FIFTH FIVE-YEAR REVIEW REPORT FOR ROBINTECH, INC./NATIONAL PIPE CO. SITE BROOME COUNTY, NEW YORK

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

JOHN PRINCE Digitally signed by JOHN PRINCE
Date: 2026.07.30 12:44:09 -04'00'

July 30, 2026

Pat Evangelista, Director
Superfund and Emergency Management Division

Date

765929

Table of Contents

LIST OF ABBREVIATIONS & ACRONYMS 2
I. INTRODUCTION 3
II. RESPONSE ACTION SUMMARY 5
Basis for Taking Action 5
Response Actions 6
Status of Implementation 9
Institutional Controls 10
Systems Operation/Operation & Maintenance 11
III. PROGRESS SINCE THE LAST REVIEW 12
IV. FIVE-YEAR REVIEW PROCESS 13
Community Notification and Involvement 13
Site Inspection 18
V. TECHNICAL ASSESSMENT 18
QUESTION A: Is the remedy functioning as intended by the decision documents? 18
QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection still valid? 20
QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy? 21
VI. ISSUES/RECOMMENDATIONS 21
VII. PROTECTIVENESS STATEMENT 21
VIII. NEXT REVIEW 22

APPENDIX A – FIGURES
APPENDIX B – REFERENCE LIST
APPENDIX C – REMEDY RESILIENCE

LIST OF ABBREVIATIONS & ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DCA	Dichloroethane
DCE	Dichloroethene
EPA	U.S. Environmental Protection Agency
FRI/FFS	Focused Remedial Investigation/Focused Feasibility Study
FS	Feasibility Study
FYR	Five-Year Review
GWQS	Groundwater Quality Standards
HHRA	Human-Health Risk Assessment
ICs	Institutional Controls
LTTD	low-temperature thermal desorption
MCL	Maximum Contaminant Level
µg/L	Micrograms per Liter
MW	Monitoring Well
NP&P	National Pipe & Plastics, Inc.
NPL	National Priorities List
NYSDEC	New York State Department of Environmental Conservation
O&M	Operation and Maintenance
OU	Operable Unit
PDB	Passive Diffusion Bag
PRP	Potentially Responsible Party
PW	Production Well
RAO	Remedial Action Objectives
RD	Remedial Design
RI	Remedial Investigation
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
SVI	Soil Vapor Intrusion
SPDES	State Pollutant Discharge Elimination System
TAGM	Technical and Administrative Guidance Memorandum
PCE	Tetrachloroethylene
TCA	Trichloroethane
TCE	Trichloroethene
UU/UE	Unlimited Use and Unrestricted Exposure
VC	Vinyl Chloride
VOCs	Volatile Organic Compounds
VI	Vapor Intrusion

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR for the Robintech, Inc./National Pipe Co. site pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the fifth FYR for the site. The triggering action for this policy FYR is the signature date of the last review, July 2, 2021. The FYR has been prepared due to the fact that the remedial action will not leave hazardous substances, pollutants or contaminants on site above levels that allow for unlimited use and unrestricted exposure, but requires five or more years to complete.

The work at the site has been divided into three operable units (OUs). OU1 is related to contamination in the bedrock groundwater. OU2 involved suspected elevated concentrations of lead in soil and sediment. Because "no-action" was selected in a 1993 Record of Decision (ROD)[1], OU2 is not discussed further in this FYR. OU3 addresses contamination in the overburden soil and groundwater. In summary, OU1 and OU3 will be evaluated in this FYR.

The site's FYR team was led by Liana Agrios, the EPA Remedial Project Manager (RPM) and hydrogeologist. Participants included Abbey States (EPA human-health risk assessor), Abigail DeBofsky (EPA ecological risk assessor), and Shereen Kandil (EPA community involvement coordinator).

The owner/operator of the property is LCP Group, Inc., and they were notified of the initiation of this FYR. The FYR began on November 1, 2025.

Site Background

The site is located in Vestal, a regionally important industrial center adjacent to Binghamton, New York, within the Susquehanna River basin. The site includes an approximately 12.7-acre parcel of property (hereinafter, "Property") and areas affected by the release or threat of release of hazardous substances to the west of the Property (hereinafter, "Off-Property"). The Property is bordered by Commerce Road and several warehouses and light industrial buildings to the east, Old Vestal Road and residential areas to the south, an amusement facility and former fuel storage tanks (Mobil Tank Farm, now owned by Buckeye) to the west, and Norfolk Southern railroad tracks and the former Parkway Vending building to the north (**Appendix A, Figure 1**). The

[1] The investigation did not reveal elevated lead concentrations in any site media.

Property is currently owned by LCP Group, Inc., and is not used for residential purposes; the site is used for commercial purposes and is occupied by an active demolition business.

The Property is located approximately halfway down the western face of a hill that slopes gently toward the Susquehanna River. EPA field observations and topographic data indicate that surface water runoff across the Property flows westward via drainage ditches and conduits toward the river, located approximately one-half mile to the north and west. The surrounding area is not known to include ecologically sensitive habitats, wetlands, agricultural land, or historic or landmark sites. Land use in the Property and surrounding area (with the exception of residential areas to the south) is predominantly industrial/commercial and is expected to remain so.

Eight production wells were installed on-Property between 1983 and 1984. These six-inch diameter wells were constructed with steel casing through the till overburden and extended into open bedrock to an average depth of approximately 300 feet below ground surface. The wells were used to supply cooling water for a pipe production process, with discharge to surface water at a permitted outfall.

In 1984, the New York State Department of Environmental Conservation (NYSDEC) collected an effluent sample to evaluate discharge permit compliance and identified volatile organic compounds (VOCs) not covered under the permit. Subsequent investigations concluded that the contamination was originating from the bedrock groundwater beneath the Property. NYSDEC also determined that there were soil source areas in the overburden impacting groundwater in both the overburden and bedrock geologic units. EPA conducted additional sampling in 1985 to evaluate the site for inclusion on the National Priorities List (NPL). Elevated VOC concentrations were detected in overburden soils and bedrock groundwater. Based on these findings, the site was added to the NPL in 1986.

The site is characterized by two distinct aquifers. The upper aquifer consists of overburden, primarily gray and brown glacial till, which becomes more consolidated with depth and is approximately 20 to 40 feet thick. Fill material associated with historical site grading ranges from zero to 6 feet in thickness. Groundwater within the upper aquifer is encountered at depths of approximately 6 to 20 feet below ground surface. The lower aquifer consists of shale bedrock with a weathered zone approximately 7 to 10 feet thick. While the primary permeability of the shale is low, secondary permeability is significantly higher due to fractures along bedding planes and vertical joints, which facilitate groundwater flow.

Groundwater flow in the study area is predominantly to the west, with minor components trending northwest and southwest. There are no private drinking water wells in the immediate vicinity of the site. Residents are served by the Vestal well fields, including one located off-Property near the Susquehanna River. Monitoring data indicate that none of the municipal wells have been impacted by site-related contamination.

Appendix B, attached, summarizes the documents utilized to prepare this FYR.

For more details related to site background, physical characteristics, geology/hydrogeology, land/resource use, and history related to the site, please refer to: https://www.epa.gov/superfund/robintech.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Robintech, Inc./National Pipe Co. Superfund Site		
EPA ID: NYD002232957		
Region: 2	**State:** NY	**City/County:** Vestal, New York
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Liana Agrios		
Author affiliation: EPA		
Review period: 11/1/2025 – 7/9/2026		
Date of site inspection: 7/9/2026		
Type of review: Policy		
Review number: 5		
Triggering action date: 7/2/2021		
Due date *(five years after triggering action date)*: 7/2/2026		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

Following the listing of the site on the NPL, EPA and a group of PRPs (PRP Group) entered into an Administrative Order on Consent under Sections 104 and 122 of CERCLA for the performance of a remedial investigation and feasibility study (RI/FS). The RI revealed numerous VOCs in the overburden and bedrock groundwater and in overburden soils. These

contaminants included 1,1,1-trichloroethane (TCA), 1,1-dichloroethane (DCA), trichloroethene (TCE), 1,1-dichloroethene (DCE), vinyl chloride (VC), and toluene. The RI report, which included a human-health risk assessment (HHRA), and an FS report were completed in 1991.

The HHRA concluded that an unacceptable risk existed for hypothetical future residents' consumption of groundwater from the overburden and bedrock aquifers, driven primarily by VOCs. The ecological risk assessment concluded that no habitats or species of special concern would likely be affected by site-related contaminants.

Response Actions

Following the completion of the RI/FS, a ROD for OU1 was issued in March 1992 (1992 ROD). The 1992 ROD addressed contamination present in the overburden and bedrock aquifers. The remedial action objectives (RAOs) specified in the 1992 ROD were:

- Restore the aquifer as a potential source of drinking water by reducing contaminant levels to the New York State and federal Maximum Contaminant Levels (MCLs).
- Reduce or eliminate the potential for Off-Property migration of contaminants.

The 1992 ROD remedy included:

- Extraction and treatment via air stripping of contaminated bedrock and overburden groundwater.
- Utilization of the treated water in the plant process or pumping it directly to a state pollutant discharge elimination system (SPDES) permitted effluent discharge point, depending on plant process requirements.
- Long-term system-monitoring, which includes the collection and analysis of extraction and monitoring wells and the SPDES effluent discharge to track the migration and concentrations of the contaminants of concern.
- Institutional controls (ICs) in the form of deed restrictions will be recommended to the appropriate authorities (Property and Off-Property restrictions) to prevent the extraction of groundwater for potable purposes.
- Evaluation of site conditions at least once every five years to determine if a modification to the remedy is necessary.

In September 1992, a Unilateral Administrative Order was issued by EPA to the PRP Group to design and implement the remedy selected in the 1992 ROD.

The results of a preliminary remedial design (RD) investigation indicated that overburden groundwater and subsurface soils were contaminated at levels much greater than those detected during the RI; the contaminated subsurface soils were subsequently determined to be source areas. In addition, the pre-RD investigation concluded that the overburden-formation till was of

relatively low-permeability with an extremely low groundwater yield. Therefore, the extraction of contaminated groundwater from the overburden (the remedy selected for the overburden in the 1992 ROD) was determined not to be feasible. An alternative approach to address the contaminated groundwater was determined to be necessary. In addition, EPA determined that the source areas in the overburden soil needed to be addressed. A ROD for OU3 was signed in 1997 (1997 ROD). This ROD addressed source contamination present above and below the water table in the overburden in three areas of the Property. Additionally, based on the tight overburden formation resulting in extremely low groundwater yields (approximately 0.1 gallons per minute), consistent with EPA and state guidance, the overburden aquifer is not usable for drinking water purposes. Therefore, the 1997 ROD also concluded that federal and state MCLs are not applicable with respect to the overburden aquifer. As the bedrock aquifer is usable, federal MCLs and New York State Class GA Groundwater Quality Standards (GWQS) remain applicable with respect to that aquifer.

Table 1: Contaminants of Concern and Remedial Goals:

1,1,1-TCA	5 µg/L
1,1-DCA	5 µg/L
1,1-DCE	5 µg/L
TCE	5 µg/L
cis-1,2-DCE	5 µg/L
Vinyl Chloride	2 µg/L

The RAOs specified in the 1997 ROD were:

- Mitigate the potential for contaminants to migrate from the soil into the overburden aquifer and reduce soil contamination to meet the NYSDEC soil cleanup objectives identified in the Technical and Administrative Guidance Memorandum (TAGM).[2]
- Mitigate the potential for contaminants to migrate from the overburden aquifer into the bedrock aquifer.
- Reduce or eliminate the potential for Off-Property migration of contaminants.
- Reduce or eliminate the threat to public health and the environment posed by groundwater contamination by remediating groundwater to MCLs for VOCs.

The 1997 ROD included the following components:

- Excavation of unsaturated- and saturated- overburden soils in three areas of the Property, and treatment for VOCs using low-temperature thermal desorption (LTTD).

[2] Technical and Administrative Guidance Memorandum No. 94-HWR-4046. Soil Cleanup Objectives to Protect Groundwater Quality.

- Extraction of contaminated groundwater from the bedrock aquifer through the existing production-well network until MCLs are achieved. Provisions to periodically evaluate the entire system, and repair or upgrade, as necessary, will be included in an operation and maintenance plan.
- Elimination of any plant-related sources of water to the overburden aquifer in order to further mitigate contaminant mobility.
- Intrinsic remediation of contaminated overburden groundwater (natural attenuation processes, including chemical degradation, dilution, and dispersion) at the Property and in downgradient areas. These natural mechanisms will be monitored regularly to verify that the level and extent of contaminants in overburden groundwater are declining from baseline conditions and that conditions are protective of human health and the environment.
- Taking steps to secure ICs, such as deed restrictions and contractual agreements, as well as local ordinances, laws, or other government action, for the purpose of, among other things, restricting the installation and use of groundwater wells on the Property and Off-Property until groundwater quality has been restored.
- Development of a contingency plan during the RD to ensure the continuation of the pumping of contaminated bedrock groundwater from the existing production well network in the event of temporary or permanent plant closure or to adjust the rate of such pumping in the event that existing pumping rates do not effectively control the migration of contaminated groundwater. The contingency plan will also address the treatment of the production well network effluent should contaminant levels exceed surface water discharge standards.
- Long-term groundwater and production well effluent discharge monitoring to evaluate the remedy's effectiveness.
- Reevaluation of site conditions at least once every five years to determine if a modification to the selected remedy is necessary.

The Soil Vapor Intrusion (SVI) pathway was evaluated as part of the 2011 FYR, and site-related VOCs were detected at elevated concentrations in the subslab of an adjacent commercial property. Although VOCs were also detected in indoor air, the concentrations and contaminant profile suggested they were not attributable to a subslab source. Nevertheless, a subslab mitigation system was offered to the property owner. When the system and follow-up sampling were declined, EPA recommended increasing the building’s fresh-air intake to address elevated indoor air concentrations; this measure was implemented during the subsequent FYR period. Since the adjacent commercial property is under new ownership, SVI sampling was offered to the new property owner following the FYR site inspection.

Subslab and indoor air sampling conducted during the 2011 FYR at nearby residential properties south of the Property detected concentrations below SVI screening levels for site-related

contaminants. In addition, there is no indication of increased overburden contamination or southward (sidegradient) migration. Therefore, further evaluation of these residential properties is not warranted at this time. In 2018, EPA issued an Explanation of Significant Differences (ESD) that incorporated informational institutional controls into the remedy to address vapor intrusion (VI) into indoor air in occupied/potentially occupied structures on the Property and in Off-Property areas.

Status of Implementation

OU1 (Bedrock Groundwater)

The 1997 ROD formalized a revised remedial strategy for the source areas and groundwater in the overburden and provided for the continued extraction and treatment of the contaminated bedrock groundwater. In 1996, a conduit of contamination from the overburden into the bedrock was preemptively eliminated by abandoning and properly sealing production well PW-2 (See **Appendix A, Figure 1**). The rebuilding and upgrade of the existing bedrock groundwater-extraction system was completed in 2001. This work included new pumps, piping, wiring, and instrumentation for the existing production well system. It became evident shortly after this work was completed that the bedrock production wells themselves (originally installed in the 1980s) required redevelopment. This work was completed in 2002, and the system ran through 2003. A combination of logistical circumstances, primarily being the decision of the pipe-production facility to discontinue the use of the extracted groundwater in its manufacturing process, forced the system to shut down in 2003. In 2005, after successful negotiations were completed between EPA, the PRP Group, and National Pipe & Plastics, Inc. (NP&P), the bedrock groundwater-extraction system became operational. This post-construction groundwater-extraction system included components of the original system that had been used for cooling water in the pipe-production process. In addition, the NP&P implemented a carbon treatment component to treat contaminated groundwater from the bedrock aquifer until MCLs are achieved. NP&P ran this system until 2014,[3] when it relocated its pipe-production to a neighboring town. Following cessation of system operations, EPA began exploring alternatives to the extraction and treatment of the bedrock groundwater for several reasons: (1) contaminant concentrations had stabilized and were no longer decreasing significantly and (2) the extraction system required extensive repairs. EPA expects to start a Focused Remedial Investigation/Feasibility Study (FRI/FFS) at the start of FY 2027 to evaluate and select an alternative to bedrock groundwater extraction.

OU3 (Overburden Soil and Groundwater)

The 1997 ROD called for implementation of the OU3 remedy, which from 1999 to 2001 included the excavation of approximately 10,000 cubic yards of VOC contaminated overburden soils from the vadose and saturated zones to bedrock. Soil was removed from the PW-2, Paved-Pipe-

[3] NP&P, while not considered a PRP, ran the system on behalf of the PRP Group until the last remaining member of the PRP Group went out of business around 2011. Thereafter, NP&P continued to run the system.

Staging, and Warehouse areas of the Property, treated by LTTD to meet cleanup levels, and placed back into the excavation areas (**Figure 2**).

Partial Deletion

Because no further response actions are needed for the Property's 12.7-acre overburden soil and groundwater, as well as an approximately 9.7-acre portion of the bedrock aquifer underlying the overburden, these portions of the Property were deleted from the NPL in 2019. The undeleted 3-acre portion of the bedrock aquifer underlying the Property and the Site-related overburden and bedrock aquifers in Off-Property areas (**Figure 3**) remain on the NPL. The portions of the Site that remain on the NPL are subject to ongoing evaluation of bedrock groundwater conditions, including a planned FRI/FFS expected to begin at the start of FY 2027 and be completed by 9/30/2030.

Institutional Controls

The 1992 ROD required the implementation of ICs in the form of deed restrictions to prevent the extraction of groundwater for potable purposes. The 1997 ROD called for the implementation of ICs to restrict the installation and use of groundwater wells at and downgradient of the site until groundwater quality has been restored. The ICs were incorporated into a Declaration of Easements, Covenants and Restrictions ("Easement") for the Property in March 2006 during the transfer of the property from National Pipe Co. to NP&P. The partial-deletion from the NPL was completed in 2019. The Property was subsequently sold to LCP Group Inc., and a new Easement was placed on the Property in February 2022, in advance of the sale.

With respect to the Off-Property area, Town of Vestal code §24-73.d requires all development (residential, commercial, industrial, etc.) to connect to the public drinking water supply system in all areas of the Town where the public supply is available. The site Property and the plume downgradient of the site Property are located in an area where the public drinking water supply system is available. Further, the installation of any other groundwater-withdrawal well is restricted within areas of the Town designated as an "aquifer district" (Town of Vestal code §23-518.a-c). The Property and Off-Property areas are located within an "aquifer district."

In addition, the 2018 ESD documented the determination to incorporate into the remedy for the site an informational IC to address vapor intrusion into indoor air in occupied/potentially occupied structures on the Property and in Off-Property areas. To implement this IC, the Town of Vestal has agreed to notify the EPA when a) there is a change in tenancy, or b) new structures or modifications to existing structures are proposed in the Property and Off-Property areas. In either instance, EPA will provide landowners the opportunity to have occupied/potentially-occupied structures evaluated for vapor intrusion.

Table 2, below, summarizes the status of the ICs.

Table 2: **Summary of Implemented Institutional Controls**

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs needed?	ICs called for in the decision documents?	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date (or planned)
Groundwater (OU1 and OU3)	Yes	Yes	Property	Restrict groundwater use on the Property.	Easement, February 2022 (prior Easement, March 2006).
Groundwater (OU1 and OU3)	Yes	Yes	Off-Property	Restrict groundwater use in Off-Property areas.	Code of the Town of Vestal §§ 24-73.d and 23-518.a-c[4]
Soil Vapor (OU1 and OU3)	Yes	Yes	Property, Off-Property	Notification and evaluation of structures for VI with monitoring &/or mitigation, as appropriate.	Town of Vestal to notify EPA of status change of properties (August 2018).

Systems Operation/Operation & Maintenance

O&M for the long-term monitoring components of the overburden (OU3) and bedrock (OU1) aquifers began in 2001. The Property and related facilities are inspected at least annually and groundwater monitoring wells are inspected for ease of locating, damage/vandalism, and the condition of the surface seals. Groundwater is sampled annually in the fall for both OU1 and OU3.

As noted above, in 2014, after nine years of operation, EPA allowed NP&P to turn off the bedrock groundwater-extraction system. To evaluate if alternatives to extraction and treatment of the bedrock groundwater would be appropriate, bedrock groundwater samples were collected from the system-related production wells bimonthly from August through November 2014. In addition, two full rounds of baseline VOC bedrock-groundwater sampling were completed on the Property and Off-Property in 2015. This effort included 16 bedrock wells (*i.e.,* the eight bedrock production wells and eight bedrock monitoring wells). To support the further evaluation of alternatives to bedrock groundwater extraction, this was followed by a focused sample collection event for groundwater-quality parameters in 2016 and annual monitoring of bedrock and overburden groundwater for VOCs, thereafter. Annual monitoring of bedrock and overburden wells has been completed through 2025. A FRI/FFS will be performed to support the evaluation of alternatives to bedrock groundwater extraction, with work expected to begin in 2027.

[4] The Town of Vestal Code Book is available at https://library.municode.com/ny/vestal.

Potential site impacts from severe weather events have been assessed, and the performance of the remedy is currently not at risk due to these expected effects (See **Remedy Resilience Summary in Appendix C**).

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last FYR, as well as the recommendations from the last FYR and the current status of those recommendations.

Table 3: **Protectiveness Determinations/Statements From 2021 Five-Year Review**

OU	Protectiveness Determination	Protectiveness Statement
01	**Short-term Protective**	The remedy for OU1 is protective of human health and the environment in the short-term because all exposure pathways have been eliminated. To be protective in the long-term, the ongoing evaluation of alternatives to bedrock groundwater extraction and treatment needs to be completed and the pilot testing of any viable alternative(s) performed.
03	**Protective**	The remedy for OU3 is protective of human health and the environment.
Sitewide	**Short-term Protective**	The sitewide remedy is protective in the short-term because all exposure pathways have been eliminated. To be protective in the long term, the ongoing evaluation of alternatives to bedrock groundwater extraction and treatment needs to be completed and the pilot testing of any viable alternative(s) performed.

Table 4: **Status of Recommendations From 2021 Five-Year Review**

OU(s)	Issue	Recommendations	Current Status	Implementation Status	Completion Date (if applicable)
01	The ongoing evaluation of alternatives to bedrock groundwater extraction and treatment should be completed.	Complete the evaluation of alternatives to bedrock groundwater extraction and treatment and pilot-test any viable alternative(s).	Ongoing	Though significant information has been collected to inform a remedy change, the evaluation has not been completed. Contract to perform the evaluation is being negotiated.	Anticipated 9/30/2030

IV. FIVE-YEAR REVIEW PROCESS

Community Notification and Involvement

On July 21, 2025 EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at Superfund sites in New York, New Jersey, Puerto Rico, and the U.S. Virgin Islands, including the Robintech, Inc./National Pipe Co. site. The announcement can be found at the following web address: https://www.epa.gov/superfund/R2-fiveyearreviews.

In addition to this notification, the EPA Community Involvement Coordinator, or CIC for the site, Shereen Kandil, posted a public notice on the EPA webpage https://www.epa.gov/superfund/robintech on June 11, 2026. On the same day, the CIC also provided the notice to the Town of Vestal by email with a request that the notice be posted in municipal offices and on the town webpages, and to the Vestal Public Library with a request that the public notice be added to the Administrative Record and posted in the library and/or on their website, if they share such notices. This public notice indicated that a FYR would be conducted at the Robintech, Inc./National Pipe Co. Superfund Site to ensure that the cleanup at the site continues to be protective of people's health and the environment. No inquiries were received as a result of this notice. Once the FYR is completed, EPA will make the results available at the repositories at the Vestal Public Library in Vestal, NY, and EPA Region 2's Superfund Records Center in New York, NY. In addition, EPA will post the final report on the following website: www.epa.gov/superfund/robintech. The CIC will make efforts to reach out to local public officials to inform them of the results. No interviews were conducted as part of this FYR.

Data Review

Overburden Groundwater (OU3)

Overburden monitoring wells MW-7, MW-8, MW-11, and MW-19 were sampled annually during the review period (2020-2025). See **Appendix A, Figure 1**, for monitoring well locations. Please note that because the overburden aquifer has extremely low permeability, it is not considered a viable source of groundwater; therefore, federal and state MCLs are not applicable. However, concentrations are compared to MCLs as a reference point to evaluate plume attenuation over time.

Overall, total VOC concentrations in overburden monitoring wells have declined relative to concentrations in the early 2000s. 1,1,1-TCA, 1,1-DCA, TCE, and cis-1,2-DCE are the compounds with the highest concentrations in the overburden wells and represent two separate primary VOC constituents (TCA and TCE), and their breakdown products. The breakdown chains for these primary VOCs are as follows:

- *1,1,1-TCA → 1,1-DCA → chloroethane → ethane*

- *TCE → cis-1,2-DCE → vinyl chloride → ethene*

The continued detection of degradation products, including 1,1-DCA and other daughter compounds, provides evidence that natural attenuation processes are occurring within the overburden aquifer.

Monitoring wells MW-7 and MW-19 are located immediately downgradient of the former production well PW-2 source area. Although the majority of VOC mass migrated to the bedrock aquifer, these wells provide an indication of shallow groundwater conditions in the vicinity of the former source area and help evaluate whether VOC impacts persist or migrate within the overburden. Historical data show that VOC concentrations in both wells have decreased substantially since the early 2000s, consistent with the removal of source material and operation of the groundwater extraction system, which reduced contaminant mass in the former source area. During this review period, VOC concentrations generally remained within the range observed over the past decade with the exception of TCE in MW-7 (**Figure 4**). TCE concentrations in MW-7 increased to 176 µg/L in 2025, exceeding the remedial goal of 5 µg/L. Although 1,1-DCA remained elevated, with a maximum concentration of 80 µg/L during this review period, it did not exhibit an increasing trend. Likewise, 1,1,1-TCA, 1,1-DCA, 1,1-DCE, cis-1,2-DCE and vinyl chloride remained above their remedial goals but showed no evidence of increasing concentrations.

Although TCE exhibits an increasing trend in MW-7, concentrations in downgradient well MW-19 continue to exhibit a decreasing trend (**Figure 5**). The most recent TCE concentration in MW-19 during this review period (2025) was 2.17 µg/L, below the remedial goal of 5 µg/L. Additionally, 1,1-DCE, cis-1,2-DCE, and 1,1,1-TCA were also detected below criteria in 2025. Only 1,1-DCA remains elevated above the remedial goal of 5 µg/L with a maximum concentration of 76.80 µg/L in 2024.

MW-8, located in the vicinity of the former production well PW-2 source area, exhibited elevated concentrations of site-related VOCs in the early 2000s, but concentrations have declined substantially (**Figure 6**). The only VOCs that remain above the remedial goal (5 µg/L) are 1,1-DCA, TCE, and cis-1,2-DCE at concentrations of 7.19 µg/L, 11, µg/L, and 8.19 µg/L, respectively. Further north of the PW-2 source area, VOC concentrations in MW-11 have remained relatively low throughout this review period, despite some fluctuations (**Figure 7**). These fluctuations were primarily associated with 1,1-DCA, which reached a maximum concentration of 49.7 µg/L in 2021 before declining and remaining relatively stable thereafter, with concentrations ranging from 8.74 µg/L to 12.30 µg/L.

Overall, 1,1,-DCA remains the primary COC in the overburden aquifer, exceeding the remedial goal of 5 µg/L in MW-7, MW-8, MW-11, and MW-19. Concentrations remain highest near the former PW-2 source area, particularly in MW-7 and MW-19. Aside from the recent increase in TCE in MW-7, VOC concentrations have generally remained stable or declined during this review period, consistent with historical trends. Continued monitoring will determine whether the increase in TCE at MW-7 reflects short-term variability or a sustained change in site conditions.

Evaluation of Downgradient Conditions

VOC data from a non-site-related well network located on a tank farm downgradient and slightly southwest of monitoring well MW-19 help define the downgradient extent of the plume in that direction. Regional hydrogeologic studies indicate that overburden groundwater beyond MW-19 flows westward and then northwestward toward the Town of Vestal drinking water supply well field, located approximately 2,200 feet downgradient and consisting of supply wells 4-2[5], 4-3, and 4-4. The four monitoring wells located immediately downgradient (west) of MW-19 on the tank farm property were sampled in 2018 and 2019 as part of plume delineation efforts and again between 2020 and 2025; site related VOCs were not detected. Concentrations of petroleum-related VOCs were detected, consistent with tank storage operations and not indicative of migration of the site-related plume.

A second tank farm located further downgradient to the northwest exhibited low-level detections of TCE in four of fifteen wells; however, multiple lines of evidence suggest that these detections are not site-related. Specifically, site-related VOCs were not detected in monitoring wells between MW-19 and the downgradient tank farm, and the VOC signature at the Site, characterized by 1,1,1-TCA and its degradation products, differs from the TCE-only signature observed at the second tank farm. Furthermore, review of untreated municipal supply well data collected during the review period confirms that the Town of Vestal well field remains unaffected by site-related groundwater contamination.

Bedrock Groundwater (OU1)

The on-site PW-series bedrock wells include production wells PW-1 through PW-6, as well as PW-8 and PW-9[6]. The MW-series bedrock monitoring wells include MW-3A, MW-4, MW-4A, MW-5, MW-5A, MW-6, MW-6A, MW-13A, and MW-15A. The PW-series wells and the six A-series monitoring wells (MW-3A, MW-4A, MW-5A, MW-6A, MW-13A, and MW-15A) are six-inch-diameter deep bedrock wells that are cased through approximately 50 feet of overburden and completed as open holes to an average depth of approximately 300 feet. Monitoring wells MW-4, MW-5, and MW-6 are four-inch-diameter shallow bedrock wells screened in the upper-weathered fracture zone. Well locations are shown in **Figure 1.**

Groundwater in the bedrock aquifer is evaluated against the more stringent New York State Class GA Groundwater Quality Standards (GWQS) of 5 µg/L for 1,1,1-TCA, 1,1-DCA, 1,1-DCE, TCE, and cis-1,2-DCE, and 2 µg/L for vinyl chloride. During this review period, MW-3A, MW-4, MW-4A, MW-6, MW-6A, MW-15A, and PW-9 were not sampled because historical monitoring data consistently indicated non-detect concentrations of site-related VOCs.

[5] Supply well 4-2 is the Vestal 4-2 NPL site; the site has been deleted from the NPL.

[6] Production wells PW-2R, PW-4, and PW-5, part of the original pipe-production cooling water supply, comprised the post-construction treatment system. Production wells PW-1, PW-3, PW-6, PW-8, and PW-9 were part of the original pipe-production cooling water supply but were not utilized for the post-construction treatment system.

After EPA allowed NP&P to turn off the bedrock groundwater extraction system in 2014, EPA began annual monitoring of the bedrock wells using passive diffusion bags (PDBs) in 2015. Many wells are sampled at multiple depths using PDBs to characterize groundwater conditions throughout the open bedrock borehole below the overburden casing. Since implementation of this monitoring approach, VOCs detected in the bedrock aquifer have consistently been 1,1,1-TCA, 1,1-DCA, 1,1-DCE, TCE, and cis-1,2-DCE. Among these compounds, 1,1-DCA – an anaerobic degradation product of 1,1,1-TCA – has generally been detected at the highest concentrations in most bedrock monitoring wells, likely reflecting degradation from historical active treatment and ongoing natural attenuation processes.

Groundwater data collected over the past five years indicate that VOC contamination persists within several production wells, including PW-2R, PW-4, and PW-5, with 1,1-DCA remaining the most elevated VOC. The highest concentrations have been observed in production well PW-2R, where concentrations of 1,1-DCA were reported up to 110 µg/L (2019 and 2020) within the 63-64 ft and 130-131 ft below top of casing (TOC) sampling intervals. 1,1-DCA concentrations have since declined to 54.50 µg/L and 64.90 µg/L in 2025 within the 63-64 ft and 130-131 ft below TOC sampling intervals, respectively. (**Figures 8-9**). 1,1-DCA concentrations in the 178-179 ft below TOC interval have declined from 120 µg/L in 2017 to 66.4 µg/L in 2025. 1,1-DCA remains above the remedial goal of 5 µg/L in all sampling intervals of PW-2R.

In PW-4, VOC concentrations continue to fluctuate within the 55-56 ft below TOC sampling interval, with a maximum 1,1-DCA concentration of 46.50 µg/L reported in 2025 (**Figure 10**). Concentrations detected within the 130-131 ft below TOC and 210-211 ft below TOC sampling intervals remain above the remedial goal of 5 µg/L, but are relatively stable, with 1,1-DCA concentrations reported below 35 µg/L since 2017. In PW-5, the highest 1,1-DCA concentration (74.80 µg/L) was detected within the 100-101 ft below TOC sampling interval in 2023 (**Figure 11**). 1,1-DCA concentrations in the deeper 250-251 ft below TOC sampling interval remained below 25 µg/L since 2017, and all VOC concentrations in the 350-351 ft below TOC interval were below their respective remedial goals. In PW-6, 1,1-DCA concentrations remained below 31 µg/L within both the 76-77 ft and 176-177 ft below TOC sampling intervals. In general, 1,1-DCA remains above the remedial goal of 5 µg/L in most sampling intervals of PW-4, PW-5, and PW-6. Although VOC contamination persists in PW-1, PW-3, and PW-8, concentrations in these wells are closer to achieving the New York State Class GA GWQS.

The upgradient monitoring well, MW-13A, was sampled in 2020 and did not exhibit site-related contamination. In MW-05, concentrations of 1,1-DCA continue to fluctuate but remain below 10 µg/L. In MW-05A, the highest concentration of 1,1-DCA detected was 15.90 µg/L. No VOCs were detected in MW-13A.

Metals Sampling

Metals were not considered COCs in the 1992 or 1997 ROD. However, since metals sampling in groundwater had not been conducted since the 1991 RI, seven bedrock monitoring wells (MW-

05A, MW-13A, PW-1, PW-2R, PW-4, PW-5, and PW-6) were sampled using low-flow sampling procedures in October 2025. Analytical results were compared to the NYSDOH Drinking Water Criteria (DWC).

Iron exceeded the DWC of 300 µg/L in all groundwater samples with concentrations ranging from 468 to 2,350 µg/L. Manganese was detected in five of the seven wells at concentrations ranging from 316 to 2,160 µg/L, exceeding the DWC of 300 µg/L. Elevated concentrations of iron and manganese were also reported during the 1991 RI and are commonly encountered in bedrock groundwater due to naturally occurring geochemical conditions.

Arsenic exceeded the DWC of 10 µg/L in MW-5A (12 µg/L) and in upgradient well MW-13A (17.7 µg/L). The presence of arsenic in the upgradient well suggests that its occurrence may reflect background groundwater conditions rather than site-related impacts.

Total chromium exceeded the DWC of 100 µg/L in MW-5A (244 µg/L). Total chromium was also detected during the 1991 RI, although detections were limited and not widespread. Overall, the metals results are consistent with historical observations from the 1991 RI and do not suggest a change in the Site's understanding of groundwater impacts.

Emerging Contaminant Sampling

Groundwater samples from three overburden monitoring wells (MW-8, MW-13, and MW-19) were analyzed for per- and polyfluoroalkyl substances (PFAS) in September 2019. In April 2024, EPA finalized federal drinking water Maximum Contaminant Levels (MCLs) of 4 nanograms per liter (ng/L) for both PFOA and PFOS. The New York State Department of Health (NYSDOH) has also established MCLs of 10 ng/L for PFOA and PFOS in finished drinking water.

From the samples collected in 2019, PFOA was detected in all three monitoring wells, with one concentration slightly exceeding the federal MCL (4.8 ng/L) in MW-19, located downgradient of the former PW-2 production well source area. PFOS was also detected in all three monitoring wells, with one concentration (4.6 ng/L) marginally exceeding the federal MCL in MW-13, an upgradient well. Concentrations of PFOA and PFOS did not exceed the NYSDOH MCLs for finished drinking water. Given the low magnitude of these exceedances, additional PFAS sampling was not performed during this FYR period and is not considered necessary at this time.

1,4-Dioxane was also analyzed in overburden wells MW-8, MW-13, and MW-19. NYSDOH has established an MCL of 1 µg/L for 1,4-dioxane in finished drinking water. An exceedance of the MCL was detected in downgradient well MW-19 at a concentration of 9.2 µg/L. Concentrations of MW-8 and MW-13 were reported as non-detect; however, the reporting limit (4 µg/L) and method detection limit (2 µg/L) exceeded the MCL, limiting the ability to evaluate concentrations relative to the standard. Although there were slight exceedances of emerging contaminants, federal and state MCLs are not applicable in the overburden aquifer. Similar to the PFAS results, because the one detection of 1,4-dioxane was of lower magnitude, additional sampling is not considered necessary at this time.

Site Inspection

The inspection of the site was conducted on July 9, 2026. In attendance were Liana Agrios (EPA RPM and hydrogeologist), Abbey States (EPA human health risk assessor), Graham Ellison (EPA Sampling Support Section), and Anthony Russo (NYSDEC Environmental Program Specialist). The purpose of the inspection was to assess the protectiveness of the remedy. The Property, former treatment areas, roadways, and other closure-related facilities were all in good repair at the time of the inspection. Most of the monitoring wells were in good condition, but there are a select few that are in need of minor repairs. However, these repairs are minor and do not impair the use of the monitoring wells for groundwater monitoring.

V. TECHNICAL ASSESSMENT

QUESTION A: *Is the remedy functioning as intended by the decision documents?*

No, while the remedy for OU3 is operating as intended, OU1 is not. The overburden soil-excavation component of the remedy was implemented to reduce risks to human health and the environment by removing VOC-contaminated source area soils that could leach contaminants to groundwater. The bedrock groundwater extraction and treatment component was designed to control groundwater migration and restore groundwater quality by reducing contaminant concentrations in the fractured bedrock aquifer, but is no longer operating. The following discussion evaluates the performance of these remedial components and associated monitoring data for the overburden and bedrock groundwater systems.

Overburden (OU3)

The OU3 remedy is operating as intended. Completion of the soil excavation called for in the 1997 OU3 ROD resulted in reduced concentrations of VOCs in both the overburden and bedrock groundwater. Although concentrations decreased following source removal, VOC concentrations in several overburden monitoring wells on and off the Property remain above MCLs. In particular, overburden monitoring wells downgradient of the former PW-2 source area (MW-7 and MW-19) continue to exhibit concentrations above MCLs. However, the concentration in these wells remain well below historic levels prior to the removal of source material and operation of the groundwater extraction system. Despite the most recent increase of TCE in MW-7, concentrations in MW-19 remained relatively low, thus indicating more stability further downgradient. Monitoring well MW-19 represents the furthest downgradient overburden well with site-related contamination associated with the former PW-2 source area. These wells will continue to be monitored.

As discussed in the Data Review section, VOC data from non-site related well networks located downgradient of MW-19 were also evaluated to assess the downgradient extent of contamination in the overburden aquifer. Site-related VOCs were not detected in wells

immediately downgradient of MW-19 sampled during the review period. Although low-level detections were reported at a second tank farm located farther downgradient to the northwest, multiple lines of evidence indicate these detections are not site-related, including the absence of VOCs between MW-19 and the downgradient tank farm and the differing VOC signatures observed at the two locations. A review of municipal supply well data collected during the review period further indicates that the Town of Vestal well field remains unaffected by site-related groundwater contamination.

Collectively, groundwater data indicate that the chlorinated VOC plume in the overburden aquifer remains stable and has not migrated further downgradient. The continued presence of degradation products and the increasing ratio of degradation products to parent compounds provide additional evidence that natural attenuation processes are occurring. Monitoring will continue to evaluate plume stability, although the overburden aquifer is not subject to federal and state MCLs, as discussed previously.

Bedrock (OU1)

The OU1 remedy is not operating as intended. In 1996, to eliminate the conduit of contamination from the overburden into the bedrock aquifer, production well PW-2 was abandoned, properly sealed, and replaced with a new well (PW-2R). Following excavation of contaminated soils in the PW-2 source area (OU3), the OU1 bedrock groundwater extraction and treatment system operated from 2005 through 2014. During this period, system-related groundwater monitoring data were collected monthly from production wells PW-2R, PW-4 and PW-5.

These production wells are located in close proximity to the former PW-2 excavation and treatment area. Groundwater monitoring data collected using PDBs indicate that the highest VOC concentrations in the bedrock aquifer occur in PW-2R, where 1,1-DCA is the predominant compound. 1,1-DCA was detected at a maximum concentration of 110 µg/L at the beginning of this review period but concentrations have since decreased. In PW-4 and PW-5, concentrations vary by depth but are generally lower in deeper bedrock intervals. Monitoring data also indicate that contamination in the vicinity of production wells PW-1, PW-3 and PW-8 is lower and closer to achieving MCLs.

Downgradient bedrock monitoring wells historically did not exhibit VOC detections while the extraction system was operating, and VOCs have continued to remain undetected more than ten years after the system was shut down, suggesting that the plume is not migrating. VOCs were not detected in production well PW-9 or in monitoring wells MW-3A, MW-4, MW-4A, MW-6, and MW-6A. Limited detections have occurred in MW-5 and MW-5A; however, concentrations in these wells are generally lower than those observed elsewhere onsite.

Overall, groundwater monitoring data collected during the review period indicate that the highest VOC concentrations remain localized in bedrock groundwater near the former PW-2 source area, while downgradient wells exhibit limited or no site-related contamination. In addition, untreated municipal supply well data collected from the off-property public drinking

water supply continue to demonstrate that site-related contamination is not affecting the Town of Vestal well field.

The OU1 remedy is not currently functioning as intended by the decision documents because the bedrock groundwater extraction system is no longer operating. EPA is evaluating alternatives to bedrock groundwater extraction and treatment through a FRI/FFS, which will start in Fiscal Year 2027.

QUESTION B: *Are the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the remedy selection still valid?*

There have been no physical changes to the site that would adversely affect the protectiveness of the remedy. The exposure assumptions and the toxicity values that were used to estimate the potential risks and hazards to human health followed the general risk-assessment practice at the time the risk assessment was performed. Although the risk assessment process has been updated and specific parameters and toxicity values may have changed, the risk-assessment process that was used is still consistent with current practice and the need to implement a remedial action remains valid.

The RAOs (see "Response Actions" section, above) are still valid. In addition, the cleanup levels for soils (TAGM soil cleanup objectives) were selected to protect groundwater quality. These cleanup levels remain valid and are also protective for direct contact exposures for workers or residents on the Property. Because the overburden is of such low permeability, the overburden aquifer is not considered to be a viable source of groundwater; therefore, achievement of the state and federal drinking water standards in this aquifer is not considered relevant or appropriate. The yield of the overburden is still extremely low, hence this non-potable groundwater classification is still valid. The bedrock aquifer meets the classification requirements of a current or future drinking water source and federal MCLs and New York State Class GA GWQS remain applicable. Although some COC concentrations remain above these standards, there are no potable wells in the contaminated area at this time and the institutional controls in place prevent well installation in the future.

Overburden groundwater data from the current FYR period were compared to EPA's vapor intrusion screening levels. Concentrations of TCE and 1,1-DCE in monitoring well MW-7, located adjacent to the commercial property, continue to exceed upper bound commercial screening levels for groundwater set at a cancer risk of 10^{-4} and hazard index of 1. Based on the site visit, there have been no changes to the slab of the building. Additionally, the groundwater trends would not suggest an increased potential for SVI in recent years. Nonetheless, SVI sampling was offered to the new property owner following the FYR site inspection.

Although an ecological risk assessment was not conducted at the time of the 1992, 1993 and 1997 RODs, the majority of the Property is paved or covered with a gravel layer and, thus, there are no complete exposure pathways to ecological receptors. The Property is primarily light industrial with limited vegetation and offers little to no viable habitat to support ecological

receptors. Therefore, the Property does not appear to provide any appreciable ecological attractiveness and no ecological function is expected. All of these findings indicate that ecological risks at the Property are negligible. The assumptions used at the time of the remedy remain valid and no further ecological investigation is warranted to evaluate the potential risks to ecological receptors from exposure to contaminants at this site.

QUESTION C: *Has any other information come to light that could call into question the protectiveness of the remedy?*

No. Based on the evaluation of the potential exposures at the site, there is no new information that could call into question the protectiveness of this remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU3 (Overburden Soil and Groundwater)

Issues and Recommendations Identified in the Five-Year Review:

OU(s): OU1 **(Bedrock Groundwater)**	**Issue Category:** Remedy Performance			
	Issue: Though significant information has been collected to inform a remedy change, the ongoing evaluation of alternatives to bedrock groundwater extraction and treatment has not been completed.			
	Recommendation: Complete the FRI/FFS to evaluate alternatives to bedrock groundwater extraction and treatment.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	9/30/2030

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
Operable Unit: 1	*Protectiveness Determination:* Short-term Protective

Protectiveness Statement: The remedy for OU1 is protective of human health and the environment in the short-term because all exposure pathways have been eliminated. To be protective in the long-term, the FRI/FFS to evaluate alternatives to bedrock groundwater extraction and treatment needs to be completed.

Protectiveness Statement(s)	
Operable Unit: 3	*Protectiveness Determination:* Protective
Protectiveness Statement: The remedy for OU3 is protective of human health and the environment.	

Sitewide Protectiveness Statement
Protectiveness Determination: Short-term Protective
Protectiveness Statement: The sitewide remedy is protective in the short-term because all exposure pathways have been eliminated. In order to be protective in the long-term, the FRI/FFS to evaluate alternatives to bedrock groundwater extraction and treatment needs to be completed.

VIII. NEXT REVIEW

The next FYR report for the Robintech, Inc./National Pipe Co. Superfund site is required five years from the completion date of this review.

APPENDIX A: Figures

Figure 1: Site Layout

Note: the red outline is the property boundary line.
All monitoring wells outside of the red line are considered off-property.

Figure 2: Referenced Areas of the Property

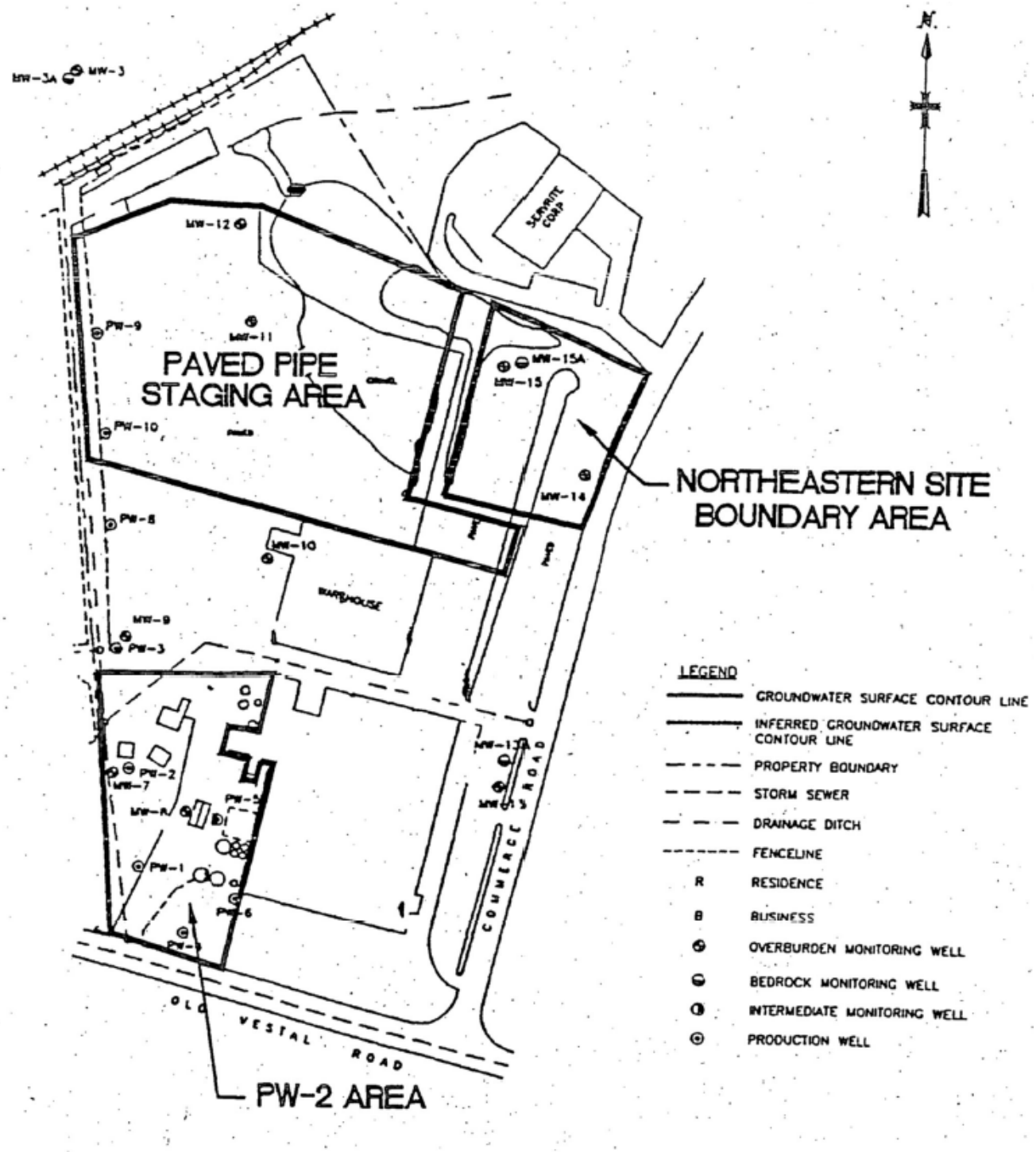
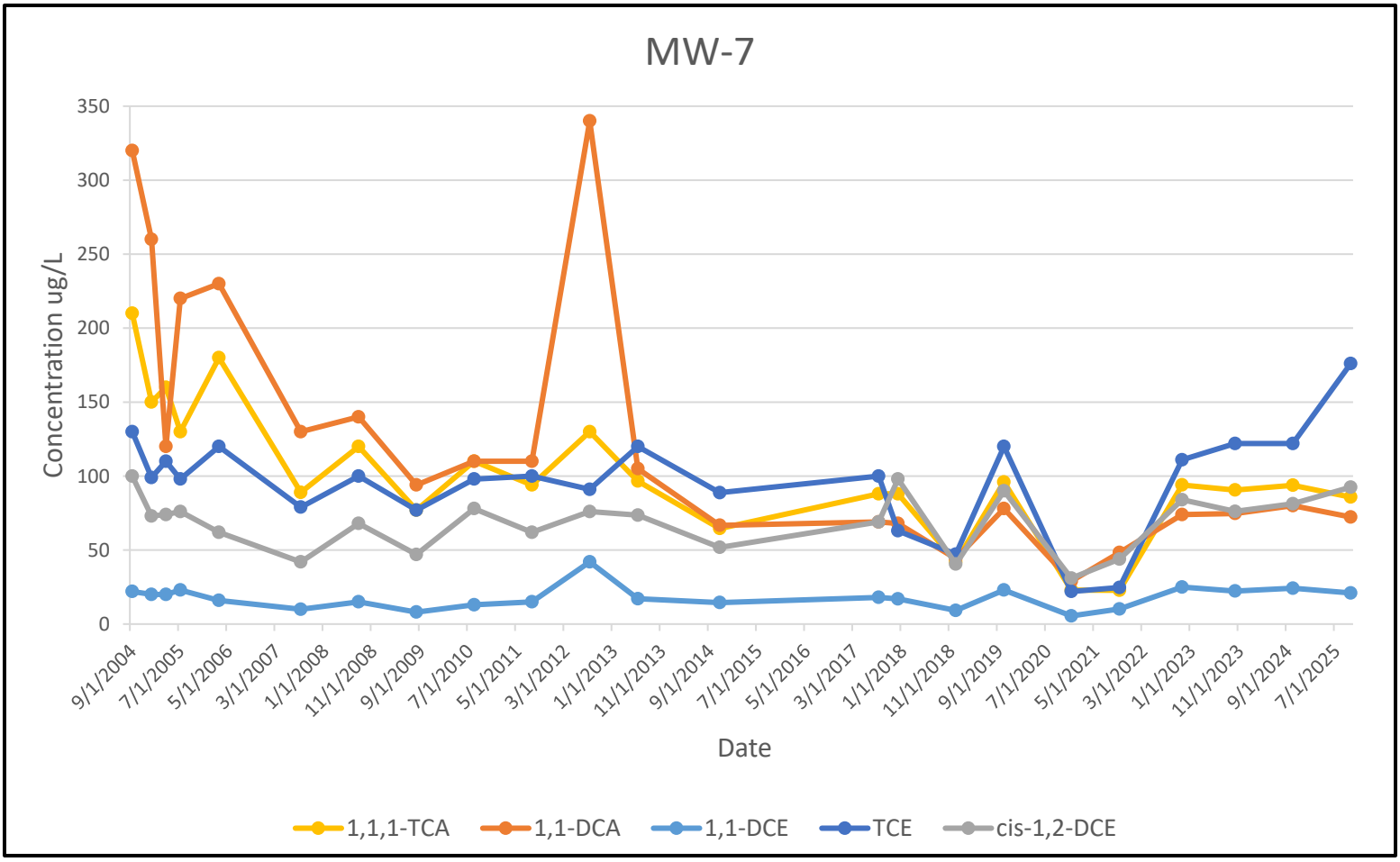


Figure 3: Partial Deletion

Left image: the blue outline shows the deleted portion of the property (groundwater in the bedrock aquifer). Bedrock groundwater outside the blue outline was not included in the partial deletion. The overburden and bedrock aquifers in Off-Property areas were also not included in the partial deletion.

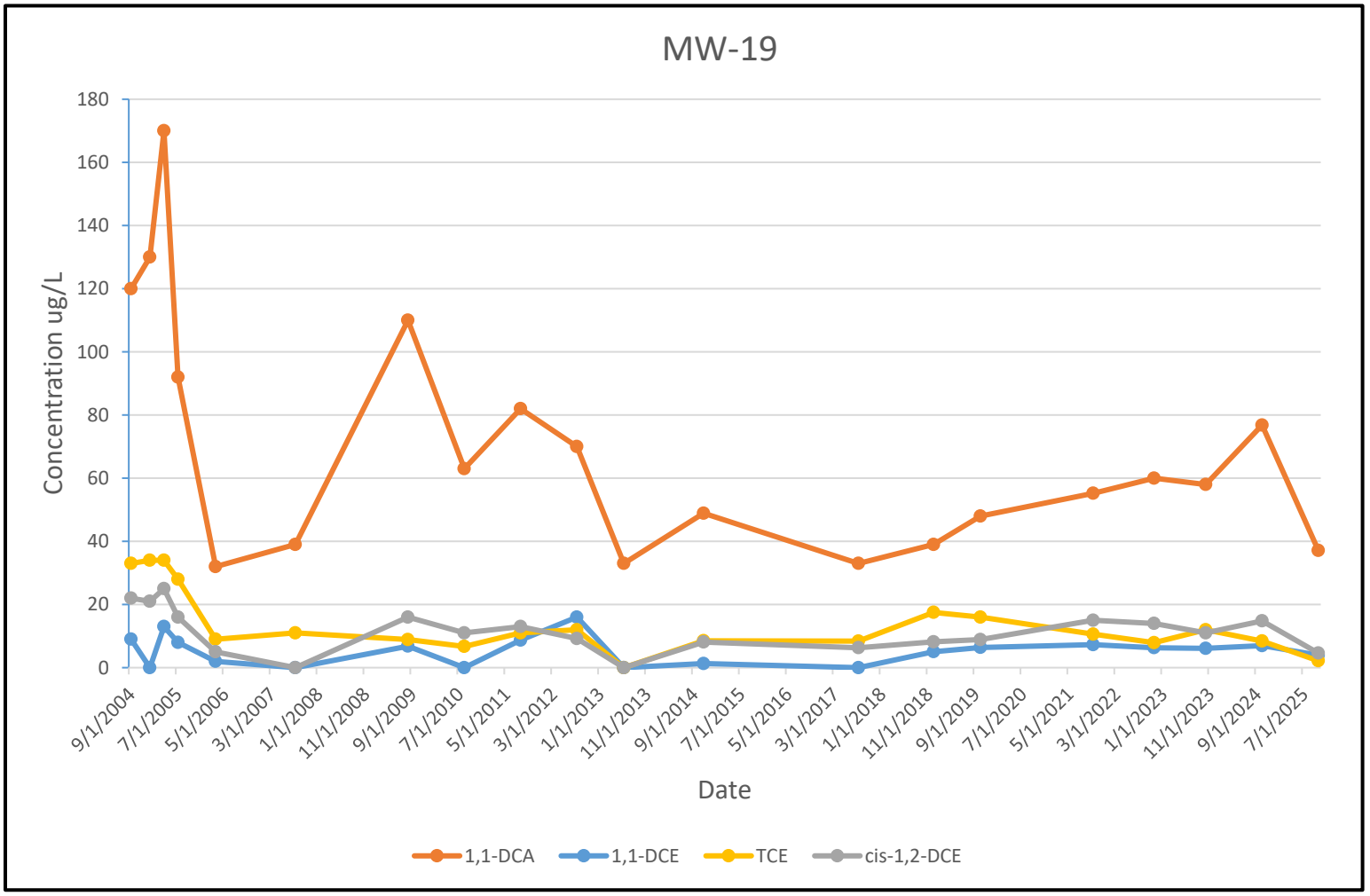
Right image: the white outline shows the deleted portion of the property (overburden soil and overburden groundwater)

Figure 4: Overburden Monitoring Well MW-7



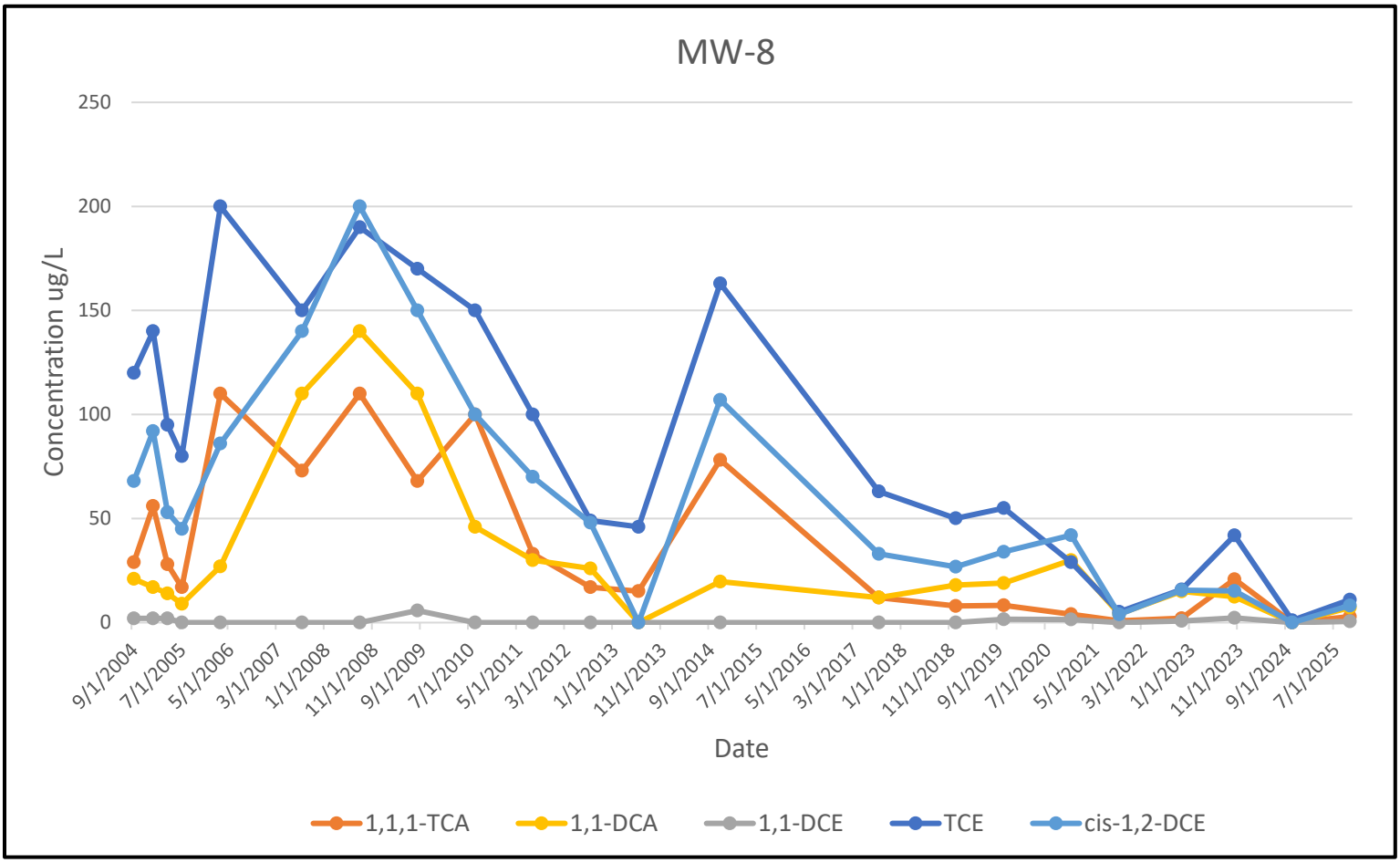
Note – The cleanup goal for all compounds is 5 ug/L.

Figure 5: Overburden Monitoring Well MW-19



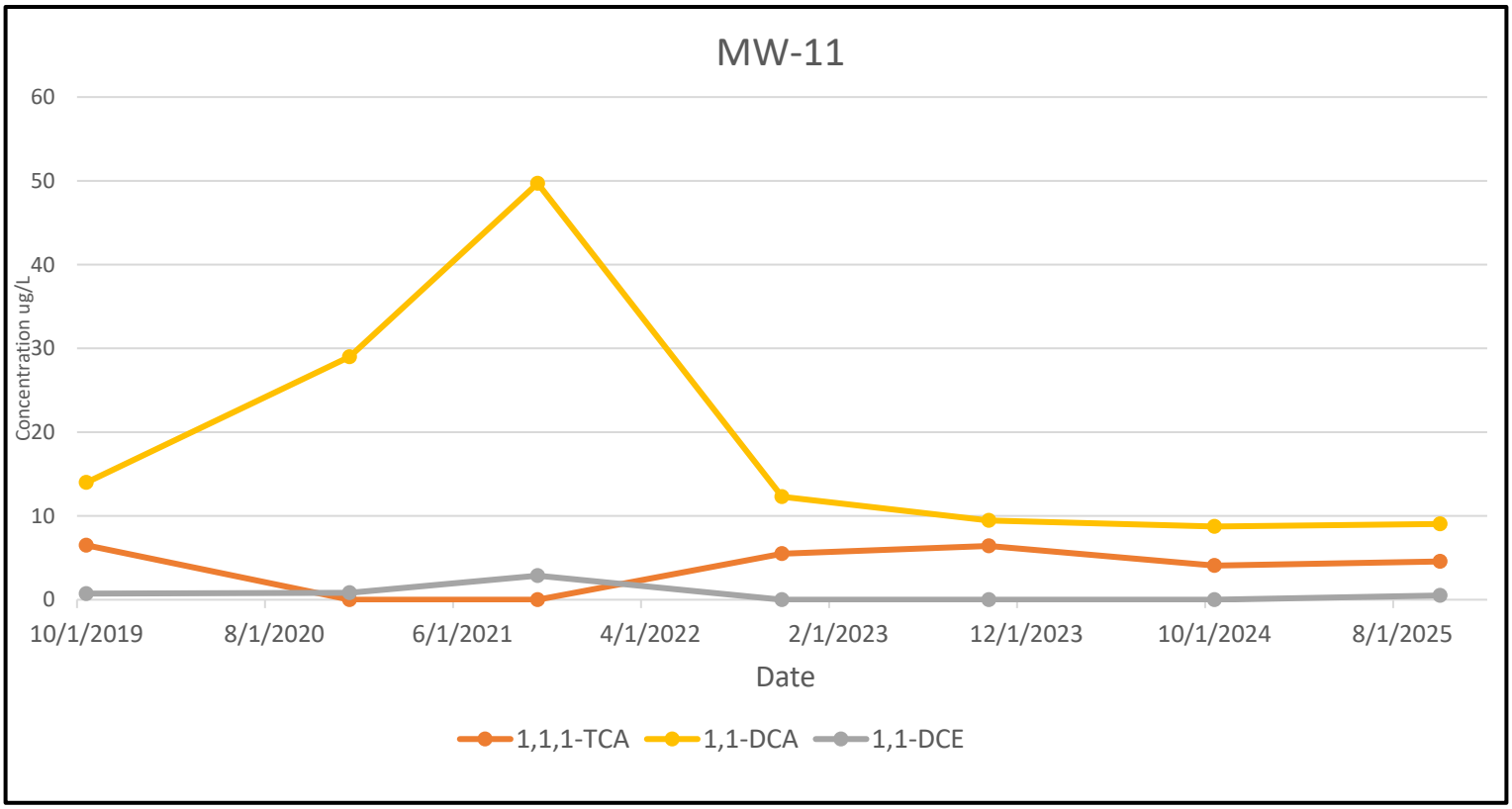
Note – The cleanup goal for all compounds is 5 ug/L.

Figure 6: Overburden Monitoring Well MW-8



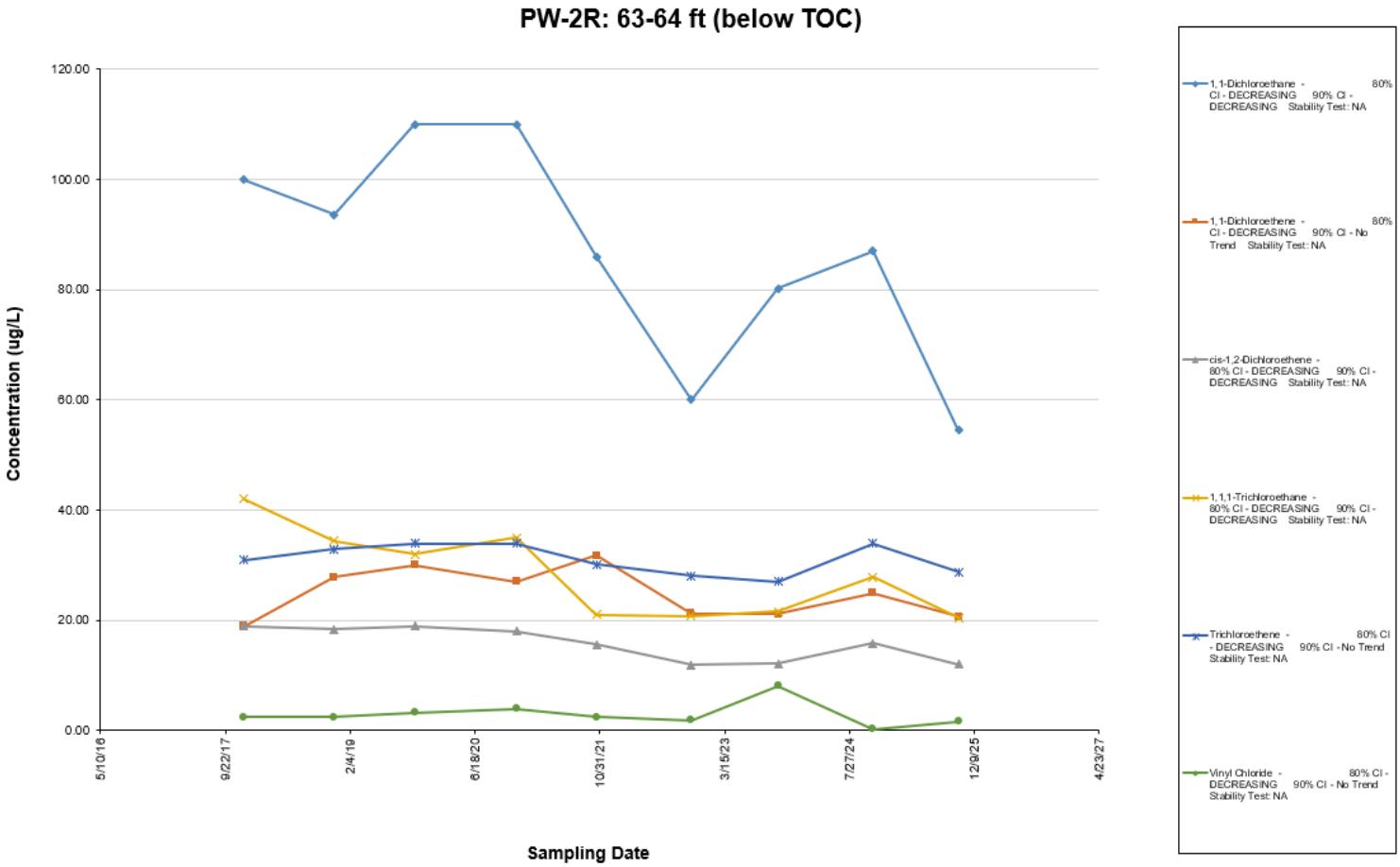
Note – The cleanup goal for all compounds is 5 ug/L.

Figure 7: Overburden Monitoring Well MW-11



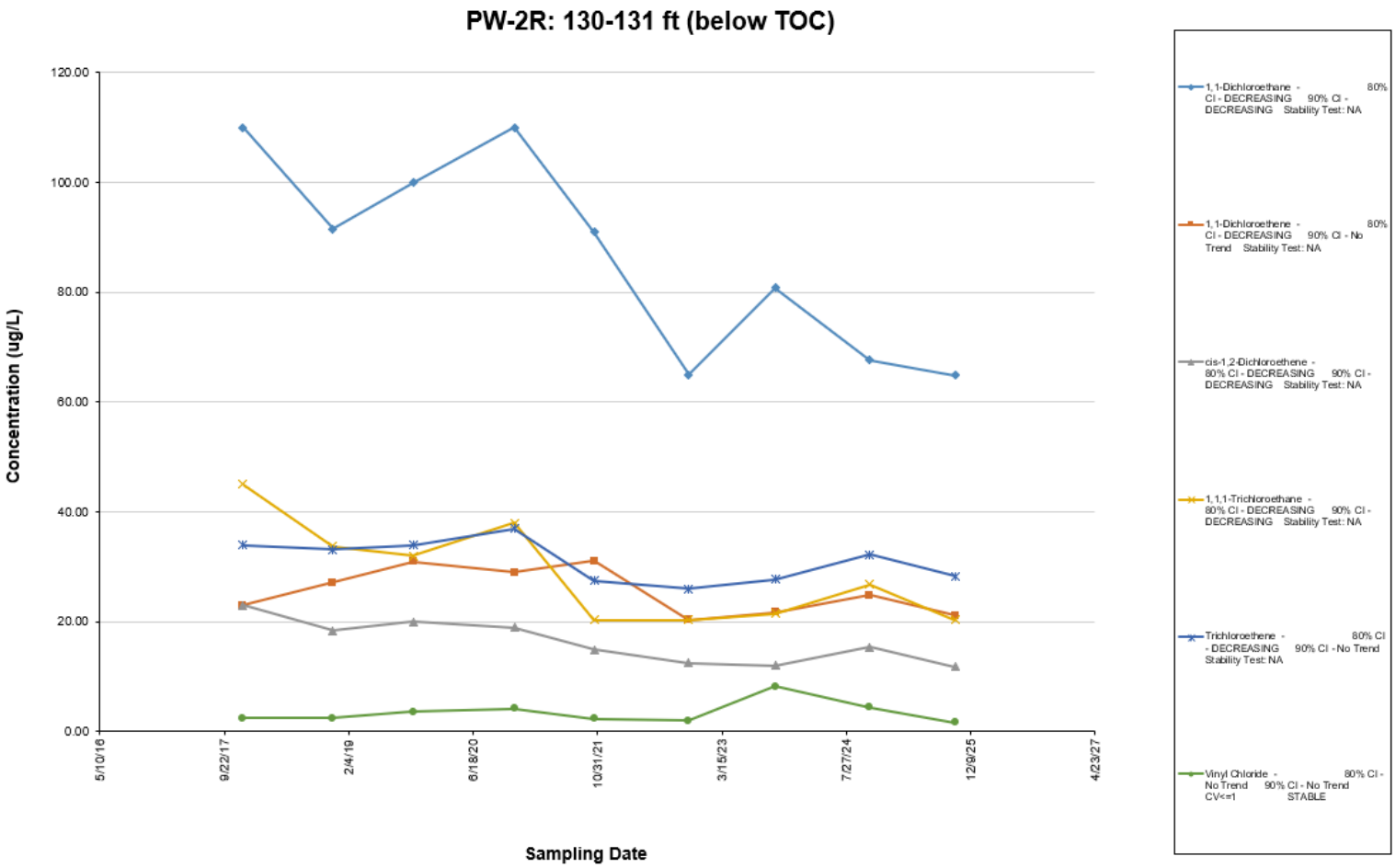
Note – The cleanup goal for all compounds is 5 ug/L.

Figure 8: Bedrock Production Well PW-2R, 63-64 ft below TOC



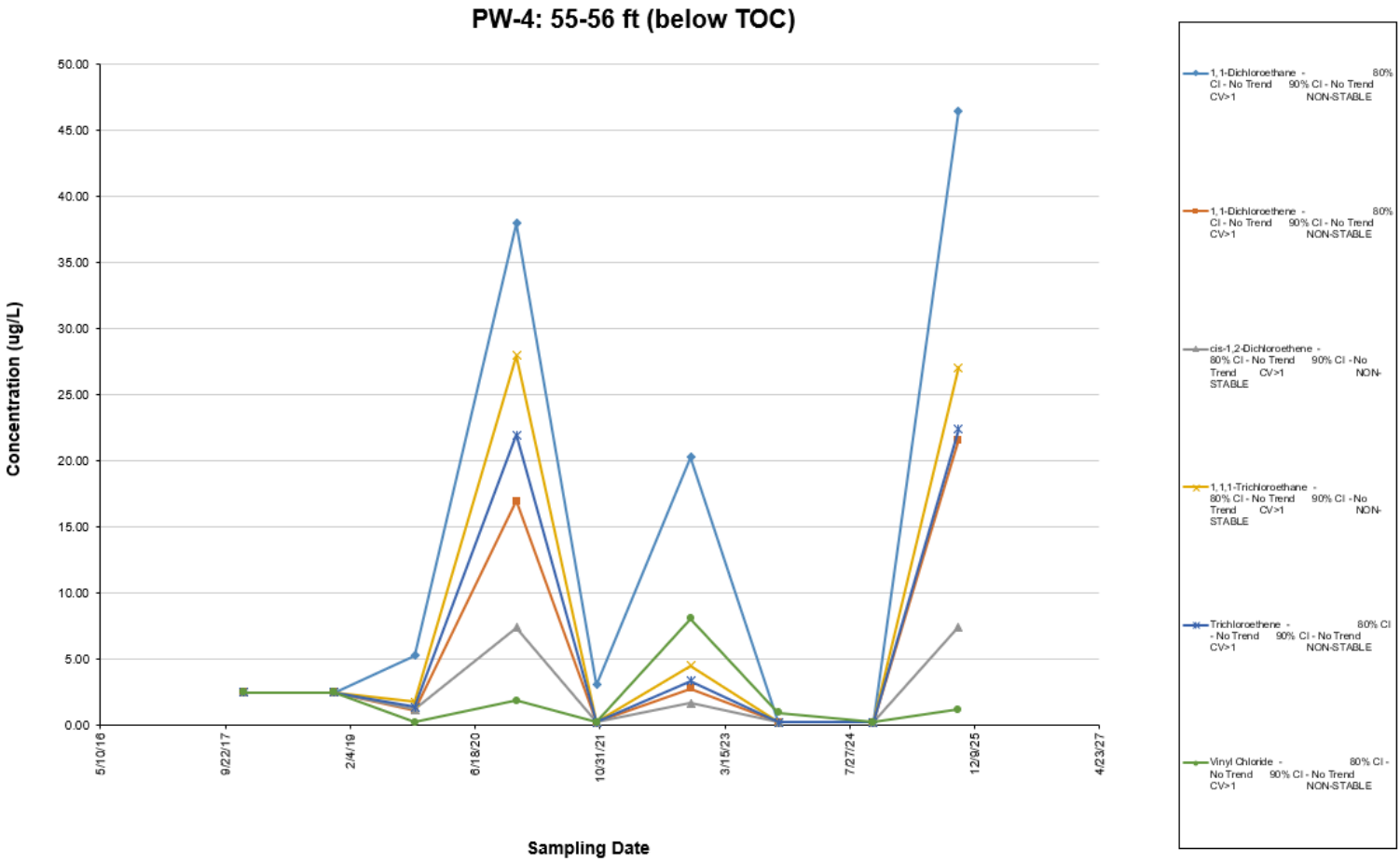
Note – The cleanup goal for 1,1,1-TCA, 1,1-DCA, PCE, TCE, and 1,1-DCE is 5 ug/L while the cleanup goal for vinyl chloride is 2 ug/L.

Figure 9: Bedrock Production Well PW-2R, 130-131 ft below TOC



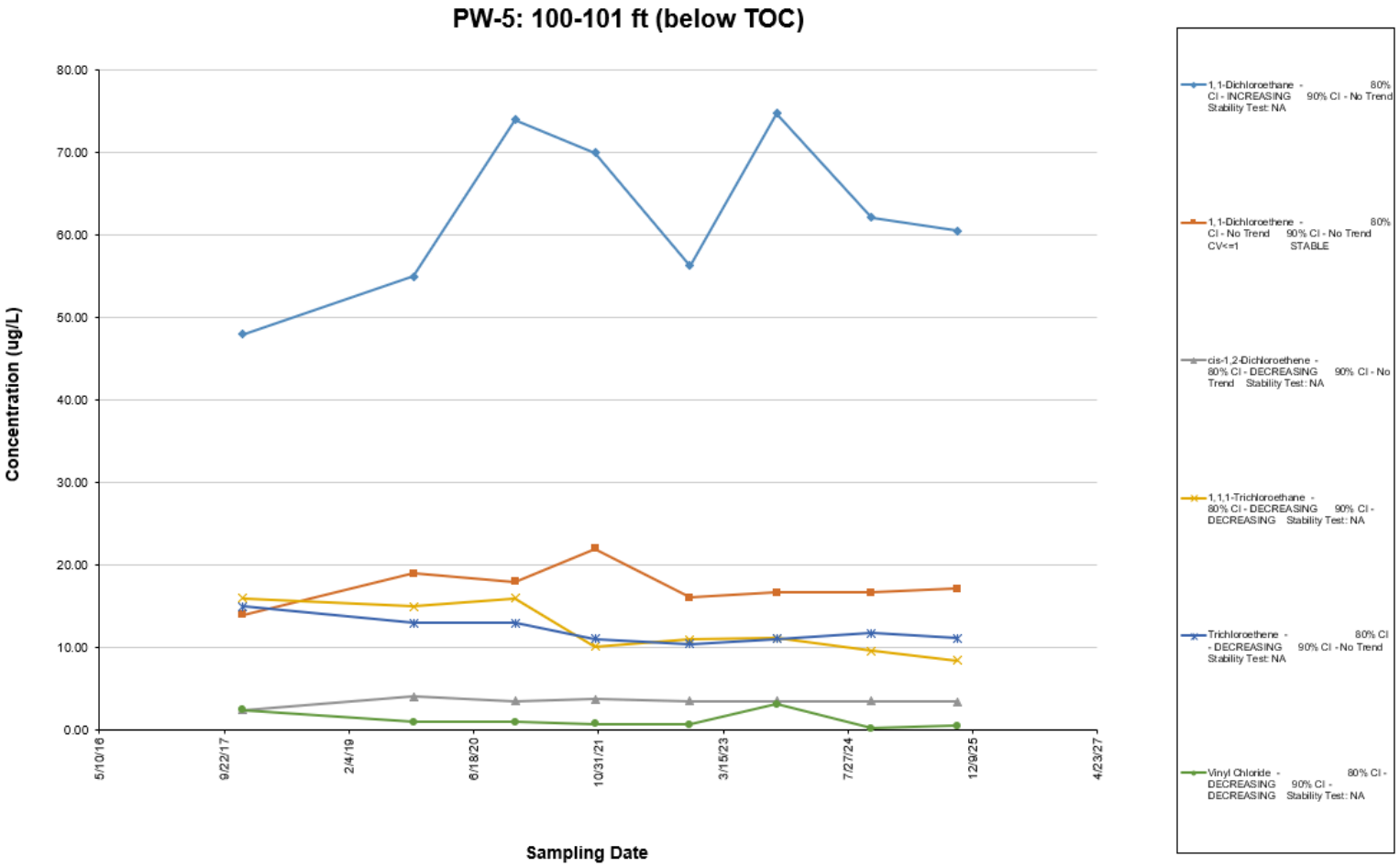
Note – The cleanup goal for 1,1,1-TCA, 1,1-DCA, PCE, TCE, and 1,1-DCE is 5 ug/L while the cleanup goal for vinyl chloride is 2 ug/L.

Figure 10: Bedrock Production Well PW-4, 55-56 ft below TOC



Note – The cleanup goal for 1,1,1-TCA, 1,1-DCA, PCE, TCE, and 1,1-DCE is 5 ug/L while the cleanup goal for vinyl chloride is 2 ug/L.

Figure 11: Bedrock Production Well PW-5, 100-101 ft below TOC



Note – The cleanup goal for 1,1,1-TCA, 1,1-DCA, PCE, TCE, and 1,1-DCE is 5 ug/L while the cleanup goal for vinyl chloride is 2 ug/L.

APPENDIX B – Reference List

Documents, Data, and Information Reviewed in Completing the Five-Year Review	
Document Title, Author	**Date**
Remedial Investigation/Feasibility Study (McLaren/Hart)	1992
Baseline Risk Assessment (McLaren/Hart)	1992
OU-1 Record of Decision	1993
Remedial Design Investigation Report (McLaren/Hart)	1996
OU-3 Record of Decision	1997
RD/RA Consent Decree	1998
OU-3 Remedial Design (McLaren/Hart)	1999
Remedial Construction Report (Vertex)	2001
Stipulation and Order	2005
O&M Manual (Ground Water Treatment & Technology, Inc.)	2005
First Five-Year Review Report for Robintech, Inc./National Pipe Co. Site, Broome County, New York	2006
Second Five-Year Review Report for Robintech, Inc./National Pipe Co. Site, Broome County, New York	2011
Third Five-Year Review Report for Robintech, Inc./National Pipe Co. Site, Broome County, New York	2016
Fourth Five-Year Review Report for Robintech, Inc./National Pipe Co. Site, Broome County, New York	2021
Annual Groundwater Sampling Reports	2020-2025
Partial Deletion from the NPL, Robintech, Inc./National Pipe Co. Site, Broome County, New York	2019

APPENDIX C – Remedy Resilience

In line with regional practice, three tools were utilized to assess the Robintech Superfund site. Screenshots from each of the tools assessed are included in this Appendix.

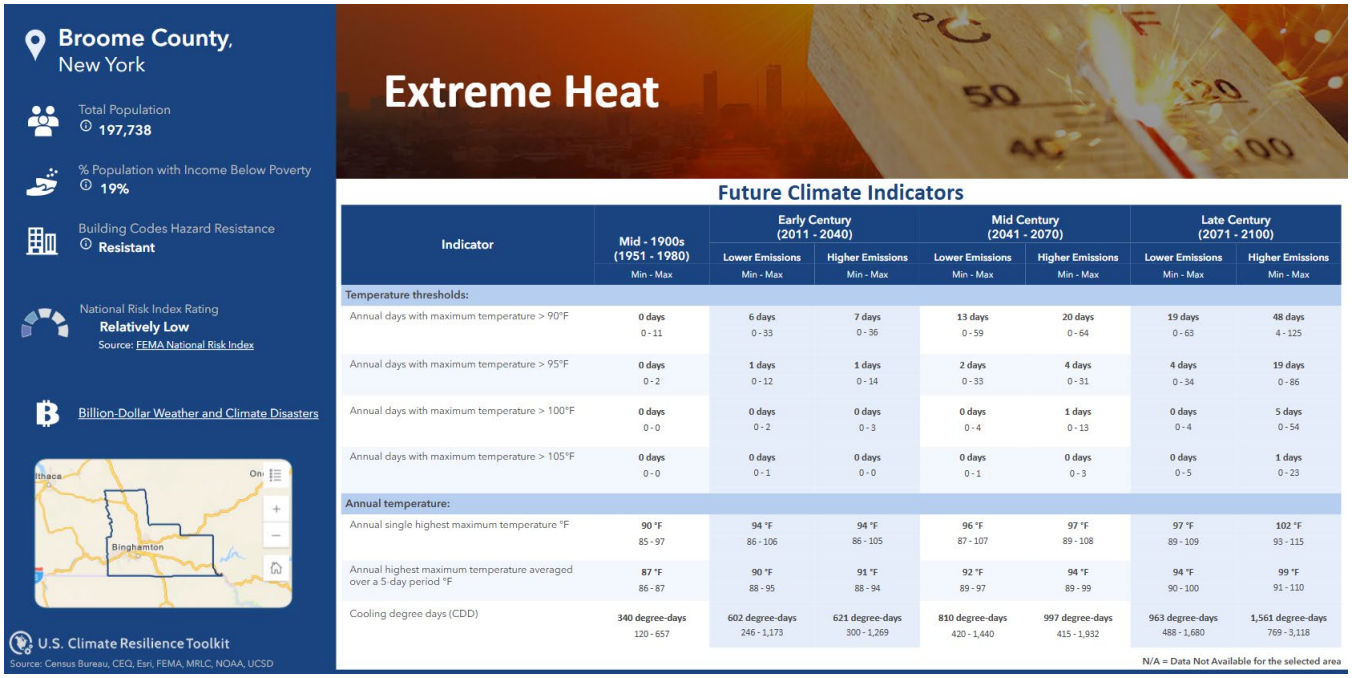
The first tool used to assess the site was CMRA. The tool examined five hazards for Broome County, NY, the county in which the site is located. According to this tool, the National Risk Index Rating for extreme heat is "Relatively Low" (**Figure C-1**). The CMRA tool reported the risk for wildfires as "Very Low" and could not provide a rating for drought (**Figures C-2 and C-3**). The "No Rating" designation for drought may reflect limited documented impacts from drought within the county, which were insufficient to calculate a risk score. The risk of flooding was reported as "Relatively High", likely due to regional flood susceptibility associated with the Susquehanna River and projected increases in precipitation and heavy rainfall events (**Figure C-4**). However, the site is located at a higher elevation relative to the Susquehanna River and there are no documented impacts of flooding affecting the Robintech Superfund site. Flooding is not expected to impact remedy performance because there are no active remedial systems at the site, and groundwater monitoring activities have continued without interruption or flood-related impacts. Coastal inundation received a "Not Applicable" rating due to the site's inland location and lack of tidal influence from coastal water bodies near Vestal, NY (**Figure C-5**).

The second tool utilized to assess the site, the NOAA Sea Level Rise Viewer (SLRV) (see https://coast.noaa.gov/slr/), was not applied because the site is located inland and is outside areas potentially affected by sea level rise or coastal flooding. The tool is designed to evaluate potential impacts in coastal areas.

The final tool utilized was the U.S. Geological Survey (USGS) U.S. Landslide Inventory & Susceptibility Map (see https://www.usgs.gov/tools/us-landslide-inventory-and-susceptibility-map). According to this tool, no landslides have been recorded in the immediate vicinity of the site, which is depicted by a blue star on **Figure C-6,** and the site is located within an area identified as having low to moderate landslide susceptibility. Areas of higher susceptibility are generally associated with steeper slopes along the Susquehanna River Valley (**Figure C-7**). The site is not situated on or adjacent to steep slopes; therefore, landslide impacts are not expected to affect the site or groundwater monitoring activities.

Based on this information, potential impacts from severe weather and natural hazards have been evaluated, and remedy performance is not currently at risk due to these effects in the region and in the vicinity of the site.

Figure C-1



Indicator	Mid - 1900s (1951 - 1980)	Early Century (2011 - 2040)		Mid Century (2041 - 2070)		Late Century (2071 - 2100)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Temperature thresholds:							
Annual days with maximum temperature > 90°F	0 days 0 - 11	6 days 0 - 33	7 days 0 - 36	13 days 0 - 59	20 days 0 - 64	19 days 0 - 63	48 days 4 - 125
Annual days with maximum temperature > 95°F	0 days 0 - 2	1 days 0 - 12	1 days 0 - 14	2 days 0 - 33	4 days 0 - 31	4 days 0 - 34	19 days 0 - 86
Annual days with maximum temperature > 100°F	0 days 0 - 0	0 days 0 - 2	0 days 0 - 3	0 days 0 - 4	1 days 0 - 13	0 days 0 - 4	5 days 0 - 54
Annual days with maximum temperature > 105°F	0 days 0 - 0	0 days 0 - 1	0 days 0 - 0	0 days 0 - 1	0 days 0 - 3	0 days 0 - 5	1 days 0 - 23
Annual temperature:							
Annual single highest maximum temperature °F	90 °F 85 - 97	94 °F 86 - 106	94 °F 86 - 105	96 °F 87 - 107	97 °F 89 - 108	97 °F 89 - 109	102 °F 93 - 115
Annual highest maximum temperature averaged over a 5-day period °F	87 °F 86 - 87	90 °F 88 - 95	91 °F 88 - 94	92 °F 89 - 97	94 °F 89 - 99	94 °F 90 - 100	99 °F 91 - 110
Cooling degree days (CDD)	340 degree-days 120 - 657	602 degree-days 246 - 1,173	621 degree-days 300 - 1,269	810 degree-days 420 - 1,440	997 degree-days 415 - 1,932	963 degree-days 488 - 1,680	1,561 degree-days 769 - 3,118

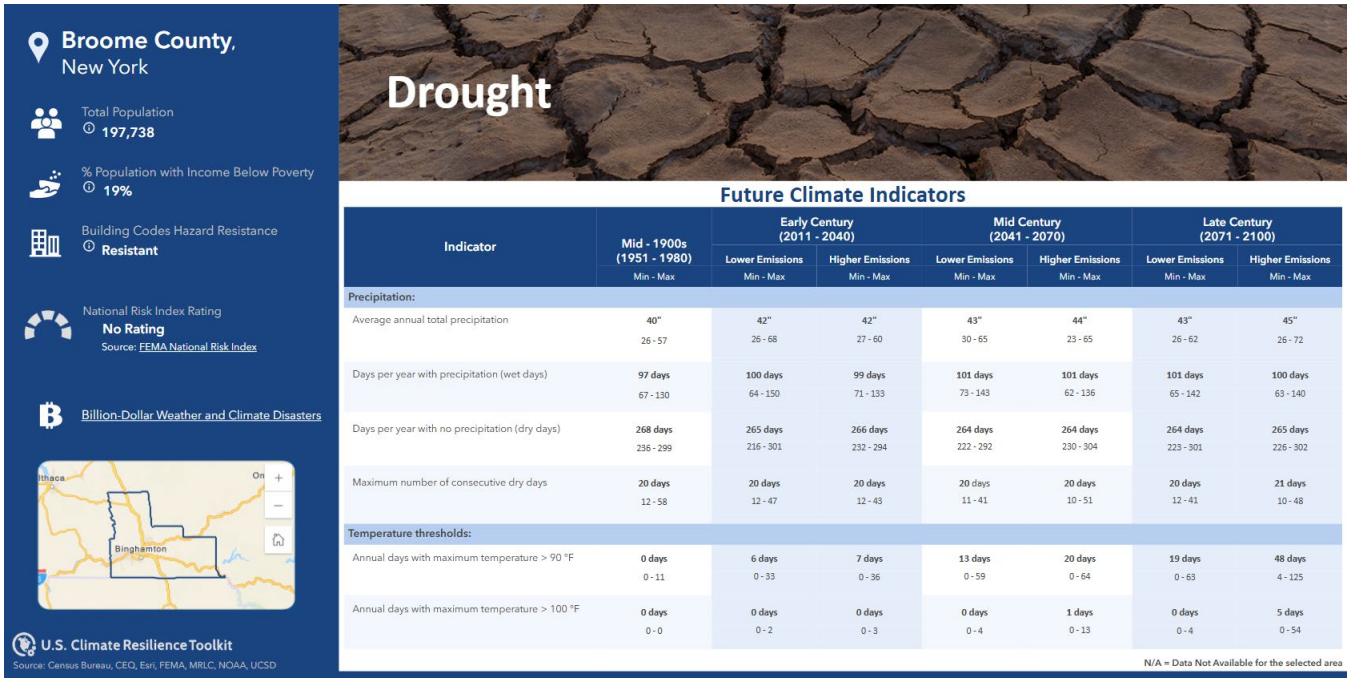
N/A = Data Not Available for the selected area

Figure C-2

Indicator	Mid - 1900s (1951 - 1980)	Early Century (2011 - 2040)		Mid Century (2041 - 2070)		Late Century (2071 - 2100)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Days per year with no precipitation (dry days)	268 days 236 - 299	265 days 216 - 301	266 days 232 - 294	264 days 222 - 292	264 days 230 - 304	264 days 223 - 301	265 days 226 - 302
Maximum number of consecutive dry days	20 days 12 - 58	20 days 12 - 47	20 days 12 - 43	20 days 11 - 41	20 days 10 - 51	20 days 12 - 41	21 days 10 - 48
Days per year with precipitation (wet days)	97 days 67 - 130	100 days 64 - 150	99 days 71 - 133	101 days 73 - 143	101 days 62 - 136	101 days 65 - 142	100 days 63 - 140
Temperature thresholds:							
Annual days with maximum temperature > 90°F	0 days 0 - 11	6 days 0 - 33	7 days 0 - 36	13 days 0 - 59	20 days 0 - 64	19 days 0 - 63	48 days 4 - 125
Annual days with maximum temperature > 100°F	0 days 0 - 0	0 days 0 - 2	0 days 0 - 3	0 days 0 - 4	1 days 0 - 13	0 days 0 - 4	5 days 0 - 54

N/A = Data Not Available for the selected area

Figure C-3

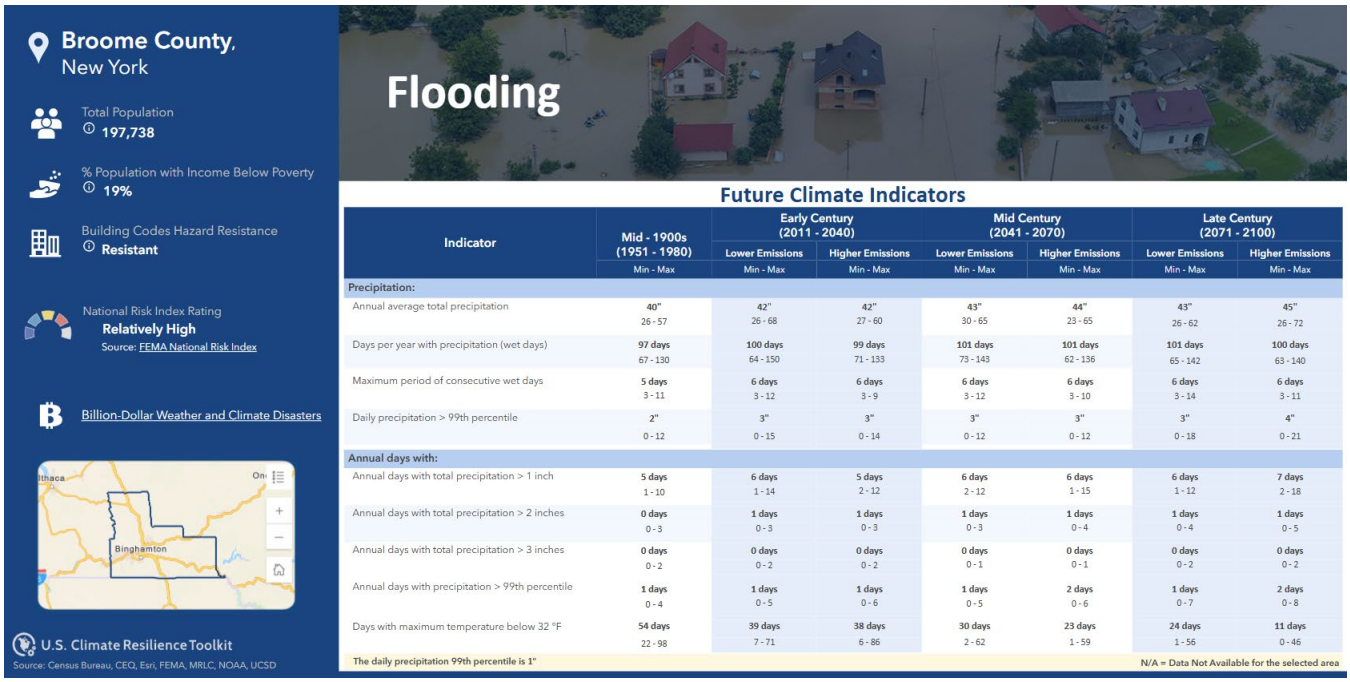


Future Climate Indicators

Indicator	Mid - 1900s (1951 - 1980)	Early Century (2011 - 2040)		Mid Century (2041 - 2070)		Late Century (2071 - 2100)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Average annual total precipitation	40" 26 - 57	42" 26 - 68	42" 27 - 60	43" 30 - 65	44" 23 - 65	43" 26 - 62	45" 26 - 72
Days per year with precipitation (wet days)	97 days 67 - 130	100 days 64 - 150	99 days 71 - 133	101 days 73 - 143	101 days 62 - 136	101 days 65 - 142	100 days 63 - 140
Days per year with no precipitation (dry days)	268 days 236 - 299	265 days 216 - 301	266 days 232 - 294	264 days 222 - 292	264 days 230 - 304	264 days 223 - 301	265 days 226 - 302
Maximum number of consecutive dry days	20 days 12 - 58	20 days 12 - 47	20 days 12 - 43	20 days 11 - 41	20 days 10 - 51	20 days 12 - 41	21 days 10 - 48
Temperature thresholds:							
Annual days with maximum temperature > 90 °F	0 days 0 - 11	6 days 0 - 33	7 days 0 - 36	13 days 0 - 59	20 days 0 - 64	19 days 0 - 63	48 days 4 - 125
Annual days with maximum temperature > 100 °F	0 days 0 - 0	0 days 0 - 2	0 days 0 - 3	0 days 0 - 4	1 days 0 - 13	0 days 0 - 4	5 days 0 - 54

N/A = Data Not Available for the selected area

Figure C-4



Future Climate Indicators

Indicator	Mid - 1900s (1951 - 1980)	Early Century (2011 - 2040)		Mid Century (2041 - 2070)		Late Century (2071 - 2100)	
		Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions	Lower Emissions	Higher Emissions
	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max	Min - Max
Precipitation:							
Annual average total precipitation	40" 26 - 57	42" 26 - 68	42" 27 - 60	43" 30 - 65	44" 23 - 65	43" 26 - 62	45" 26 - 72
Days per year with precipitation (wet days)	97 days 67 - 130	100 days 64 - 150	99 days 71 - 133	101 days 73 - 143	101 days 62 - 136	101 days 65 - 142	100 days 63 - 140
Maximum period of consecutive wet days	5 days 3 - 11	6 days 3 - 12	6 days 3 - 9	6 days 3 - 12	6 days 3 - 10	6 days 3 - 14	6 days 3 - 11
Daily precipitation > 99th percentile	2" 0 - 12	3" 0 - 15	3" 0 - 14	3" 0 - 12	3" 0 - 12	3" 0 - 18	4" 0 - 21
Annual days with:							
Annual days with total precipitation > 1 inch	5 days 1 - 10	6 days 1 - 14	5 days 2 - 12	6 days 2 - 12	6 days 1 - 15	6 days 1 - 12	7 days 2 - 18
Annual days with total precipitation > 2 inches	0 days 0 - 3	1 days 0 - 3	1 days 0 - 3	1 days 0 - 3	1 days 0 - 4	1 days 0 - 4	1 days 0 - 5
Annual days with total precipitation > 3 inches	0 days 0 - 2	0 days 0 - 2	0 days 0 - 2	0 days 0 - 1	0 days 0 - 1	0 days 0 - 2	0 days 0 - 2
Annual days with precipitation > 99th percentile	1 days 0 - 4	1 days 0 - 5	1 days 0 - 6	1 days 0 - 5	2 days 0 - 6	1 days 0 - 7	2 days 0 - 8
Days with maximum temperature below 32 °F	54 days 22 - 98	39 days 7 - 71	38 days 6 - 86	30 days 2 - 62	23 days 1 - 59	24 days 1 - 56	11 days 0 - 46

The daily precipitation 99th percentile is 1"

N/A = Data Not Available for the selected area

Figure C-5

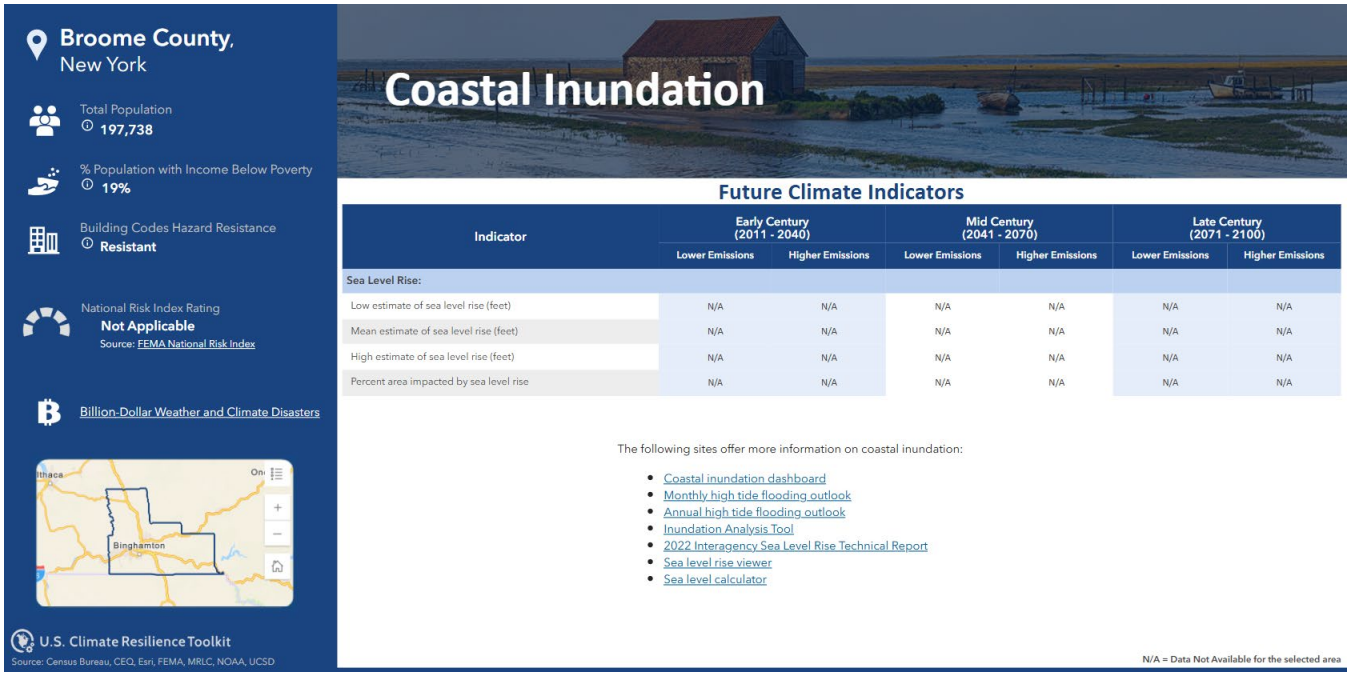


Figure C-6

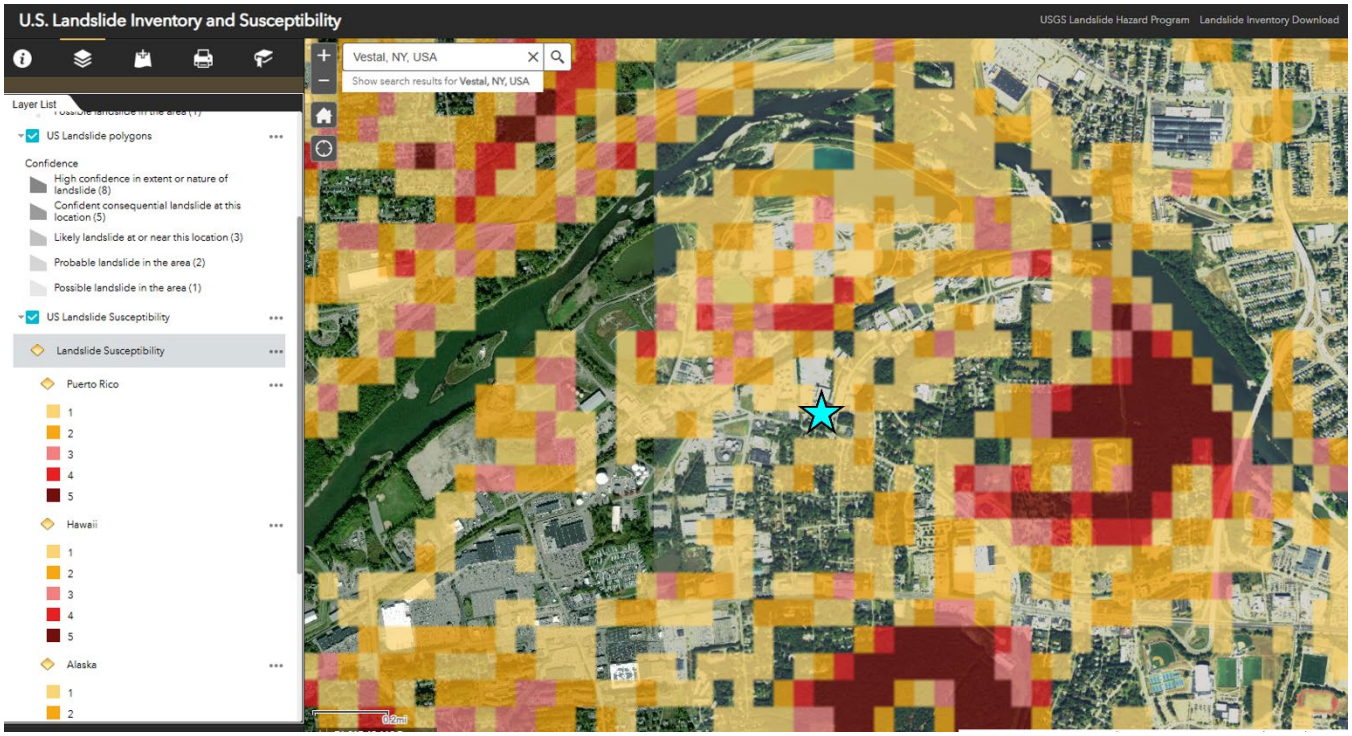
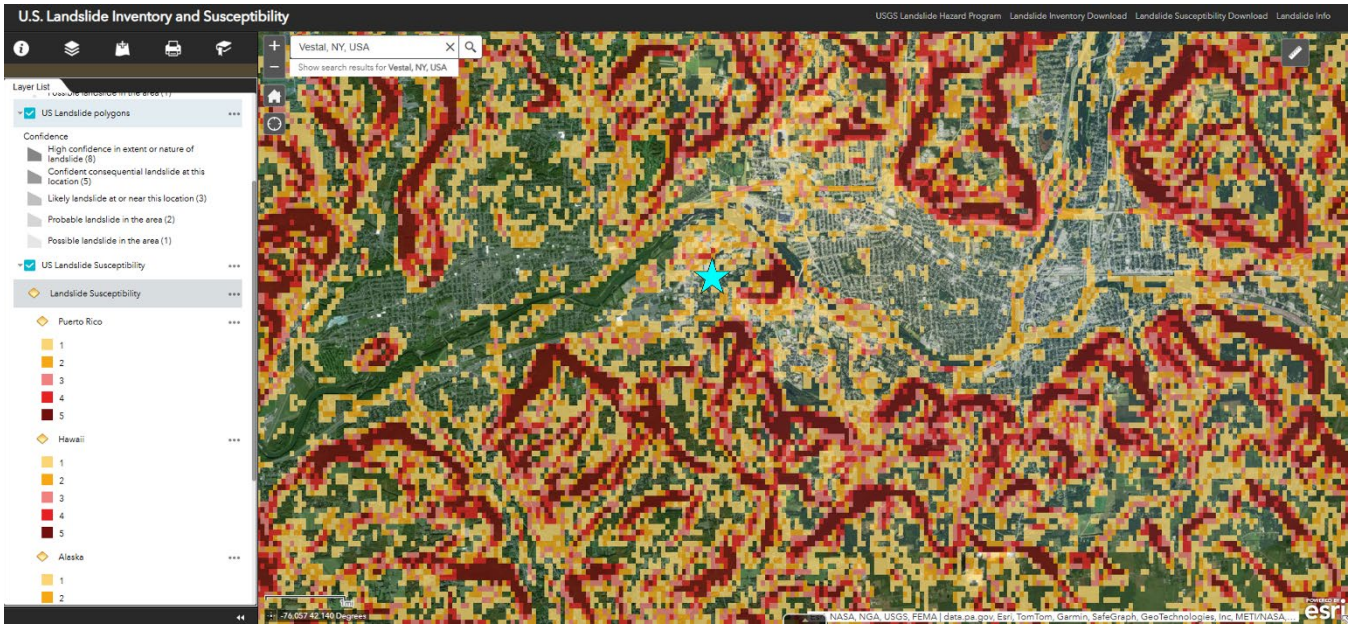


Figure C-7


U.S. Landslide Inventory and Susceptibility
USGS Landslide Hazard Program
Landslide Inventory Download
Landslide Susceptibility Download
Landslide Info
Layer List
US Landslide polygons
Confidence
High confidence in extent or nature of landslide (6)
Confident consequential landslide at this location (5)
Likely landslide at or near this location (3)
Probable landslide in the area (2)
Possible landslide in the area (1)
US Landslide Susceptibility
Landslide Susceptibility
Puerto Rico
1
2
3
4
5
Hawaii
1
2
3
4
5
Alaska
1
2
Vestal, NY, USA
Show search results for Vestal, NY, USA
NASA, NGA, USGS, FEMA | data.pa.gov, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, ...
esri