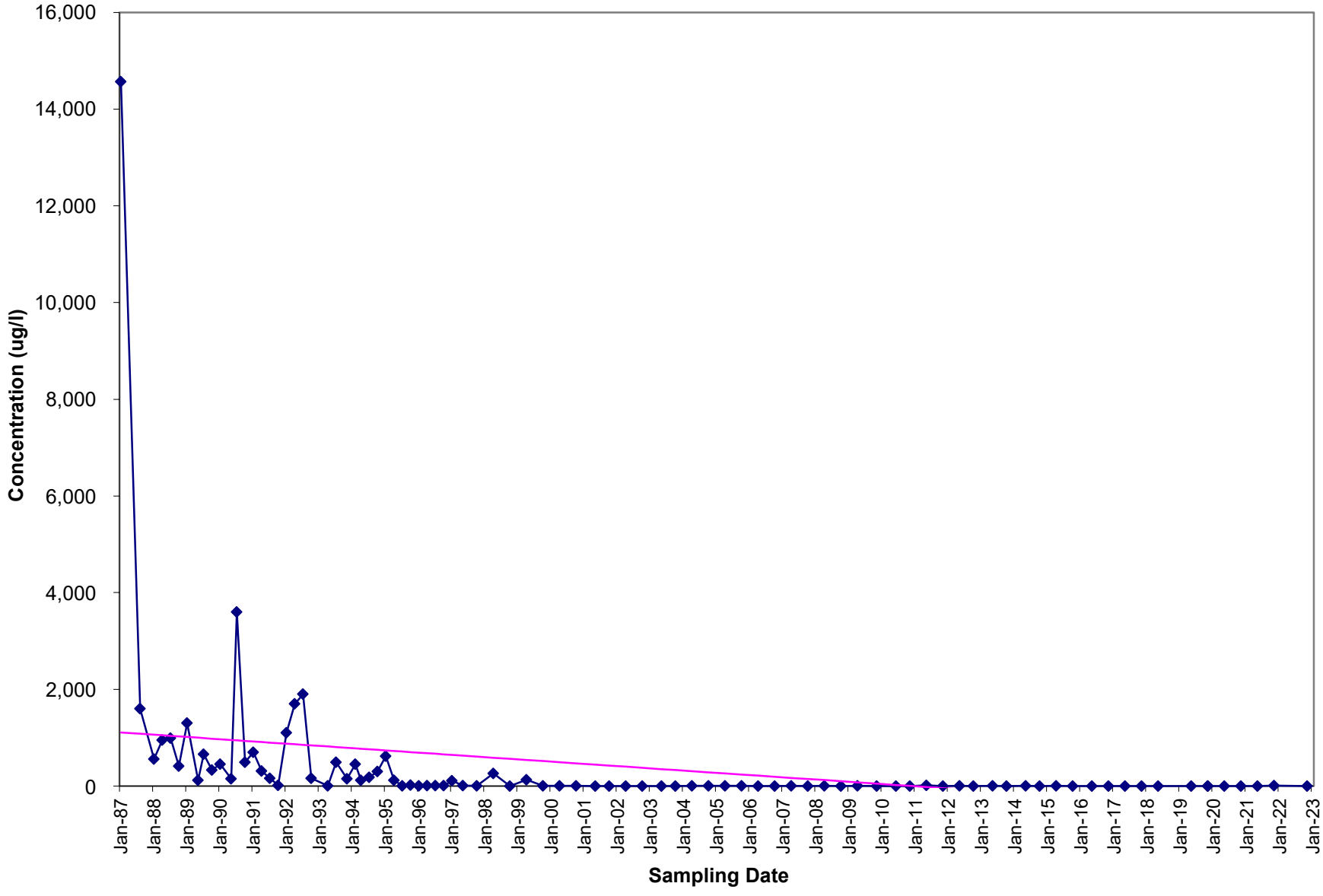
0395-052-109

FIGURE 4-6



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TCA CONCENTRATION VS. TIME IN BH-18

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

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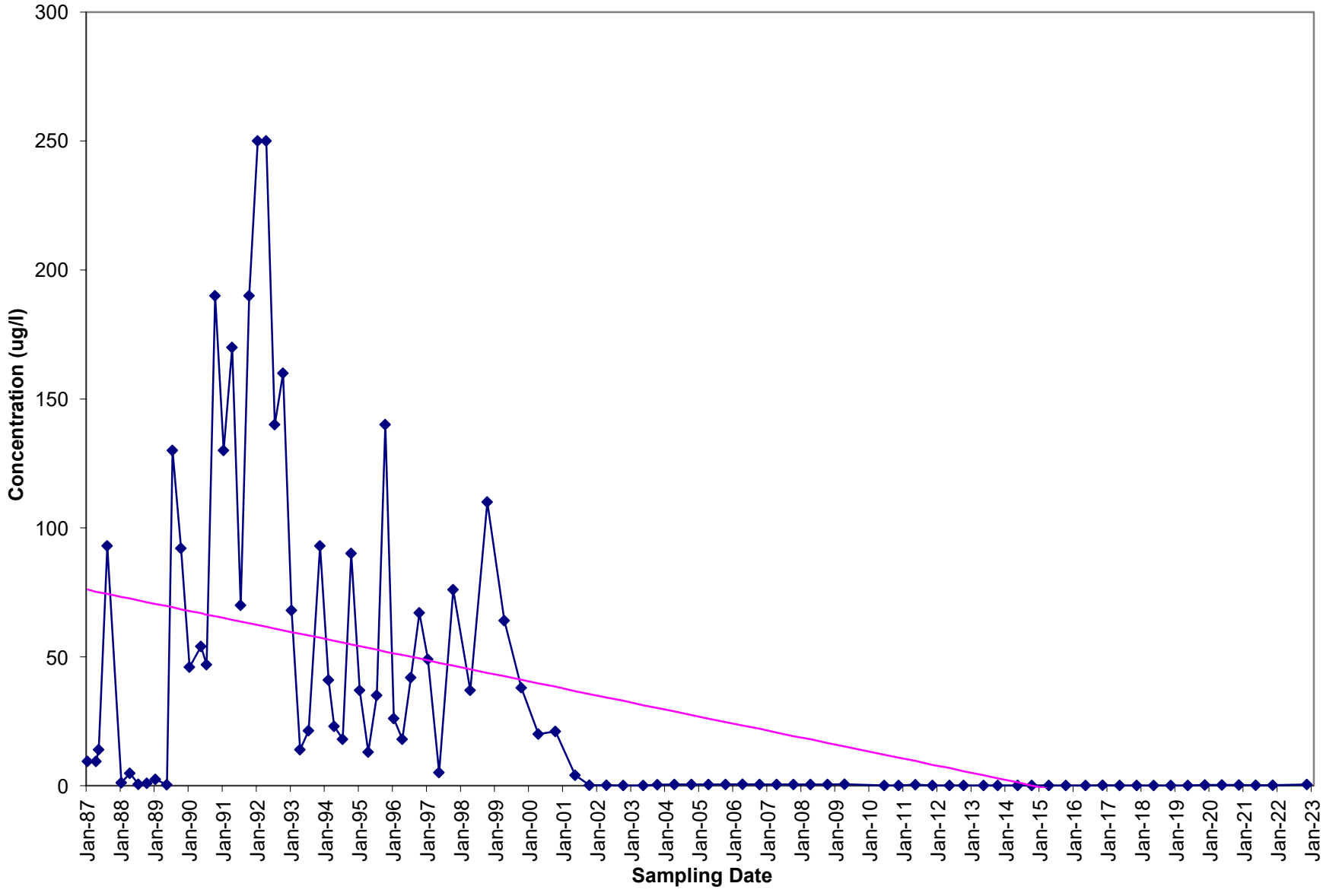
FIGURE 4-7



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TCA CONCENTRATION VS. TIME IN BH-19

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

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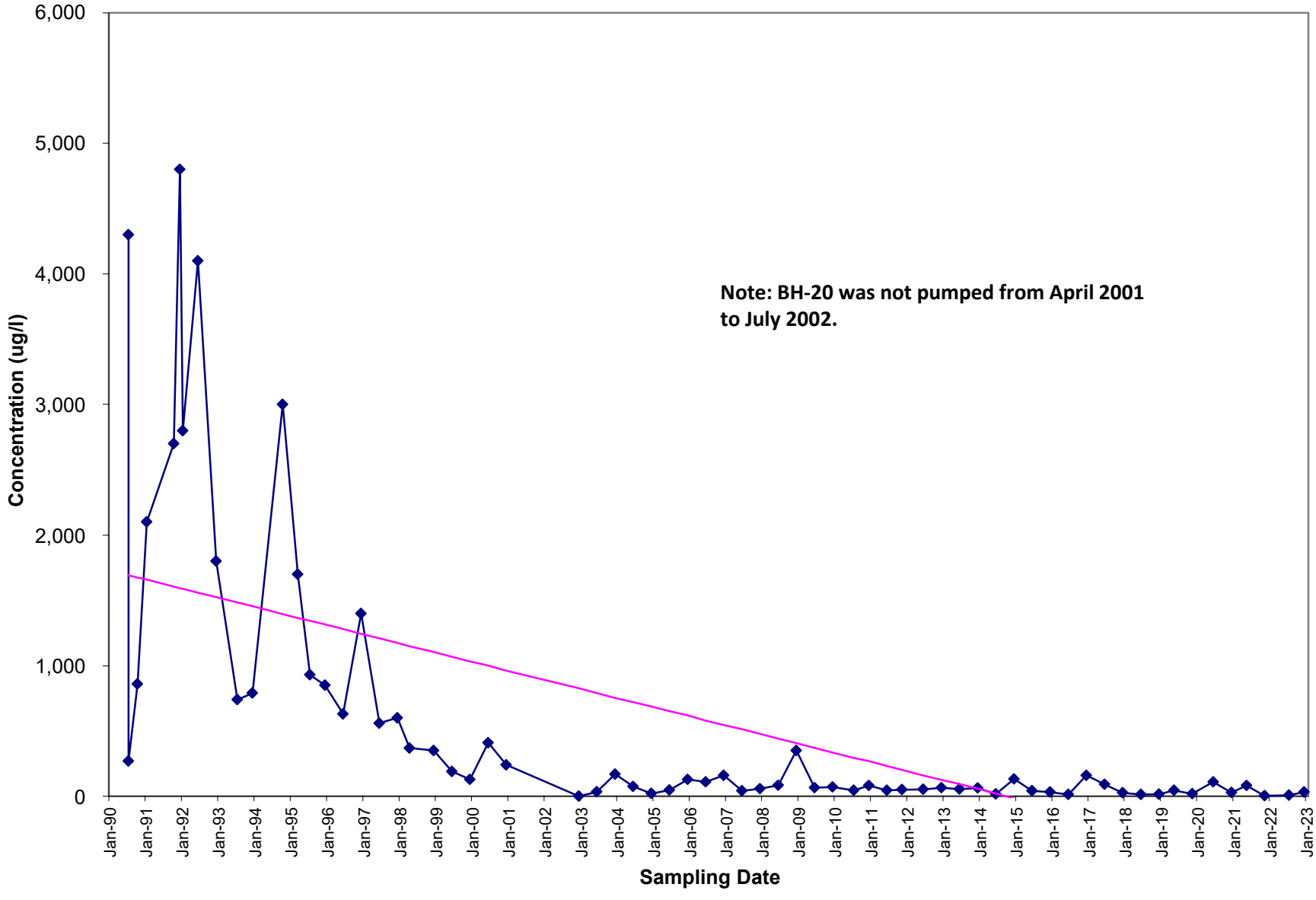
FIGURE 4-8



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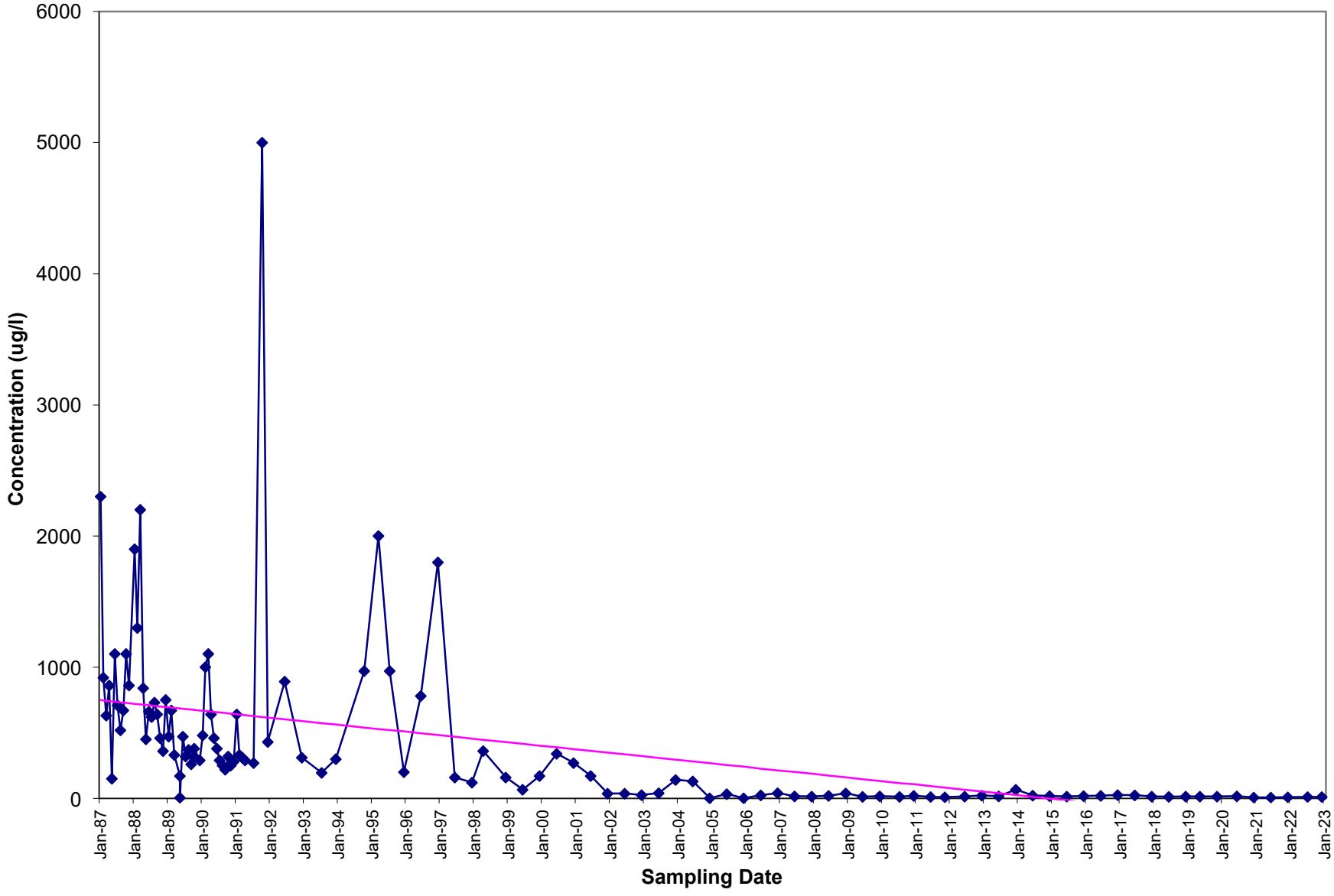
TCA CONCENTRATION VS. TIME IN BH-20

HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-9



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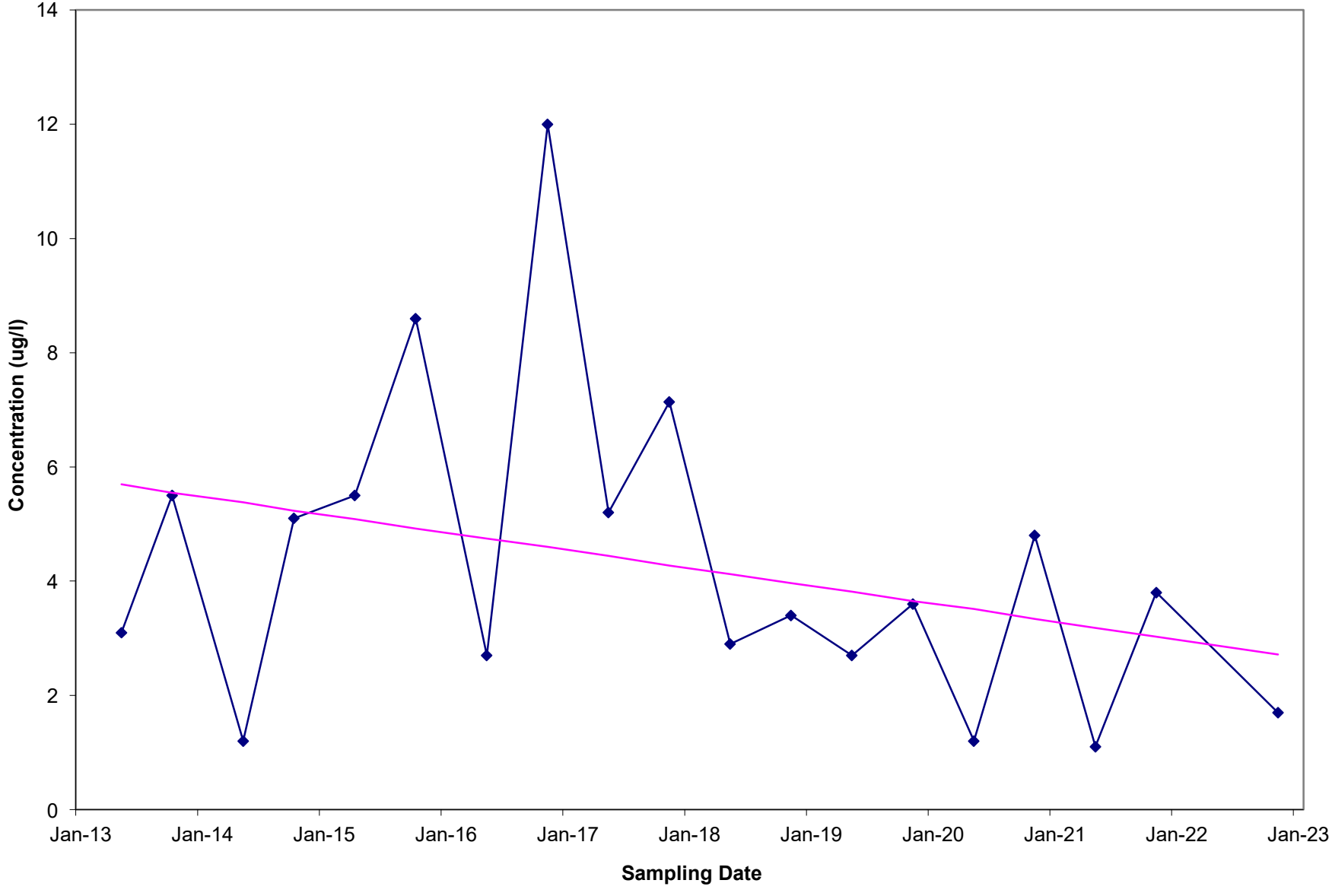
TCA CONCENTRATION VS. TIME IN RECOVERY WELL
HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-10



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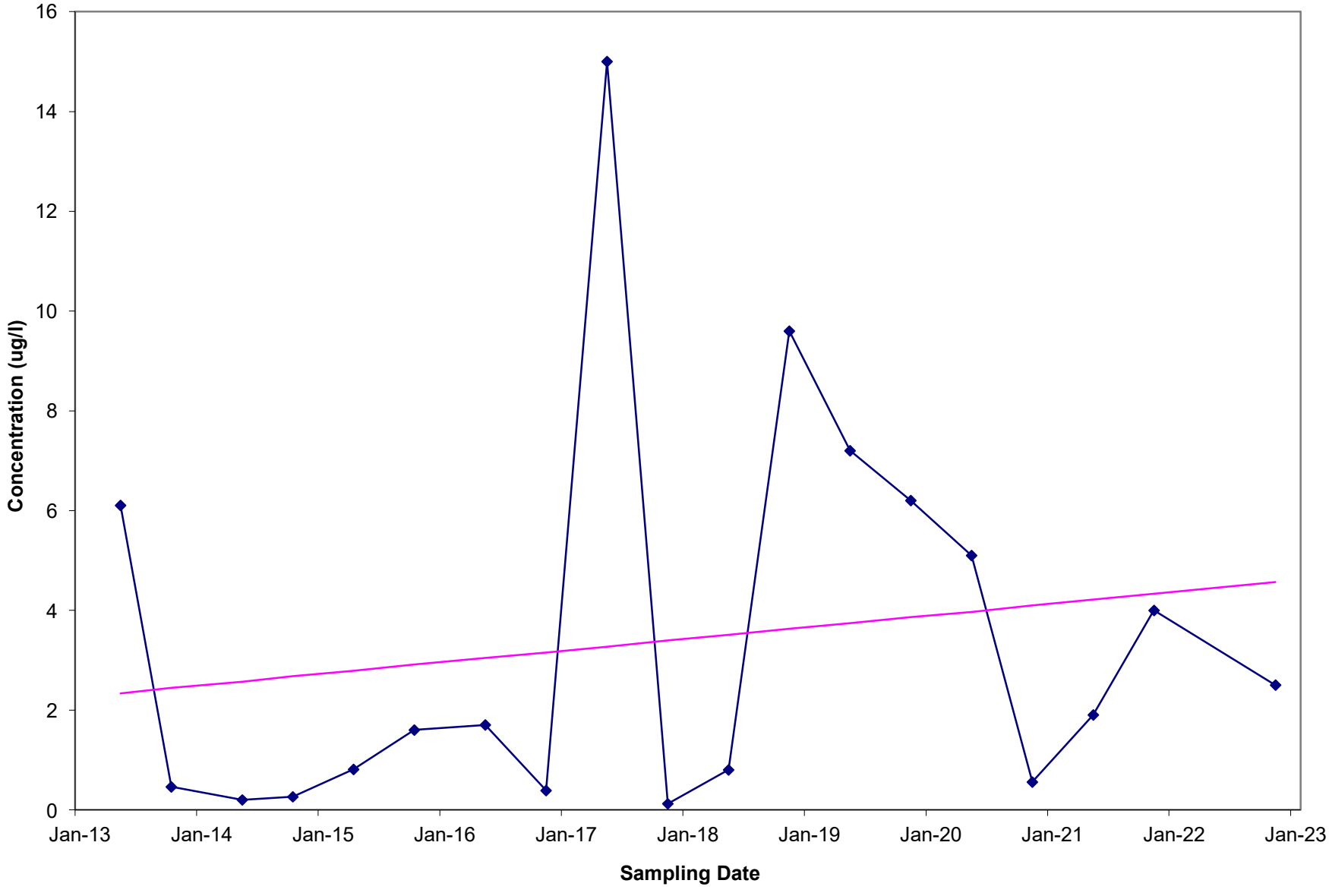
TCA CONCENTRATION VS. TIME IN BH-2

10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-11



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

TCA CONCENTRATION VS. TIME IN BH-9

10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

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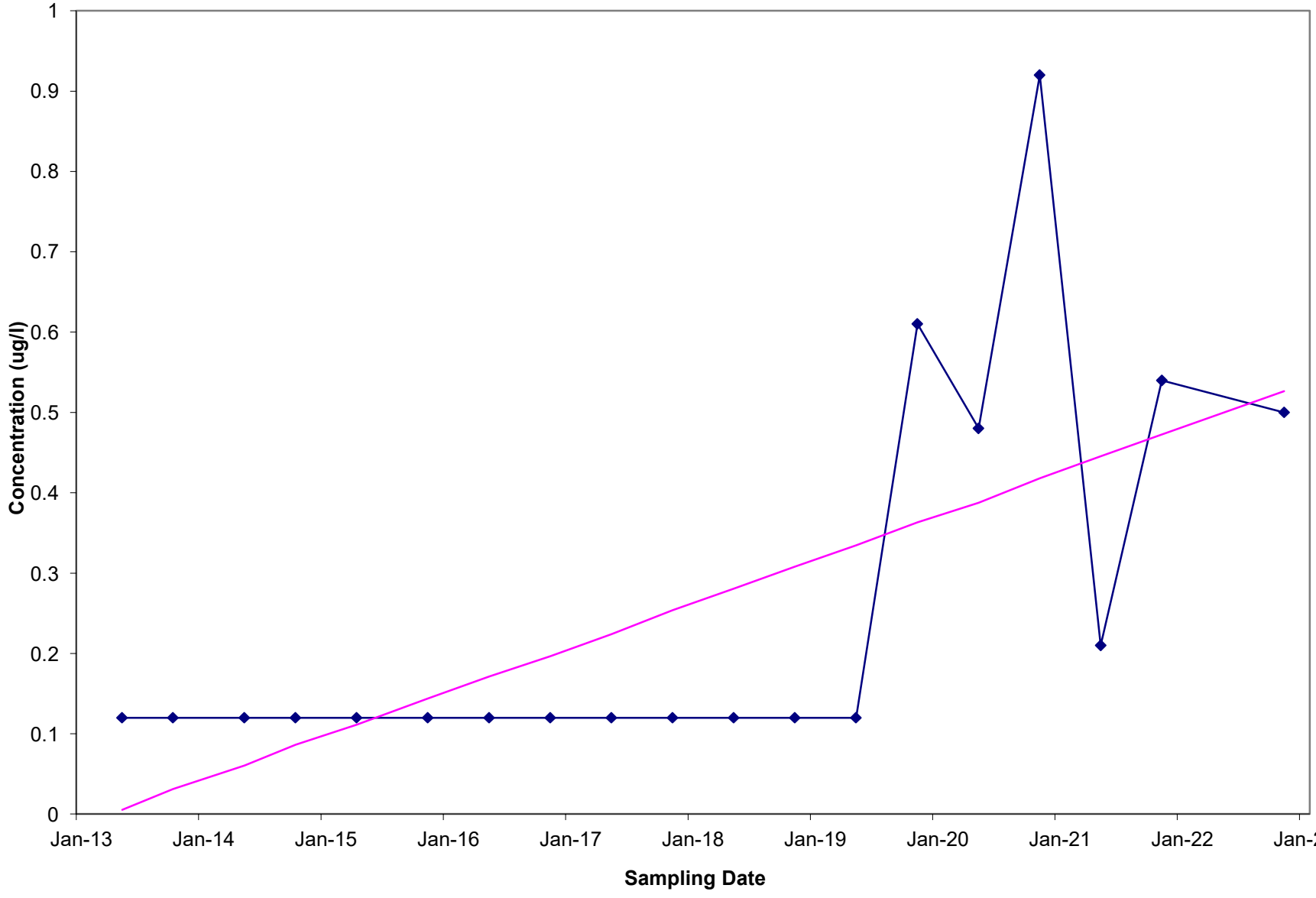
FIGURE 4-12



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

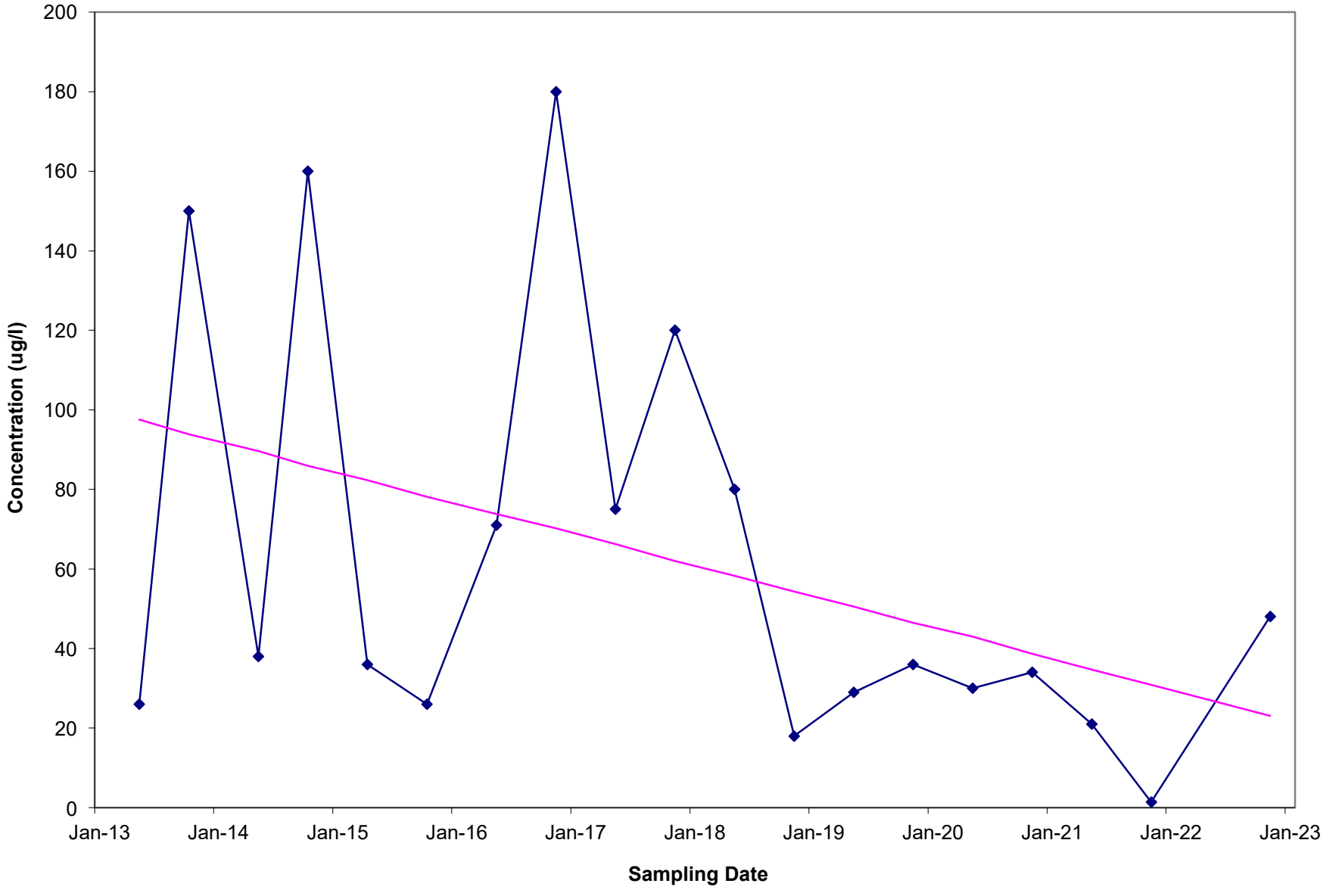
TCA CONCENTRATION VS. TIME IN BH-11A

10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-13



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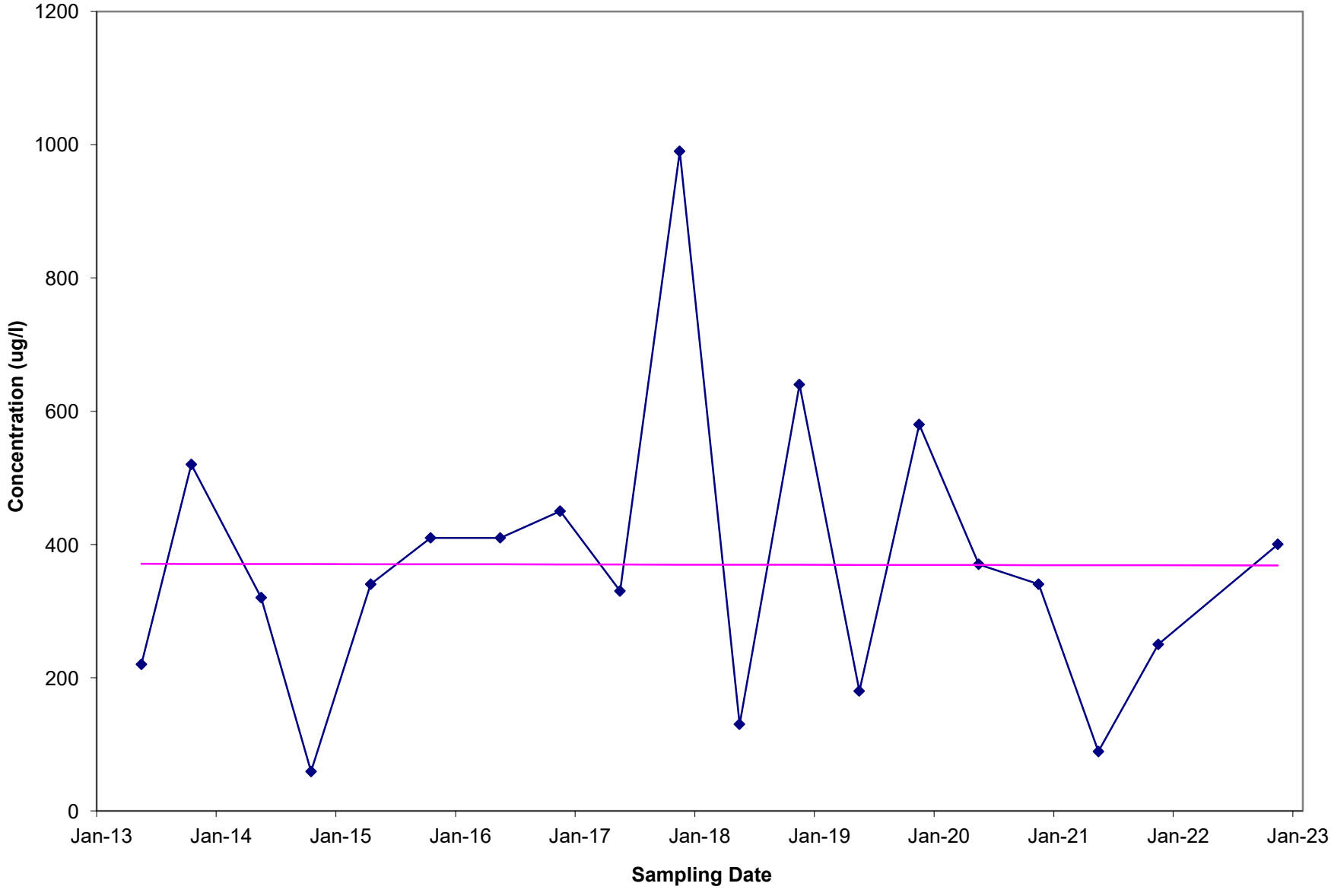
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

TCA CONCENTRATION VS. TIME IN BH-11B
10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-14



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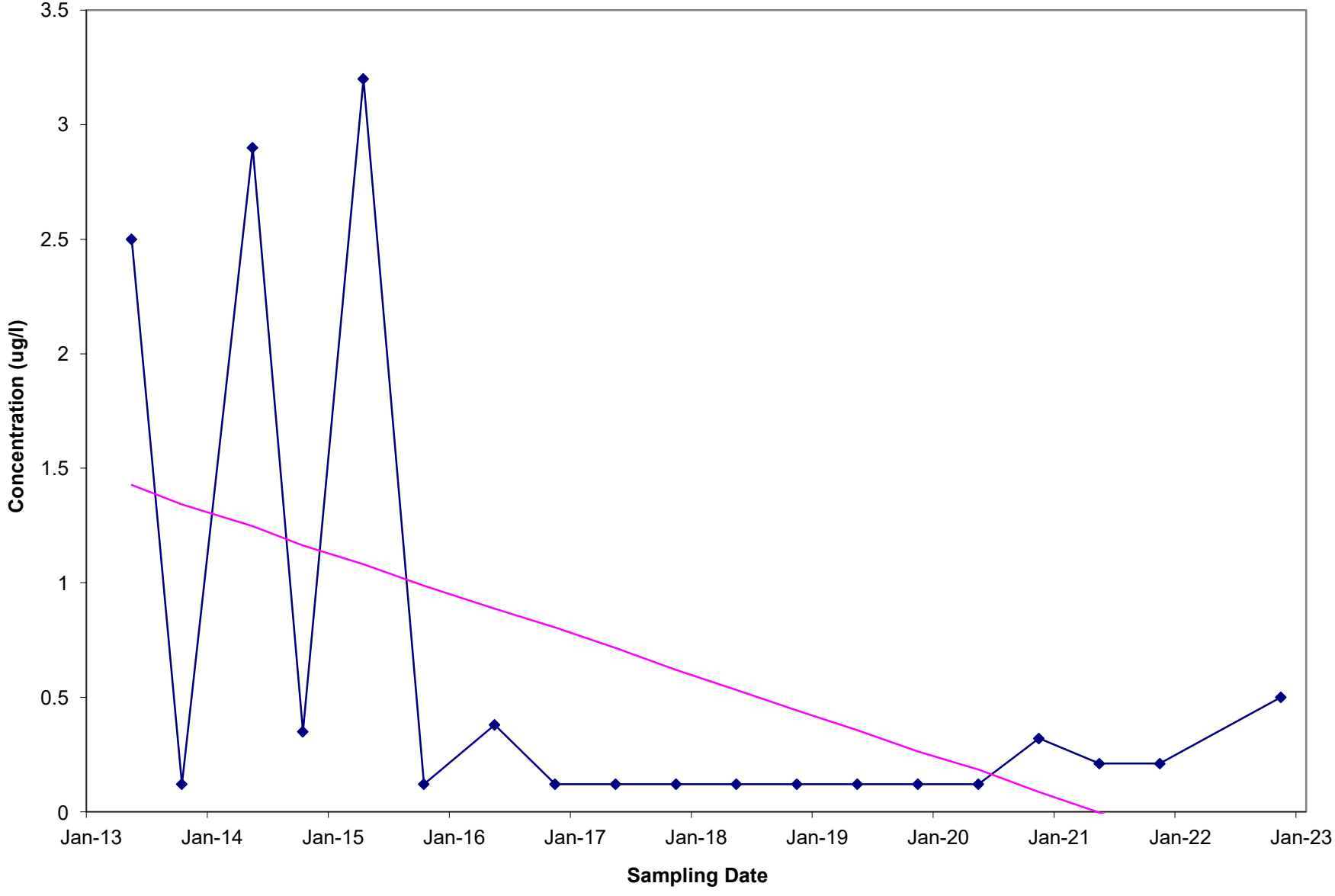
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

TCA CONCENTRATION VS. TIME IN BH-16
10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2021

ARCADIS US, INC.

0395-052-109

FIGURE 4-15



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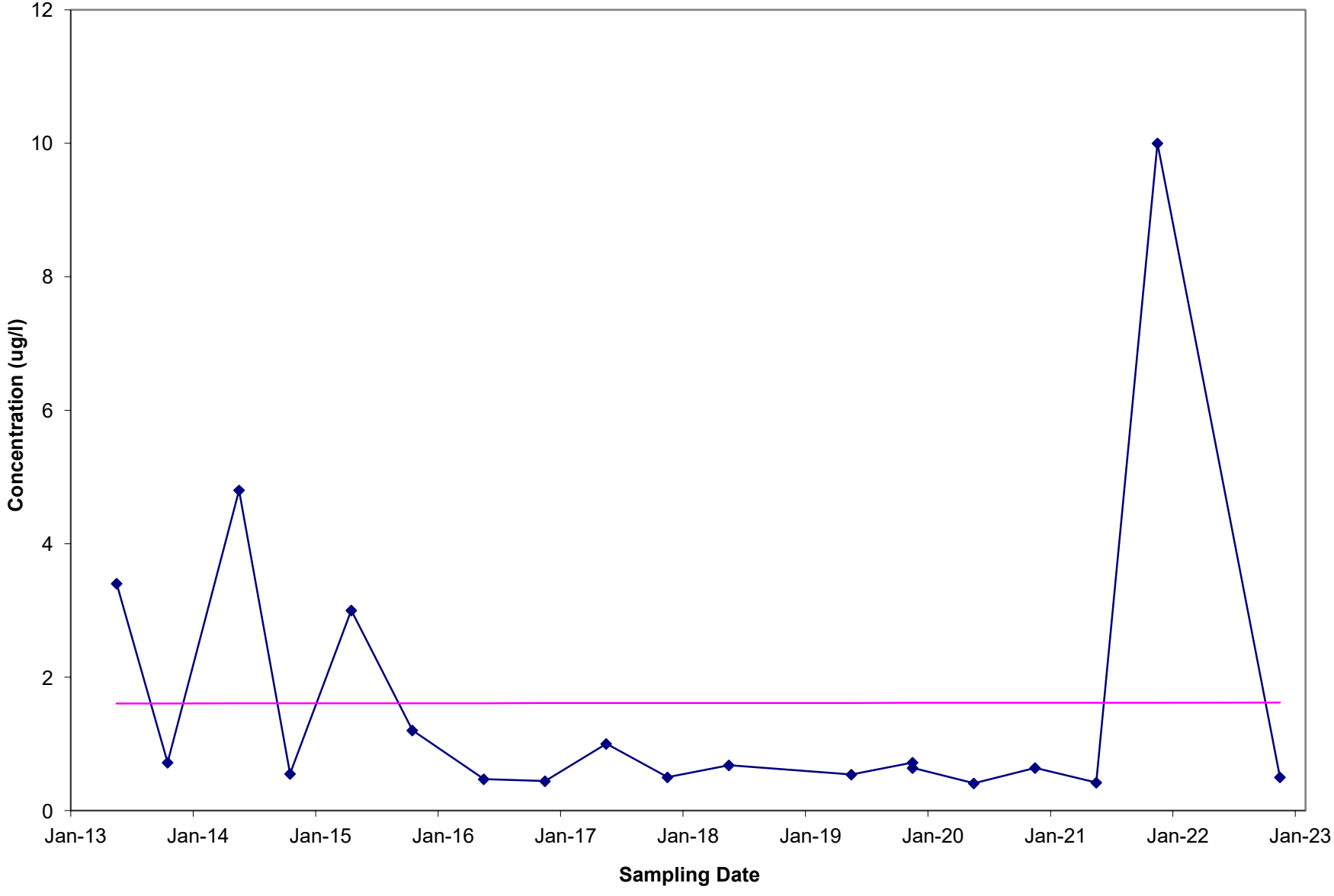
TCA CONCENTRATION VS. TIME IN BH-17
10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-16



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

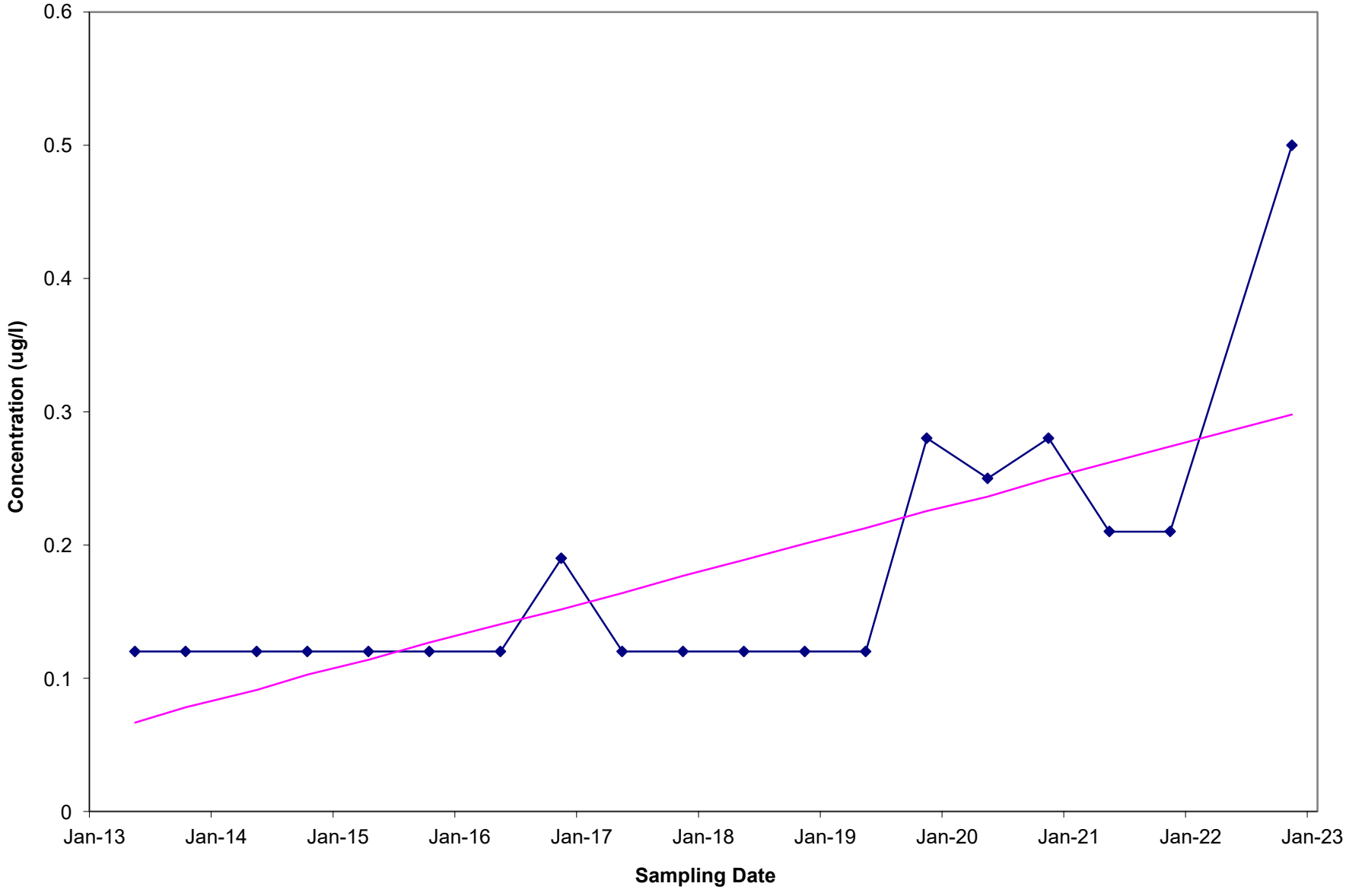
TCA CONCENTRATION VS. TIME IN BH-18

10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-17



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FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

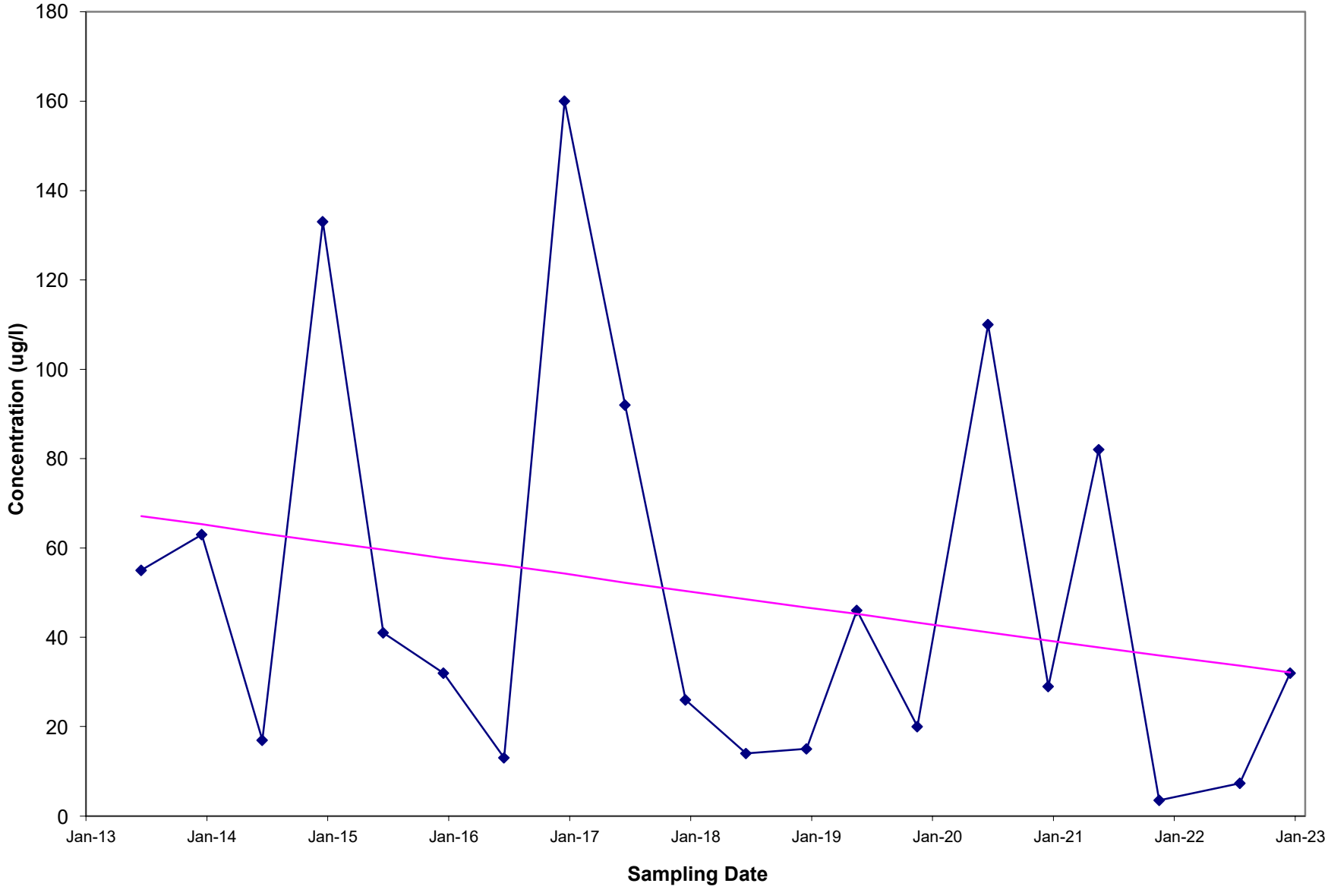
TCA CONCENTRATION VS. TIME IN BH-19

10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-18



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TCA CONCENTRATION VS. TIME IN BH-20

10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

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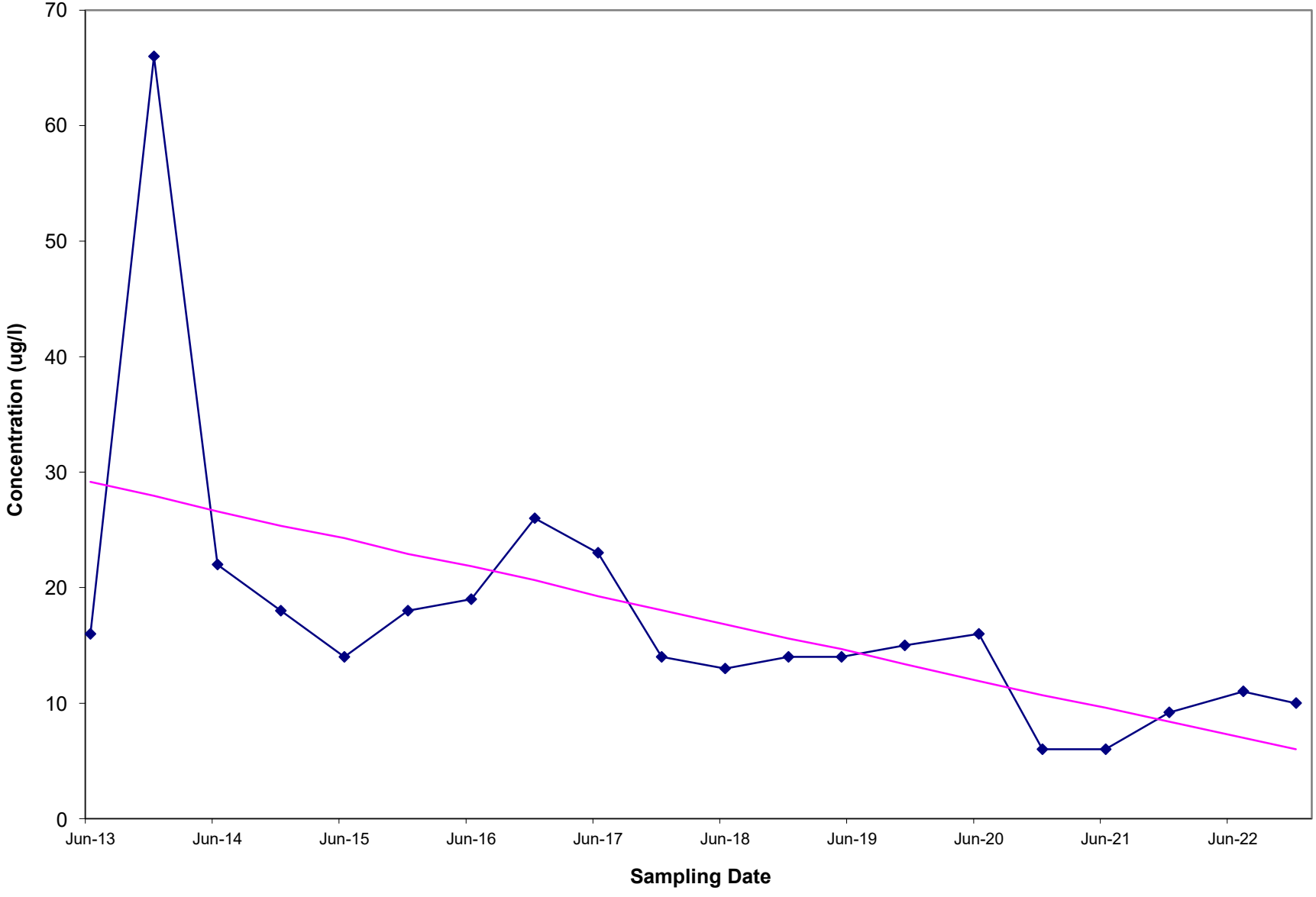
FIGURE 4-19



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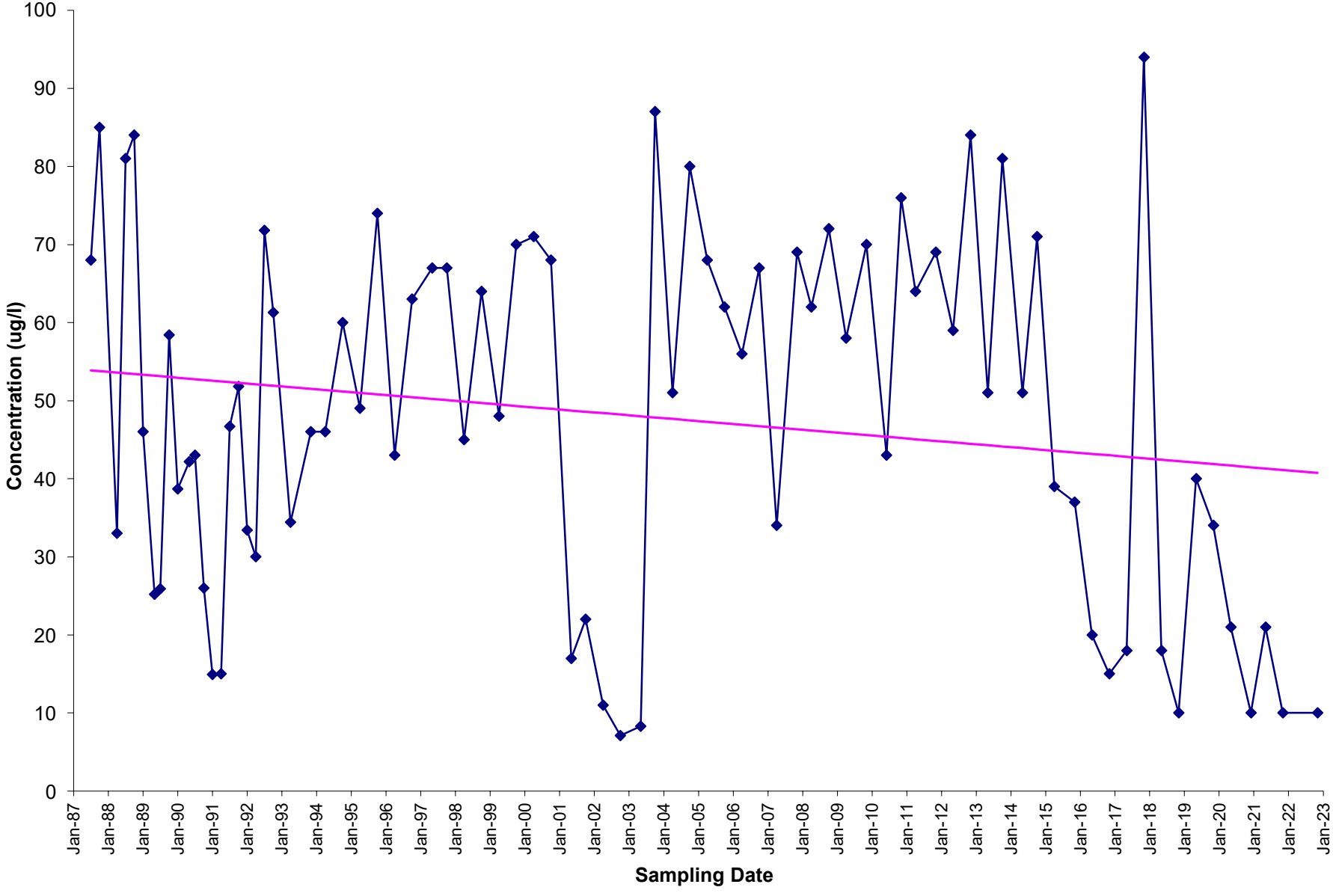
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

TCA CONCENTRATION VS. TIME IN RECOVERY WELL
10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-20



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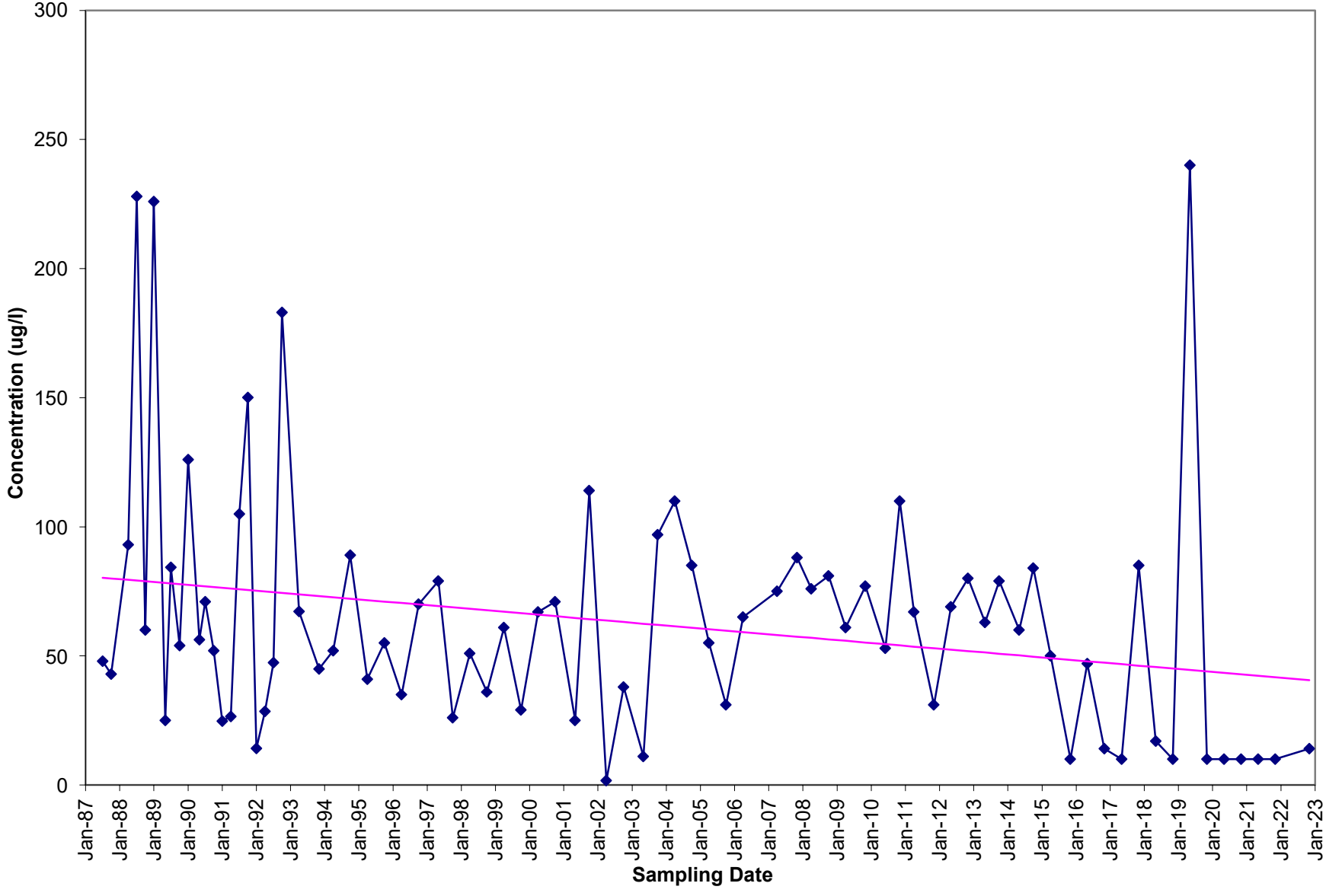
DISSOLVED ARSENIC CONCENTRATION VS. TIME IN MW-3
HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-21



ARCADIS Design & Consultancy for natural and built assets

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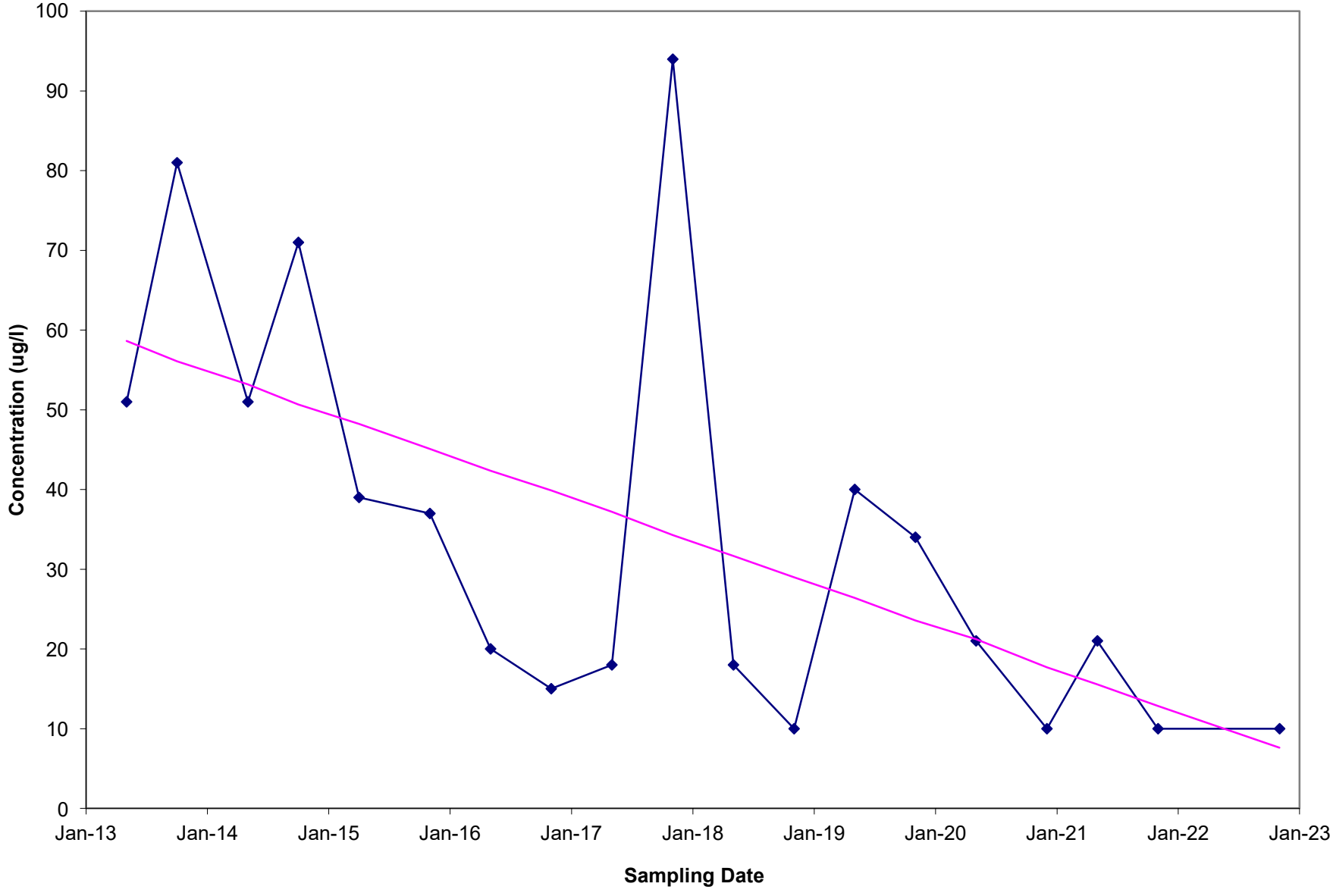
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

DISSOLVED ARSENIC CONCENTRATION VS. TIME IN MW-8D
HISTORIC LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-22



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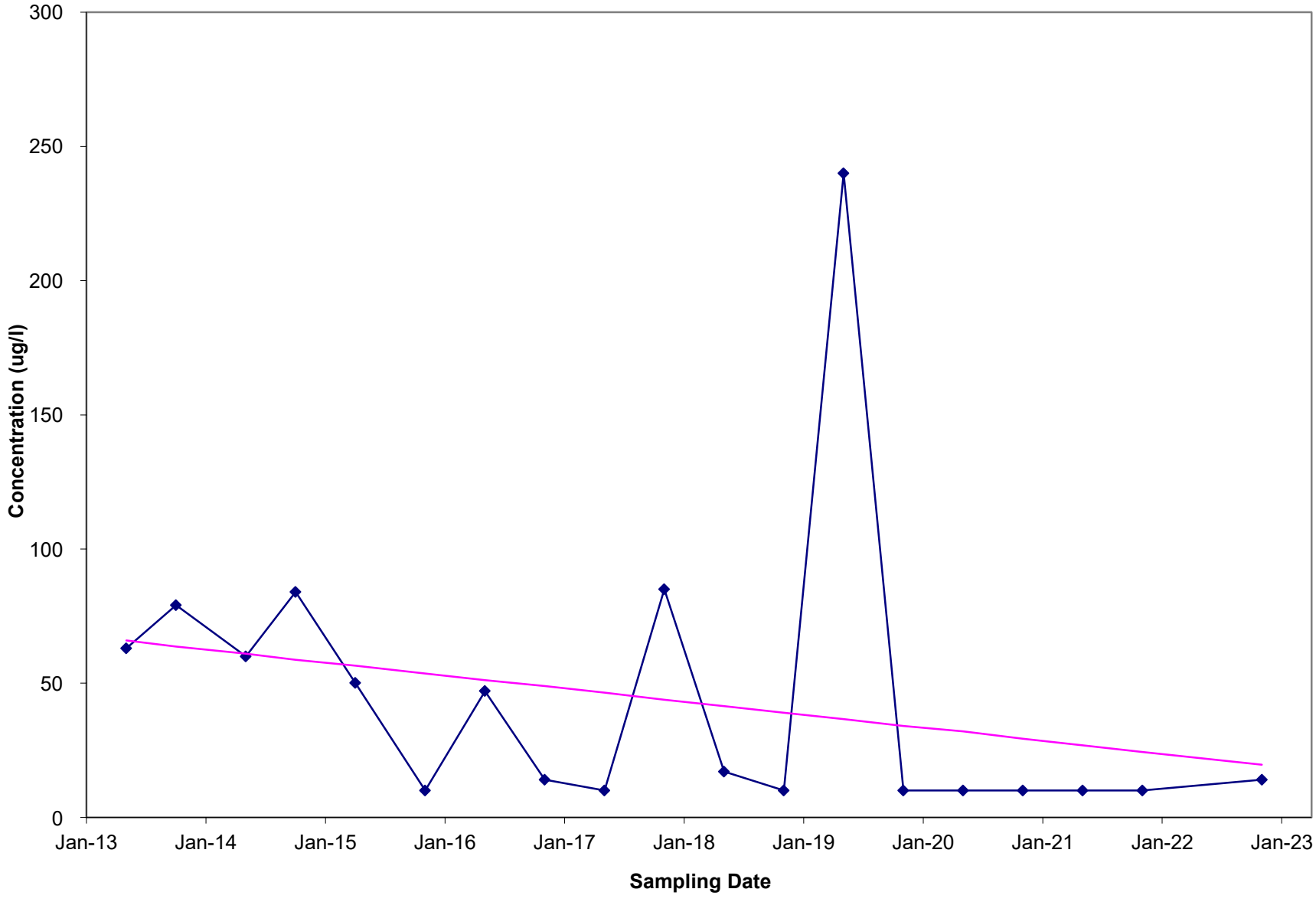
FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

DISSOLVED ARSENIC CONCENTRATION VS. TIME IN MW-3
10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-23



ARCADIS Design & Consultancy for natural and built assets

AVNET, INC.

FORMER CHANNEL MASTER SITE, ELLENVILLE, NEW YORK

DISSOLVED ARSENIC CONCENTRATION VS. TIME IN MW-8D
10-YEAR LINEAR REGRESSION ANALYSIS THROUGH 2022

ARCADIS US, INC.

0395-052-109

FIGURE 4-24

Appendix A

Lab Data Report – November 2022

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

December 13, 2022

Kathryn Banach
NB-Arcadis - US (Fairlawn)
17-17 Route 208 North
Fair Lawn, NJ 07410

Project Location: Ellenville
Project Number: 30001478.00105
Laboratory Work Order Number: 22K3186
PWSID# 30001478.00105

Enclosed are results of analyses for samples received by the laboratory on November 22, 2022. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Project Manager

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

NB-Arcadis - US (Fairlawn)
17-17 Route 208 North
Fair Lawn, NJ 07410
ATTN: Kathryn Banach

REPORT DATE: 12/13/2022

PURCHASE ORDER NUMBER:

PROJECT NUMBER: 30001478.00105

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 22K3186

The results of analyses performed on the following samples submitted to Pace Analytical Services, LLC - Newburgh are found in this report.

PROJECT LOCATION: Ellenville

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
BH-18	22K3186-01	Water		EPA 624	
BH-17	22K3186-02	Water		EPA 624	
BH-16	22K3186-03	Water		EPA 624	
BH-11 A	22K3186-04	Water		EPA 624	
BH-11 B	22K3186-05	Water		EPA 624	
BH-19	22K3186-06	Water		EPA 624	
BH-2	22K3186-07	Water		EPA 624	
BH-9	22K3186-08	Water		EPA 624	
MW-105/MW-105-F	22K3186-09	Water		EPA 200.7 REV. 4.4 (1994)	
MW-8D/MW-8D-F	22K3186-10	Water		EPA 200.7 REV. 4.4 (1994)	
MW-3/MW-3-F	22K3186-11	Water		EPA 200.7 REV. 4.4 (1994)	
Trip Blank	22K3186-12	Water		EPA 624	

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

Qualifications:

Analyte & Samples(s) Qualified:

The results of analyses reported only relate to samples submitted to the Pace Analytical Services, LLC - Newburgh for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Louis Rega

Louis Anthony Rega
Project Manager

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-18 | Sampled: 11/22/2022 09:45

Sample ID: 22K3186-01

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,1,1-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,1-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:27	ECA

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-18 | Sampled: 11/22/2022 09:45

Sample ID: 22K3186-01

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		96.5	77-120					11/28/22 17:27	
4-Bromofluorobenzene		95.1	71-118					11/28/22 17:27	
Toluene-d8 (Surr)		108	74-129					11/28/22 17:27	

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-17 | Sampled: 11/22/2022 10:00

Sample ID: 22K3186-02

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,1,1-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,1-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 17:56	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-17 | Sampled: 11/22/2022 10:00

Sample ID: 22K3186-02

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		99.5	77-120					11/28/22 17:56	
4-Bromofluorobenzene		95.3	71-118					11/28/22 17:56	
Toluene-d8 (Surr)		107	74-129					11/28/22 17:56	

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-16 | Sampled: 11/22/2022 10:15

Sample ID: 22K3186-03

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,1,1-Trichloroethane	400	20	µg/L	20		EPA 624	11/28/22	11/29/22 13:16	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,1,2-Trichloroethane	2.5	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,1-Dichloroethane	260	20	µg/L	20		EPA 624	11/28/22	11/29/22 13:16	ECA
1,1-Dichloroethene	3.4	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Chloroethane	5.5	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Trichloroethene	1.0	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:24	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-16 | Sampled: 11/22/2022 10:15

Sample ID: 22K3186-03

Sample Matrix: Water

Sample Flags: D

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		94.4	77-120					11/29/22 13:16	
1,2-Dichloroethane-d4 (Surr)		94.7	77-120					11/28/22 18:24	
4-Bromofluorobenzene		92.6	71-118					11/29/22 13:16	
4-Bromofluorobenzene		92.4	71-118					11/28/22 18:24	
Toluene-d8 (Surr)		109	74-129					11/28/22 18:24	
Toluene-d8 (Surr)		110	74-129					11/29/22 13:16	

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-11 A | Sampled: 11/22/2022 10:30

Sample ID: 22K3186-04

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,1,1-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,1-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 18:52	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-11 A | Sampled: 11/22/2022 10:30

Sample ID: 22K3186-04

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		98.4	77-120					11/28/22 18:52	
4-Bromofluorobenzene		97.3	71-118					11/28/22 18:52	
Toluene-d8 (Surr)		106	74-129					11/28/22 18:52	

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-11 B | Sampled: 11/22/2022 10:45

Sample ID: 22K3186-05

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,1,1-Trichloroethane	48	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,1-Dichloroethane	26	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:21	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-11 B | Sampled: 11/22/2022 10:45

Sample ID: 22K3186-05

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		94.2	77-120					11/28/22 19:21	
4-Bromofluorobenzene		94.6	71-118					11/28/22 19:21	
Toluene-d8 (Surr)		108	74-129					11/28/22 19:21	

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-19 | Sampled: 11/22/2022 11:00

Sample ID: 22K3186-06

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,1,1-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,1-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 19:49	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-19 | Sampled: 11/22/2022 11:00

Sample ID: 22K3186-06

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		96.8	77-120					11/28/22 19:49	
4-Bromofluorobenzene		94.6	71-118					11/28/22 19:49	
Toluene-d8 (Surr)		108	74-129					11/28/22 19:49	

Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-2 | Sampled: 11/22/2022 11:15

Sample ID: 22K3186-07

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,1,1-Trichloroethane	1.7	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,1-Dichloroethane	1.1	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:17	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-2 | Sampled: 11/22/2022 11:15

Sample ID: 22K3186-07

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		98.1	77-120					11/28/22 20:17	
4-Bromofluorobenzene		94.9	71-118					11/28/22 20:17	
Toluene-d8 (Surr)		108	74-129					11/28/22 20:17	

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-9 | Sampled: 11/22/2022 11:30

Sample ID: 22K3186-08

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,1,1-Trichloroethane	2.5	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,1-Dichloroethane	3.1	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 20:46	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: BH-9 | Sampled: 11/22/2022 11:30

Sample ID: 22K3186-08

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		95.3	77-120					11/28/22 20:46	
4-Bromofluorobenzene		93.9	71-118					11/28/22 20:46	
Toluene-d8 (Surr)		109	74-129					11/28/22 20:46	

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: MW-105/MW-105-F | Sampled: 11/22/2022 11:30

Sample ID: 22K3186-09

Sample Matrix: Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	28	10	µg/L	1		EPA 200.7 REV. 4.4 (1994)	12/7/22	12/8/22 17:26	EMC

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: MW-105/MW-105-F | Sampled: 11/22/2022 11:30

Sample ID: 22K3186-09

Sample Matrix: Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	10	µg/L	1		EPA 200.7 REV. 4.4 (1994)	12/7/22	12/8/22 20:25	EMC

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: MW-8D/MW-8D-F | Sampled: 11/22/2022 11:10

Sample ID: 22K3186-10

Sample Matrix: Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	340	10	µg/L	1		EPA 200.7 REV. 4.4 (1994)	12/7/22	12/8/22 17:32	EMC

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: MW-8D/MW-8D-F | Sampled: 11/22/2022 11:10

Sample ID: 22K3186-10

Sample Matrix: Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	14	10	µg/L	1		EPA 200.7 REV. 4.4 (1994)	12/7/22	12/8/22 20:31	EMC

315 Fullerton Avenue * Newburgh, NY 12550 * TEL. (845) 562-0890

Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: MW-3/MW-3-F | Sampled: 11/22/2022 10:45

Sample ID: 22K3186-11

Sample Matrix: Water

Metals Analyses (Total)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	85	10	µg/L	1		EPA 200.7 REV. 4.4 (1994)	12/7/22	12/8/22 17:38	EMC

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: MW-3/MW-3-F | Sampled: 11/22/2022 10:45

Sample ID: 22K3186-11

Sample Matrix: Water

Metals Analyses (Dissolved)

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Arsenic	ND	10	µg/L	1		EPA 200.7 REV. 4.4 (1994)	12/7/22	12/8/22 20:37	EMC

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: Trip Blank | Sampled: 11/22/2022 00:00

Sample ID: 22K3186-12

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,1,1-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,1,2,2-Tetrachloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,1,2-Trichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,1-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,1-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,2-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,2-Dichloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,2-Dichloroethene (Total)	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,2-Dichloropropane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,3-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
1,4-Dichlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
2-Chloroethyl vinyl ether	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Acetone	ND	5.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Acrolein	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Acrylonitrile	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Benzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Bromoform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Bromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Carbon tetrachloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Chlorobenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Chlorodibromomethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Chloroethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Chloroform	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Chloromethane	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
cis-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
cis-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Dichlorodifluoromethane (Freon 12)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Ethylbenzene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Methylene Chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
m-Xylene/p-Xylene	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
o-Xylene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Styrene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Tetrachloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Toluene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
trans-1,2-Dichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
trans-1,3-Dichloropropene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Trichloroethene	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Trichlorofluoromethane (Freon 11)	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Vinyl chloride	ND	1.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA
Xylene, Total	ND	2.0	µg/L	1		EPA 624	11/28/22	11/28/22 21:14	ECA

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Project Location: Ellenville | Sample Description: | Work Order: 22K3186

Date Received: 11/22/2022

Field Sample #: Trip Blank | Sampled: 11/22/2022 00:00

Sample ID: 22K3186-12

Sample Matrix: Water

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Surrogates		**% Recovery**	**Recovery Limits**		**Flag/Qual**				
1,2-Dichloroethane-d4 (Surr)		95.6	77-120					11/28/22 21:14	
4-Bromofluorobenzene		95.3	71-118					11/28/22 21:14	
Toluene-d8 (Surr)		108	74-129					11/28/22 21:14	

FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level

Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.

No results have been blank subtracted unless specified in the case narrative section.

D	Sample analyzed at a dilution.

CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 200.7 REV. 4.4 (1994) in Water	
Arsenic	NB-CT,NB-NJ,NB-NY
Arsenic	NB-CT,NB-NJ,NB-NY
EPA 624 in Water	
1,1,1,2-Tetrachloroethane	NB-CT,NB-NJ,NB-NY
1,1,1-Trichloroethane	NB-CT,NB-NJ,NB-NY
1,1,2,2-Tetrachloroethane	NB-CT,NB-NJ,NB-NY
1,1,2-Trichloroethane	NB-CT,NB-NJ,NB-NY
1,1-Dichloroethane	NB-CT,NB-NJ,NB-NY
1,1-Dichloroethene	NB-CT,NB-NJ,NB-NY
1,2-Dichlorobenzene	NB-CT,NB-NJ,NB-NY
1,2-Dichloroethane	NB-CT,NB-NJ,NB-NY
1,2-Dichloroethene (Total)	NB-CT,NB-NJ,NB-NY
1,2-Dichloropropane	NB-CT,NB-NJ,NB-NY
1,3-Dichlorobenzene	NB-CT,NB-NJ,NB-NY
1,4-Dichlorobenzene	NB-CT,NB-NJ,NB-NY
2-Chloroethyl vinyl ether	NB-CT,NB-NJ,NB-NY
4-Bromofluorobenzene	NB-CT,NB-NJ,NB-NY
Acetone	NB-CT,NB-NJ,NB-NY
Acrolein	NB-CT,NB-NJ,NB-NY
Acrylonitrile	NB-CT,NB-NJ,NB-NY
Benzene	NB-CT,NB-NJ,NB-NY
Bromoform	NB-CT,NB-NJ,NB-NY
Bromomethane	NB-CT,NB-NJ,NB-NY
Carbon tetrachloride	NB-CT,NB-NJ,NB-NY
Chlorobenzene	NB-CT,NB-NJ,NB-NY
Chlorodibromomethane	NB-CT,NB-NJ,NB-NY
Chloroethane	NB-CT,NB-NJ,NB-NY
Chloroform	NB-CT,NB-NJ,NB-NY
Chloromethane	NB-CT,NB-NJ,NB-NY
cis-1,2-Dichloroethene	NB-CT,NB-NJ,NB-NY
cis-1,3-Dichloropropene	NB-CT,NB-NJ,NB-NY
Dichlorodifluoromethane (Freon 12)	NB-CT,NB-NJ,NB-NY
Ethylbenzene	NB-CT,NB-NJ,NB-NY
Methyl tert-Butyl Ether (MTBE)	NB-CT,NB-NJ,NB-NY
Methylene Chloride	NB-CT,NB-NJ,NB-NY
m-Xylene/p-Xylene	NB-CT,NB-NJ,NB-NY
o-Xylene	NB-CT,NB-NJ,NB-NY
Styrene	NB-CT,NB-NJ,NB-NY
Tetrachloroethene	NB-CT,NB-NJ,NB-NY
Toluene	NB-CT,NB-NJ,NB-NY
trans-1,2-Dichloroethene	NB-CT,NB-NJ,NB-NY
trans-1,3-Dichloropropene	NB-CT,NB-NJ,NB-NY
Trichloroethene	NB-CT,NB-NJ,NB-NY
Trichlorofluoromethane (Freon 11)	NB-CT,NB-NJ,NB-NY
Vinyl chloride	NB-CT,NB-NJ,NB-NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
EPA 624 in Water	
Xylene, Total	NB-CT,NB-NJ,NB-NY

Pace Analytical Services, LCC operates under the following certifications and accreditations:

Code	Description	Number	Expires
NB-CT	Connecticut Department of Public Health	PH-0554	09/30/2023
NB-NJ	New Jersey DEP	NY015 NELAP	06/30/2023
NB-NY	New York State Department of Health	10142 NELAP	04/1/2023

CHAIN OF CUSTODY

Pace® ANALYTICAL SERVICES

Lab Name PAS - Newburgh NYS DOH LAB # 10142 NJDEP LAB # NY105 CT DOPH# PH-0555
Lab Address 315 Fullerton Avenue, Newburgh, NY 12550 Phone (845) 562-0890
Field Office Address 312 Titusville Rd, Poughkeepsie, NY 12603 Field Office Phone (845) 229-6536
Field Office Address 35 Goshen Turnpike, Bloomingburg, NY 12721 Field Office Phone (845)733-1557

REPORT# (Lab Use Only): 22K3186

CLIENT NAME: Arcadis
PWS NUMBER:
CLIENT ADDRESS: 17-17 Rt 208 N, Fair Lawn, NJ 07410
CLIENT PHONE1: 201-961-4688
CLIENT (SITE) CONTACT: Katie Beier
EMAIL(TO SEND REPORT): Kathryn.banack@arcadis.com
P.O. NUMBER/ PROJECT NUMBER: 30001478.00105
PROJECT LOCATION: Ellenville, NY

PAGE 1 of 1

TURNAROUND TIME (Biz Days) NON-TESTING CHARGES
NORMAL X P/U ___ SAMP ___
RUSH (Y/N) ___ GRAB ___ COMP ___
RUSH (# Biz Days) ___ REPORTING ___
#OF COOLERS 1 OTHER ___

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX: COMPOSITE (C) OR GRAB (G) INDICATE	MATRIX: AQUEOUS (WATER)	MATRIX: D (Drinking Water) or W (Waste Water) Indicate	MATRIX: SOLID OR SEMISOLID	MATRIX: Chlorine Residual	NUMBER OF CONTAINERS SUBMITTED: Total # of Containers	40mL Vials HCl	Liter Amber HCl	250 Amber Sulfuric	Liter Amber Glass	250 mL Plastic Nitric Acid	250mL Plastic Sulfuric Acid	Liter Plastic	250mL Plastic	250mL Plastic NaOH	40mL Vials Sulfuric	40 mL Glass Plain	125 mL Sterile Na2S2O3	125mL Sterile	Other	Analysis Requested
11/22/22	9:45	BH-18	G	X	GW			3	3														VOC 624
11/22/22	10:00	BH-17	G	X	GW			3	3														VOC 624
11/22/22	10:15	BH-16	G	X	GW			3	3														VOC 624
11/22/22	10:30	BH-11A	G	X	GW			3	3														VOC 624
11/22/22	10:45	BH-11B	G	X	GW			3	3														VOC 624
11/22/22	11:00	BH-19	G	X	GW			3	3														VOC 624
11/22/22	11:15	BH-2	G	X	GW			3	3														VOC 624
11/22/22	11:30	BH-9	G	X	GW			3	3														VOC 624
11/21/22	11:30	MW-10S / MW-10S-F	G	X	GW			2								1	1						Arsenic total + dissolved
11/21/22	11:10	MW-8D / MW-8D-F	G	X	GW			2								1	1						Arsenic total + dissolved
11/21/22	10:45	MW-3 / MW-3-F	G	X	GW			2								1	1						Arsenic total + dissolved
11/21/22	—	Trip Blank	G	X	W			1															VOC 624

NOTES: MW-10S-F, MW-8D-F, MW-3-F to be lab filtered

	COMPANY	DATE	TIME		COMPANY
SAMPLED BY: (SIGNATURE)	Arcadis	11/22/22	1330	RECEIVED BY: (SIGNATURE)	
RELINQUISHED BY: (SIGNATURE)	Arcadis	11/22/22	1338	RECEIVED BY: (SIGNATURE)	
RELINQUISHED BY: (SIGNATURE)				RECEIVED BY: (SIGNATURE)	

RECEIVED FOR PAS-NEWBURGH BY: (SIGNATURE) | DATE 11/22 | TIME 1338 | CUSTODY INTACT? YES ___ NO ___ | COOLER TEMP 0.4 | PAS-NEWBURGH REMARKS: ICE (Y/N) pH/Preservation Check ___

22K3186

Sample Condition Upon Receipt Form (SCUR)

Project # 22K3186
Client: Arcadis

Date and Initials of person:
Examining contents: KR
Label: KR
Deliver to location: KR
pH: KR

Thermometer Used: IR4 Date: 11/22 Time: 1338 Initials: KR
State of Origin: NY

Cooler #1 Temp.°C_____(Visual) .2 (Correction Factor) _____(Actual) ☑ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other_____

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ Other_____

Tracking # _____

Custody Seal on Cooler/Box Present: ☐ Yes ☐ No **Seals intact:** ☐ Yes ☐ No **Ice:** Wet Blue Melted None

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Samples were collected by Pace employee ☐ Yes ☐ No ☐ N/A

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐ N/A	
Relinquished Signature on COC	☑Yes ☐ No ☐ N/A	
Sampler Name and Signature on COC	☑Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐Yes ☐ No ☐ N/A	
Sufficient Volume	☑Yes ☐ No ☐ N/A	
Correct Containers Used	☑Yes ☐ No ☐ N/A	
Containers Intact	☑Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked.	☐Yes ☐ No ☐ N/A	Preservation Information: Preservative:_____ Lot #/Trace #:_____ Date:_____ Time:_____ Initials:_____
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: Vials, Microbiology, O&G, Metals	☐Yes ☐ No ☐ N/A	
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☐N/A	
Trip Blank Present:	☐Yes ☐ No ☐N/A	

Additional Login Comments:

Client notification/ Resolution
Person Contacted: Date/Time:
Comments/Resolution:

Arcadis U.S., Inc.

17-17 Route 208 North

Fair Lawn, New Jersey 07410

Tel 201 797 7400

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