FOURTH FIVE-YEAR REVIEW REPORT FOR MYERS PROPERTY SUPERFUND SITE HUNTERDON COUNTY, NEW JERSEY

Prepared by

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

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Date

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LIST OF ABBREVIATIONS & ACRONYMS

ARAR	Applicable or Relevant and Appropriate Requirement
BLLs	Blood Lead Levels
CD	Consent Decree
CEA	Classification Exception Area
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COCs	Contaminants of Concern
DDT	dichloro-diphenyltrichloroethane
EPA	United States Environmental Protection Agency
ERT	Environmental Response Team
FYR	Five-Year Review
HQ	Hazard Quotient
ICs	Institutional Controls
IEUBK	Integrated Exposure Uptake and Biokinetic Model
MCL	Maximum Contaminant Limit
MW	Monitoring Well
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NJDEP	New Jersey Department of Environmental Protection
NJGWQS	New Jersey Groundwater Quality Standards
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
RI / FS	Remedial Investigation / Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
µg/dl	micrograms/deciliter
µg/L	micrograms/Liter
UU/UE	Unlimited Use and Unrestricted Exposure
VOC	Volatile Organic Compound

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 pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the fourth FYR for the Myers Property Superfund Site (Site). The triggering action for this statutory review is the completion date of the previous FYR report, on May 17, 2018. The FYR has been prepared due to the fact that hazardous substances, pollutants or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE).

The Site consists of two operable units (OUs), and both will be addressed in this FYR. OU 1 involved implementation of a remedy to address contaminated soil, sediment and buildings at the Site. An interim remedy to address contaminated groundwater was also implemented as part of OU 1. OU 2 involved implementing a final remedy for the groundwater at the Site.

The Myers Property Superfund Site FYR was led by Lawrence Granite, EPA's Remedial Project Manager (RPM) for the Site. Participants included Rachel Griffiths (hydrologist), Natalie Loney (community involvement coordinator), Marian Olsen (human health risk assessor), and Michael Clemetson (ecological risk assessor). The Potentially Responsible Party (PRP) was notified of the initiation of the FYR. The review began on May 19, 2022.

Site Background

The Myers Property site is located on Lower Kingtown Road in Franklin Township, Hunterdon County, in a rural part of western New Jersey (Figure 1). The Site includes approximately five acres of land currently owned by Arkema Inc. (Arkema), a PRP for the Site, and approximately two acres of land on the east side of Lower Kingtown Road which is owned by the State of New Jersey and is mostly a wetland area. The Site is vacant except for a barn-like structure on the privately-owned portion of the Site which is used to house a groundwater treatment system. The structure was built on part of the foundation of a mill dating to 1827. In addition, an actively used walking/horseback riding trail runs through the Site. Cakepoulin Creek, a trout production stream used for recreational fishing, runs adjacent to the Site and eventually drains to the South Branch of the Raritan River. Springs surface on the property and drain into the creek and through a wetland adjacent to the creek. The population of Franklin Township is approximately 3,000 people. The bedrock water-bearing zone at the Site is the sole source of the water supply for the local community, and residents in the area obtain potable water

from private wells. On-going sampling of these wells has found that no drinking water wells have been impacted by site-related contamination.

The land use in the vicinity of the Site is residential. The State of New Jersey has classified the aquifer as Class II-A, a current source of drinking water. EPA also classified the aquifer as a Sole Source Aquifer in a June 1988 decision in accordance with the Safe Drinking Water Act because it is the only viable source of drinking water for the local community.

Portions of the Myers property have historically been used for chemical manufacturing by a number of companies. The W. A. Allen Company owned the property from 1928 to 1932 and may have operated on the Site, formulating fertilizer-pesticide mixtures for residential use. Elko Chemical Works operated a pesticide production plant at the Site from 1942 to 1945. The Pennsylvania Salt Manufacturing Company, a predecessor to Arkema, bought the property in 1945 and operated the plant for two years, producing the pesticide dichloro-diphenyltrichloroethane (DDT). In 1947, the Site was sold to Associated Terminal, Inc., which then leased the Site from 1953 to 1959 to the Clinton Chemical Company, which became Witco Corporation. Mr. and Mrs. Cornelius Myers purchased the property in 1971 and used it as a residence. They sold it to Atochem North America, Inc. (now called Arkema) in 1993.

For more details related to the Site background, physical characteristics, geology/hydrogeology, and land/resource use please see documents in the Site repositories or at: www.epa.gov/superfund/myers-property (see section on webpage titled Site Documents and Data). Document references used to complete this FYR are included in Appendix A. Additional information pertaining to Site events is included in Appendix B.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: MYERS PROPERTY		
EPA ID: NJD980654198		
Region: 2	**State:** NJ	**City/County:** Franklin/Hunterdon
SITE STATUS		
NPL Status: Final		
Multiple OUs? Yes	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		

Lead agency: EPA ***[If "Other Federal Agency", enter Agency name]*:**
Author name (Federal or State Project Manager): Lawrence A. Granite, CHMM
Author affiliation: EPA
Review period: 5/19/2022 - 11/30/2022
Date of site inspection: 9/14/2022
Type of review: Statutory
Review number: 4
Triggering action date: 5/17/2018
Due date *(five years after triggering action date)*: 5/17/2023

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

The Site was proposed for inclusion on the National Priorities List (NPL) in December 1982, which qualified it for funding and response under CERCLA. The Site was finalized on the NPL in September 1983. EPA completed a study of the nature and extent of contamination at the Site in 1989 and prepared a remedial investigation and feasibility study (RI/FS) report based on this investigation. The primary contaminants found in Site soil and sediment were the pesticides DDT and its breakdown products, dichloro-diphenyl-dichloroethane (DDD) and dichloro-diphenyl-dichloroethylene (DDE), chlorinated benzenes, particularly hexachlorobenzene, and arsenic. In the groundwater, high concentrations of benzene, chlorinated benzenes, and other volatile organic compounds (VOCs) were detected. Some inorganic compounds, particularly arsenic, were also found to be present at elevated concentrations.

A baseline human health risk assessment was conducted as part of the RI/FS and risks associated with exposure to surface soil, sediment (from the spring and spring drainage area), building surfaces and groundwater at the Site were calculated. Risks from exposure to subsurface soil were not quantified because the primary exposure route was to surface soil. The current and future land use at this Site is considered to be residential, even though it is not used for that purpose at this time. The cancer risk from exposure to surface soil and sediment at the Site was 1×10^{-3} for current residents (one in a thousand cancer risk) and between 1×10^{-2} and 1×10^{-3} for children (one in 100 and one in a thousand, respectively). Potential future risks to residents using the affected groundwater as a drinking water source were estimated to be 4×10^{-1} (four in ten cancer risk). The main chemicals contributing to these risks were DDT and its breakdown products, and other chemicals including hexachlorobenzene, arsenic and lead.

Noncancer health hazards due to exposure to soils were also found to be elevated, above the goal of protection of a Hazard Quotient (HQ) of 1, primarily due to exposure to antimony, barium, cadmium

and silver. Lead exceeded the residential screening level of 400 parts per million (ppm) which was in place at the time of the Record of Decision (ROD).

The noncancer Hazard Indices were calculated to be 289 for an adult and 659 for a child, for the groundwater ingestion pathway. Both of these values exceed the acceptable noncancer Hazard Index (the sum of individual HQs) of one. These noncancer hazards were primarily associated with exposure to benzene and chlorobenzenes.

In November 1988, EPA's Environmental Response Team (ERT) collected small mammals in order to evaluate the concentration of DDT being accumulated in the species. While elevated concentrations of DDT were found in the animals, the concentrations were not as high as had been predicted. A natural resource risk assessment performed by New Jersey Department of Environmental Protection (NJDEP) did not identify significant ecological risk to higher predators as a result of exposure to Site contamination. An initial round of biota sampling was completed in 1986 prior to the comprehensive RI/FS. In March 1989, ERT collected additional fish samples from the creek to test for the presence of chlorinated dioxins and dibenzofurans and to better characterize the natural resource impact of the Site. This second study found similar concentrations of DDT, dioxins and other chemicals in fish samples collected from the stream as had been found previously. NJDEP conducted a natural resource risk assessment for the local aquatic populations, and the assessment did not identify significant risks to local aquatic populations as a result of exposure to Site contaminants either.

Response Actions

OU 1 Remedy Selection

Based on the results of the RI/FS, EPA issued a ROD in September 1990. This ROD had the following remedy components:

- Excavation of soils and sediments contaminated with organic and inorganic compounds exceeding action levels above the water table, on-site chemical dechlorination treatment of the organic-contaminated soil coupled with soil washing to remove inorganic contaminants, and on-site backfilling of the treated soils;
- Restoration of designated wetland areas subsequent to backfilling of the treated soils;
- Extraction of shallow ground water contaminated above health-based drinking water standards, on-site treatment, and reinfiltration into the ground water or discharge into Cakepoulin Creek;
- Extraction and on-site treatment of bedrock ground water contaminated above health-based drinking water standards in the areas of highest contamination, and reinfiltration into the ground water or discharge into Cakepoulin Creek, coupled with additional study to evaluate a long-term response for the contaminated bedrock ground water;
- Ground water monitoring to identify the threat to potable wells in the area and provision of point-of-use treatment for these wells should they become contaminated by the site;

- Decontamination of on-site buildings; and
- Appropriate environmental monitoring to ensure the effectiveness of the remedy.

The remedial action objectives were:

- *Soil and Sediment:* eliminate the risk of inadvertent contact with or ingestion of contaminated soil and sediment;
- *Contaminated Buildings:* prevent human contact with contaminated building surfaces and dust; and
- *Groundwater:* prevent exposure to contaminated groundwater above maximum contaminant levels (MCLs).

After the 1990 ROD was completed, treatability studies conducted during the design demonstrated the need to modify the soil component of the remedy. The remedial action objectives (RAOs) remained the same.

<u>The final OU 1 remedy for soil was amended in July 2000 to include:</u>

- Excavation of soil and sediment contaminated with organic and inorganic compounds exceeding action levels above the water table.
- Off-site disposal of excavated material with treatment as necessary to meet disposal requirements.
- Backfilling of the excavated area with clean fill similar in type to the native soil.
- Restoration of designated wetland areas subsequent to backfilling with clean fill.
- Appropriate environmental monitoring to ensure the effectiveness of the remedy.

The primary contaminants of concern (COCs) in the soil and sediment at the Site included total VOCs, hexachlorobenzene, total DDT and arsenic. The groundwater remedy was unchanged by the ROD Amendment. In addition, the 1990 ROD selected decontamination of the on-Site buildings. However, further investigation showed that most of the buildings could not be effectively decontaminated. All contaminated buildings were removed from the Site in 1997 and 1998 except for a portion of the foundation wall of the mill, which was the only structural component that could be decontaminated and reused. This foundation wall was decontaminated and incorporated into a new building to house the ground water treatment system. This was also documented in the ROD Amendment.

EPA entered into a Consent Decree (CD) with the PRP, Atochem North America, Inc. (now called Arkema) in February 1992 to implement the selected remedy under EPA supervision and to reimburse EPA for a portion of its past response costs. Witco Corporation and several other parties agreed to pay additional response costs under a CD in September 1996. An interim groundwater remedy began operation in October 1999.

OU 2 Remedy Selection

A final groundwater remedy was selected for OU 2 in a September 2005 ROD.

The overall RAO for bedrock groundwater, consistent with the 1990 ROD, is preventing exposure to contaminated groundwater above MCLs established pursuant to the federal and state Safe Drinking Water Acts (i.e., drinking water standards).

The remediation goals for the Site-related contaminants in groundwater are based on federal MCLs, New Jersey MCLs, and the New Jersey Groundwater Quality Standards.

The final groundwater remedy components included:

- Continued operation of the existing groundwater extraction wells in the bedrock aquifer for containment of the source area and restoration of the shallow and bedrock groundwater downgradient of the source area.
- Continued operation of the existing treatment plant.
- Continued use of reinjection wells for discharge of treated groundwater.
- Groundwater use restrictions, in the form of well restrictions or the establishment of a Classification Exception Area (CEA), within the area where contaminants are present above cleanup criteria.
- Continuation of the on-site shallow and bedrock groundwater monitoring program.
- Continuation of the residential well sampling program.
- Annual review of the well monitoring program and groundwater treatment system.

Status of Implementation

Soil and Sediment:

A design report for the soil and sediment portion of the OU 1 remedy was prepared by Arkema and approved by EPA in July 2002.

Soil excavation depths varied from six inches in some areas down to the water table at approximately four feet in others. The mean seasonal water table varies from less than one foot to approximately four feet below the ground surface. Contamination below the water table was generally left in place, though soil was removed from certain areas where the water table was particularly shallow.

Field work was initiated in the spring of 2003. All work was conducted in accordance with an approved site management plan. The total volume of soil and sediment excavated and disposed of off-site was 22,190 cubic yards. All contaminated material were disposed of as non-hazardous waste at approved landfills. After the excavation was completed, the affected areas of the Site were restored. A final

report for remedial construction and notice of completion, which provides a detailed description of the soil and sediment cleanup, was approved by EPA in June 2005.

Buildings:

All contaminated buildings were removed from the Site in 1997 and 1998 except for a portion of the foundation wall of the 1827 mill which was the only structural component of the buildings that could be decontaminated and reused. The foundation wall was decontaminated and incorporated into a new building which was built to house the groundwater treatment system.

Groundwater:

A design report for construction of the interim groundwater remediation system was prepared by Arkema and approved by EPA in December 1998. The extraction and treatment system, which addresses both shallow and bedrock groundwater contamination, has been in operation since October 1999, and a notice of completion and final report for remedial construction for the system was approved by EPA in July 2000.

Institutional Controls

Table 1: Summary of Implemented ICs

Media, engineered controls, and areas that do not support UU/UE based on current conditions	ICs Needed	ICs Called for in the Decision Document	Impacted Parcel(s)	IC Objective	Title of IC Instrument Implemented and Date
Groundwater	Yes	Yes	NJDEP Program Interest Number: PI# G000004875 NJDEP Subject Item ID: CEAI00000001	Restrict installation of groundwater wells and groundwater use	Classification Exception Area Implemented October 16, 2017
Soils	Yes	Yes	Block 16 Lot 19, Block 17 Lot 1, Block 24 Lot 32.03	Specify that the impacted areas of soil and sediment cannot be disturbed without prior written approval	Deed Restriction Implemented May 6, 2009

Systems Operations/Operation & Maintenance

Soil and Sediment:

A post-remediation restoration monitoring plan was included as Appendix K of the EPA-approved remedial design for OU 1; the plan was updated by the remedial action contractor in January 2004. The updated 2004 plan specified that long-term monitoring and maintenance of the restored areas of the Site

be conducted. The overall goal of the restoration plan was to establish 85 percent areal coverage and 85 percent survival of mitigation plantings by the end of 2008.

The restoration was monitored qualitatively annually and quantitatively (through such measures as percent survival) semiannually. Annual mitigation monitoring reports were submitted by Arkema. In 2008, the overall success of the restoration was assessed against the performance criteria stipulated in the remedial design, as well as relevant NJDEP standards. On November 23, 2009, NJDEP notified the PRP that all wetland mitigation permit equivalency conditions had been met and monitoring could be discontinued. The overall restoration was determined to be successful according to the design criteria.

General maintenance of the Site, including the retained overstory trees, is ongoing.

Groundwater:

The groundwater treatment system continues to operate. The treatment system is operated by Envirogen Technologies on behalf of Legacy Site Services, LLC. In accordance with a discharge to groundwater permit equivalency issued by NJDEP, the system is sampled by Tetra Tech on a monthly basis. Quarterly groundwater quality monitoring has been ongoing at the Site since 1999 and is conducted by Tetra Tech. Data as far back as 1996 (i.e., prior to operation of the groundwater extraction and treatment system) are available for many of the wells. The current water quality assessment program includes 12 groundwater monitoring wells (located in eight clusters), plus the extraction wells. As of March 2011, the sampling frequency at five of these wells plus the extraction wells was reduced to semiannually since the contaminant concentrations at perimeter monitoring wells had declined to below applicable groundwater standards and there was consistency in the analytical data. The groundwater is analyzed for the presence of VOCs during every sampling round, and metals, pesticides and semi-volatile organic compounds annually. Tetra Tech takes water level measurements on a quarterly basis to evaluate the capture zone of the extraction system.

The installation of a new groundwater extraction well, located downgradient and beyond the zone of capture developed by the existing groundwater extraction wells, has been completed and the new extraction well commenced operation on October 26, 2022. The objective of the new groundwater extraction well is to capture persistently elevated concentrations of COCs within generally low permeability shallow bedrock that were not captured by the groundwater extraction system.

In addition, water from nearby private residential wells is tested semiannually to assure that they remain unaffected by the Site. Envirogen Technologies provides a licensed operator and performs the groundwater treatment system maintenance. In addition to responding to any calls from an autodialer, Envirogen Technologies is at the Site two to three days per week to perform routine maintenance and repairs.

Climate Change

Potential Site impacts from climate change have been assessed, and the performance of the remedy is marginally at risk due to more frequent flooding. The Site is located within the 500-year floodplain of Cakepoulin Creek and has been subject to flooding. As a consequence, the Cakepoulin Creek bank is eroding and monitoring well cluster MW-12 (MW-12S, MW-12TR, and MW-12DR) has been lost. Significant storm events within the review period have caused the creek bank to erode beyond MW-20TR, while flooding has damaged MW-11S and MW-21TR, all of which are being evaluated to determine if they can be repaired. Recent storm events have also eroded the creek bank immediately adjacent to MW-22TR. As stated in Section III below, extraction well EX-10 is situated near MW-22TR as well. Erosion of the creek bank is expected to continue in the future.

In response, EPA and the PRP have discussed options to stabilize the stream bank. The wells presenting a concern are situated along a broad sweeping curve of the stream and the depth to bedrock in this area is shallow (i.e., approximately four feet). The stream bed sits on the bedrock; therefore, the stream generates considerable power which only allows it to erode laterally. Due to the force generated by the stream, however, options to stabilize the bank, including sheet piling and creek bank hardening, have been determined to be impractical to date. At this time, EX-10 is not recognized as being under any immediate significant threat and has been operating efficiently. The PRP is currently performing inspections of the stream bank after every major storm event and this PRP activity will continue in the next FYR period.

In addition, more frequent flooding may damage electrical components associated with groundwater extraction wells that are also within the 500-year floodplain. Future operation and maintenance activities should be cognizant of potential flooding. As electrical equipment is added or upgraded, mounting the equipment above the 500-year floodplain elevation and securing equipment and monitoring wells to resist damage from flooding should be considered. Additional information related to the climate change assessment is included in Appendix A.

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: Protectiveness Determinations/Statements from the 2018 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Protective	The soil, sediment and buildings remedy at OU 1 is protective of human health and the environment.

OU #	Protectiveness Determination	Protectiveness Statement

2	Protective	The groundwater remedy at OU 2 is protective of human health and the environment.

OU #	Protectiveness Determination	Protectiveness Statement
Sitewide	Protective	The remedies at the Site protect human health and the environment.

No issues and recommendations were identified in the last FYR for OU 1 and OU 2. However, the following suggestion was included as an "Other Findings" to improve performance of the remedy, reduce costs and improve management of O&M but did not affect current and/or future protectiveness: "Implement recommendations for adjustments to the current monitoring and extraction system as described in the optimization report."

An optimization review for the Site was completed in February 2018 by EPA's Office of Land and Emergency Management. The review was focused on evaluating downgradient contaminant detections in groundwater in the vicinity of MW-22TR. Initial recommendations from the review suggested enhancements to source control efforts could have a direct impact on the downgradient contamination. EPA requested the installation of an additional groundwater extraction well near MW-22TR to address the persistent contaminant concentrations in that area, which consist principally of chlorobenzene, with much lower concentrations of benzene, 1,4-dichlorobenzene and 1,2-dichlorobenzene. A new extraction well (EX-10) has been installed and began operation on October 26, 2022.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

On August 15, 2022, 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, and Puerto Rico, including the Myers Property 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 (CIC) for the Site, Natalie Loney, provided a notice to Franklin Township by email on November 30, 2022 with a request that the notice be posted on the township webpages. This notice indicated that a FYR would be conducted at the Myers Property site to ensure that the cleanup at the Site continues to be protective of human health and the environment. Once the FYR is completed, the results will be made available at EPA Region 2 (290 Broadway, 18th floor, New York, New York 10007) and at the Hunterdon North County Branch Library (65 Halstead Street, Clinton, New Jersey 08809). In addition, the final report will be posted on the following website: www.epa.gov/superfund/myers-property. Efforts will be made to reach out to local public officials to inform them of the results.

Data Review

Soil and Sediment:

The restored areas of the Site include four distinct wetland areas covering a total area of about 2.57 acres. On November 23, 2009, NJDEP advised the PRP that compensatory wetland mitigation at the Site, as per the terms of the permit equivalency, was complete. No significant changes in Site conditions have occurred since and no significant maintenance or sampling activities have been needed.

Groundwater:

The groundwater monitoring program, performed by Tetra Tech contracted with the responsible party, includes sampling of water from the treatment system, collection of water levels and groundwater quality samples from on-site wells, and collection of potable well samples from private residential wells in the area.

Treatment System Monitoring:

As of the end of 2021, approximately 384 million gallons of water have been extracted and treated on-site since the system began operation in 1999, and approximately 21 million gallons were extracted and treated in 2021. The treatment system is currently processing water at a typical rate of between 35 and 45 gallons per minute and has resulted in a consistent zone of capture. Monitoring of the groundwater treatment system consistently documents that the concentrations of compounds in the treated groundwater are below all NJDEP discharge permit equivalency limits.

Groundwater Quality Monitoring:

Groundwater monitoring at the Site includes both quarterly and semi-annual sampling events. The data show that groundwater quality has improved significantly since implementation of the remedy and that the groundwater extraction system is effectively controlling the spread of contamination farther downgradient of the Site. Contaminant concentrations detected in monitoring wells located outside of the capture zone, other than those at MW-22TR (the replacement well for MW-12TR) and MW-10DR, have generally been below the New Jersey Groundwater Water Quality Standards (NJGWQS) since 2004 and no off-site impacts have been detected or are anticipated. The extraction wells continue to remove contaminated groundwater from the bedrock for treatment (Figure 3). Groundwater results from the most recent round of sampling are included in Appendix C.

Concentrations of COCs at MW-22TR and MW-10DR have regularly exceeded the NJGWQS during the review period. The overall trend at MW-12TR/MW-22TR locations show COC concentrations have been fluctuating since the remedy was implemented,

though they have still decreased significantly (Figure 5). Prior to implementation of the remedy, chlorobenzene concentrations exceeded 100,000 micrograms/liter (µg/l) at MW-12TR, and fluctuated around 10,000 µg/l since extraction began. During the review period, fluctuating chlorobenzene concentrations were observed at MW-22TR, consistent with what has been observed in the past. The overall concentration trend at MW-10DR has been fluctuating since 2010, but has significantly decreased since the remedy was implemented (Figure 6). Specifically, chlorobenzene concentrations at MW-10DR were originally over 15,000 µg/l prior to the remedy implementation, and dropped to below 100 µg/l by 2010. During the review period, chlorobenzene concentrations have fluctuated between no detection to around 900 µg/l with an average concentration around 200 µg/l. Both groundwater data downgradient of MW-22TR and residential well monitoring (discussed below) indicate that the contaminant plume has not migrated off site and the impacts at MW-22TR appear to be localized. As stated above, a new extraction well (EX-10) has been installed and became operational on October 26, 2022.

Residential Well Monitoring:

Residential wells that are sampled have not been impacted by site-related contamination. Currently, seven wells, including the treatment plant building well, are sampled by Tetra Tech twice per year, the closest of which is located less than 400 feet from the contaminant plume and all of the wells are located within a mile of the Site. The most recent sampling event was conducted in June 2022. There have been virtually no detections of non-metal contaminants in any of the potable wells sampled over the course of this project, and metal concentrations are consistent with naturally occurring background levels.

Cakepoulin Creek:

Concurrent with the MW-22TR installation activities in 2016, five porewater samples were collected from the bank of Cakepoulin Creek adjacent to the new well location. No site-related constituents were detected in any of the porewater samples. Historic water level data from nearby wells and surface water gauging from the stream indicate that, locally, Cakepoulin Creek is a losing stream with regard to the bedrock water-bearing zones, but receives limited discharge from the overburden groundwater. Since hydraulic gradients are downward from the creek to the bedrock zones and no Site constituents are detected in the shallow overburden groundwater, it has been concluded that the stream is not being impacted by Site contaminants. Additionally, VOCs have never been detected in the creek, even prior to implementation of the remedy.

Site Inspection

The inspection of the Site was conducted on September 14, 2022. In attendance were Lawrence Granite, EPA; Michael Pinto, Legacy Site Services LLC on behalf of the PRP; Timothy Roeper, Tetra Tech Inc.

on behalf of the PRP; and Robert Grigg, Envirogen Technologies on behalf of the PRP. The purpose of the inspection was to assess the protectiveness of the remedy. Conditions observed indicate that the Site is being properly operated and maintained and that the wetland restoration remains satisfactory. There has been significant erosion of the stream bank since the previous FYR and well MW-21TR, which was a replacement for the MW-12 well cluster that was destroyed due to prior erosion of the stream bank, is now also at risk. No concerns have been raised by the local community since the last FYR was completed and interviews of nearby residents were not conducted as part of this FYR.

V. TECHNICAL ASSESSMENT

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

Yes, the remedy is functioning as intended by the OU 1 and OU 2 RODs, and the OU 1 ROD amendment.

Remedial Action Performance

- The restoration of the excavated portions of the Site is complete.
- The groundwater treatment system has prevented the migration of contamination off-site and continues to reduce the concentration of contaminants on-site.

System Operations/O&M

- The residential well sampling program continues to ensure residents are not exposed to groundwater contamination.
- Based on sampling of the Cakepoulin Creek, the remedy has reduced the potential for exposure to ecological receptors by the efforts to control the source of contamination.
- The bank along Cakepoulin Creek has eroded, which has damaged several monitoring wells. MW-22TR is now also at risk, which is situated close to extraction well EX-10. This extraction well, however, is not considered to be subject to any immediate threat related to erosion and appears to effectively cut off contamination observed at MW-22TR from the source area. Although measures to stabilize the creek have determined to be impractical thus far, PRP inspections after each major storm event will continue to monitor impacts to the existing wells.

Implementation of Institutional Controls and Other Measures

- A CEA/WRA was implemented in 2017 to prevent use of groundwater on the Site in the near future.
- A deed restriction requiring approval before disturbing subsurface soil and sediment on the Site was implemented in 2009 since residual contamination was left at the water table. This restriction also prevents exposure to shallow contaminated groundwater.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy selection still valid?

Yes, the exposure assumptions, toxicity data, cleanup levels, and RAOs used at the time of the baseline human health risk assessment and the remedy selection are still valid. Further explanation is provided below.

Changes in Standards and TBCs (Cleanup Levels and RAOs)

- The selected remedy for the soil and sediment was intended to prevent exposure to contaminated material. The 1990 ROD established remediation goals for a number of chemicals. Many of the current NJDEP remediation goals are lower than those established in the 1990 ROD. However, none of these new goals were exceeded at the limits of excavation.
- The lead remedial action level in soil identified in the ROD was 250 - 1,000 mg/kg (NJ State Action Level) and soil was remediated through excavation to the water table. The Agency is currently assessing lead cleanup goals on a site-specific basis using version 2 of the Integrated Exposure Uptake and Biokinetic (IEUBK) model released in May 2021. This version of the model uses a default blood lead level (BLL) of 5 micrograms per deciliter (µg/dl) based on more current scientific literature regarding lead toxicity and epidemiology. The Soil Delineation Report includes a summary of chemical concentrations at the limits of excavation. The detected lead concentrations in that report indicates a maximum concentration of 26.2 mg/kg and this concentration is below the residential lead concentration of 200 mg/kg that is associated with a BLL of 5 mg/dL. The removal of soil down to the water table and the deed restrictions preventing residential development of the property have interrupted potential exposures to lead in soil.
- The 1990 ROD established the federal and state MCLs as the remediation goals for groundwater. One of the federal and several of the state MCLs have changed since 1990. However, there is no current exposure pathway to the contaminated portions of the groundwater and the remedy remains protective.

Changes in Toxicity

- Several COCs are being evaluated through the Integrated Risk Information System process that provides EPA's consensus toxicity values used in human health risk assessments. These chemicals include arsenic (inorganic), chromium-6, copper, polynuclear aromatic hydrocarbons, and dichlorobenzene and any changes in the toxicity values will be evaluated in future FYRs. The soil and sediment portion of the remedy is complete and the risk of inadvertent contact with and/or ingestion of these contaminants in the soil and sediment has been eliminated. As such, changes to the toxicity values are not of concern for these media. Any future changes in the toxicity values for contaminants with remediation goals in groundwater (arsenic, chromium-6 and dichlorobenzene) will need to be re-evaluated in the next FYR.

Changes in Exposure Pathways

Since the ROD was developed, EPA issued updated standard default exposure assumptions in 2014 (OSWER Directive 9200.1-120). The changes in the exposure parameters e.g., groundwater ingestion rate, bodyweight, etc. do not change the protectiveness of the remedy.

- Soil and Buildings: The exposure assumptions and toxicity values that were used to estimate the potential cancer risks and non-cancer hazards in the risk assessment for human health supporting the 1990 ROD followed the risk assessment guidance for Superfund used by EPA. The process that was used in the human health risk assessment is still valid. Now that the remedy has been implemented, the human exposure pathways to contamination remaining in the soil and sediment below the water table have been interrupted. As such, the site-related risks from exposure to soil and buildings are below levels of concern.
- Groundwater: The treatment system is effectively containing and reducing the size of the plume of contamination from the Site. Overall, concentrations of site-related contaminants present in the groundwater are decreasing. Residents in the area use wells as their source of drinking water and an ongoing monitoring program is in place to assure their wells do not become affected by the Site. This sampling activity has not identified any detections in these wells.
- Vapor Intrusion: Currently the only building on Site is the groundwater treatment facility. The available groundwater data were compared to the screening levels identified in the Vapor Intrusion Screening Level Calculator available at: https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator. The groundwater residential screening level for chlorobenzene identified using the VISL calculator was 410 mg/l and the commercial screening value was 1,720 mg/l. As discussed above, during the review period, chlorobenzene concentrations have fluctuated around 1,000 mg/L. This concentration (1,000 mg/l) exceeds the residential screening level but is below the commercial screening level. Since an operator does not work full-time in the building and the maximum chlorobenzene concentration falls below the commercial screening level there is no current cause of concern for worker exposures through vapor intrusion. In the future, if the Site were developed for non-commercial purposes, further evaluation of vapor intrusion as a potential pathway of exposure needs to be considered.
- Ecological: The remedy has reduced the potential for exposure to ecological receptors by the efforts to control the source of contamination (i.e., soil and sediment excavation, and extraction and treatment of contaminated groundwater). Although the ecological risk assessment screening values used to support the RODs may not necessarily reflect the current values, the remedy remains protective of ecological receptors as the contaminated soil and wetland sediment were removed and the historical data indicates that Cakepoulin Creek has not been adversely impacted by the Site.

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

At this time there is no other information that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
OU 1, OU 2

OTHER FINDINGS

EPA and the PRP have discussed options to stabilize the Cakepoulin Creek banks that have been subject to erosion and flooding, however, the physical nature of the stream has prohibited such actions. Although some wells have been, or are at risk of being, damaged, extraction well EX-10 is not considered subject to immediate threat. Nevertheless, PRP inspections after each major storm event should continue to monitor potential impacts to the existing wells. If the threat of damage increases, options for erosion control or the placement of additional wells should be further evaluated, if feasible. In addition, as electrical equipment associated with the extraction well system is added or upgraded, mounting the equipment above the 500-year floodplain elevation and securing equipment and monitoring wells to resist damage from flooding should be considered.

VII. PROTECTIVNESS STATEMENT

Protectiveness Statement(s)		
Operable Unit: OU 1	*Protectiveness Determination:* Protective	
Protectiveness Statement: The soil, sediment and buildings remedy at OU 1 is protective of human health and the environment.		

Protectiveness Statement(s)		
Operable Unit: OU 2	*Protectiveness Determination:* Protective	Click here to enter a date
Protectiveness Statement: The groundwater remedy at OU 2 is protective of human health and the environment.		

Sitewide Protectiveness Statement
Protectiveness Determination: Protective
Protectiveness Statement: The remedies at the Site protect human health and the environment.

VIII. NEXT REVIEW

The next FYR for the Myers Property Superfund Site is required five years from the completion date of this review.

Figures

Figure 1: Site Location Map

Figure 2 - Monitoring Well Locations

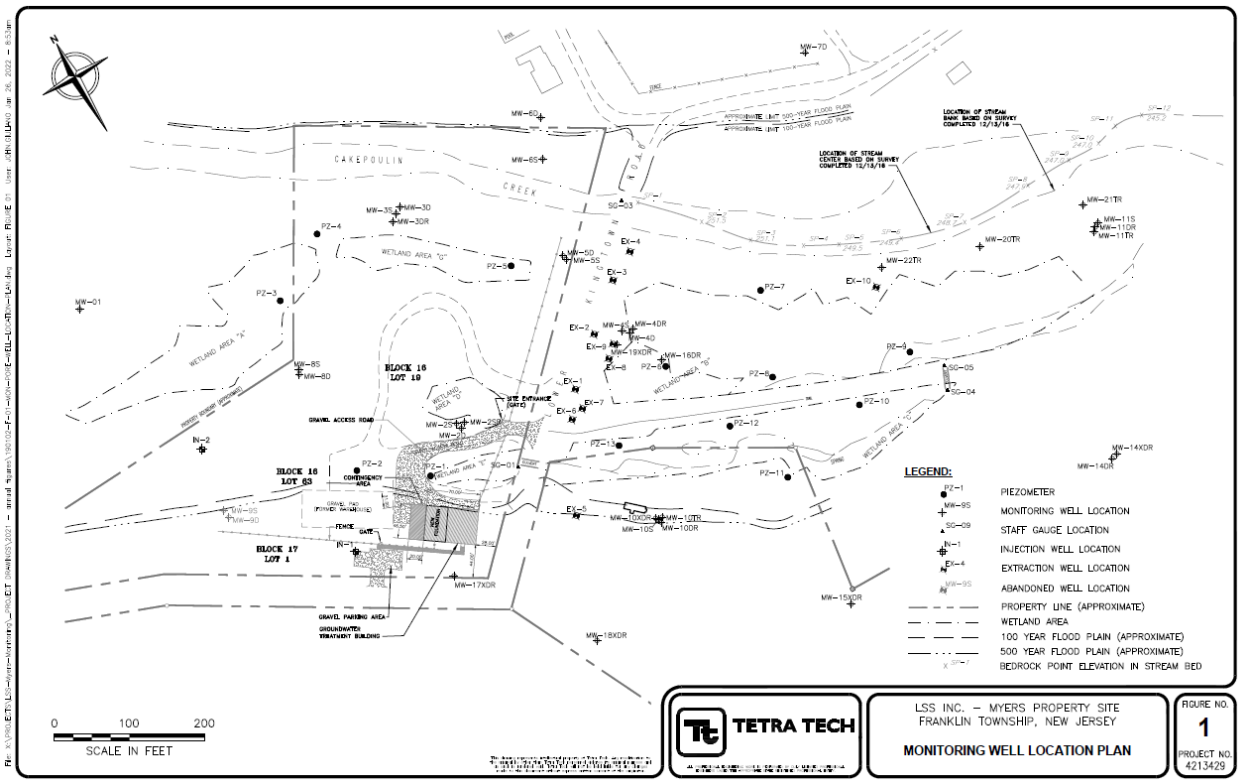


Figure 3 – Total Volatile Organics in Extraction Wells over Time

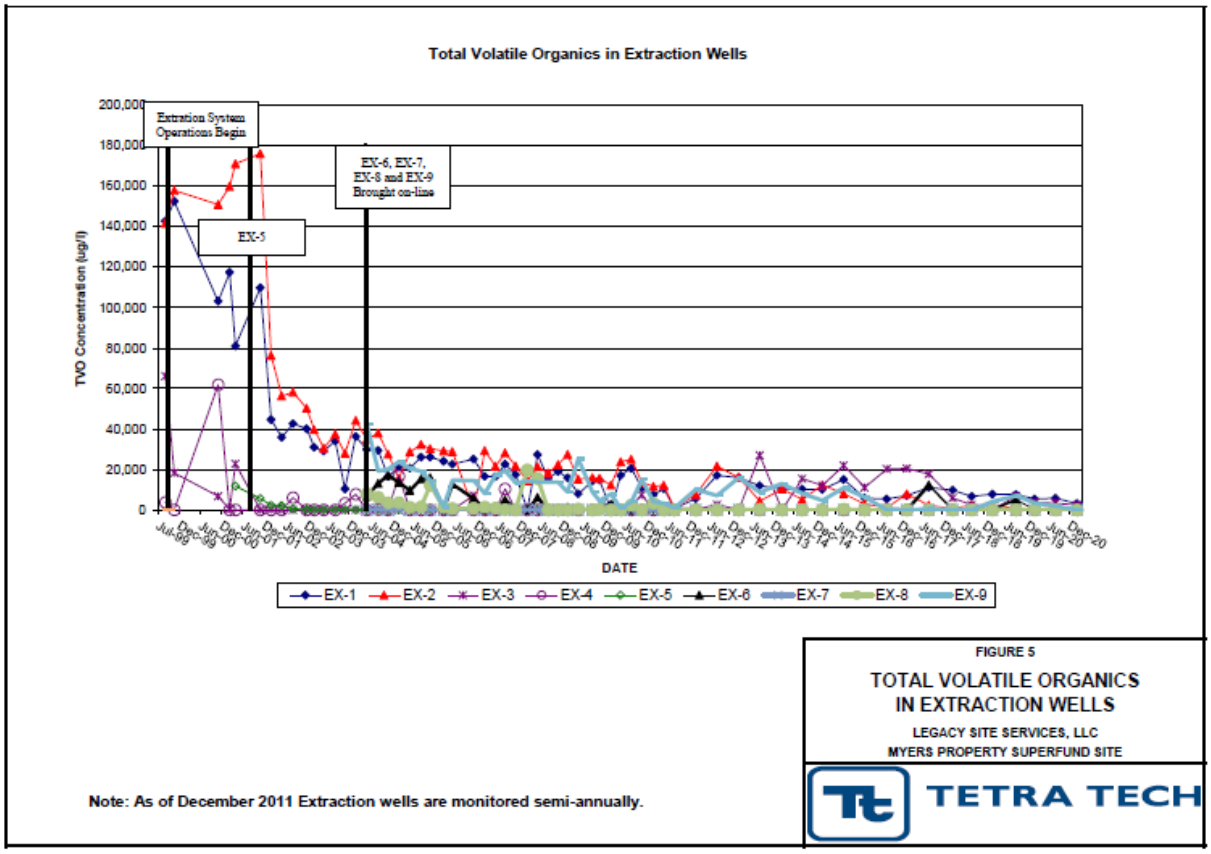


Figure 4 - Total Volatile Organics in Well Cluster 11 versus Time

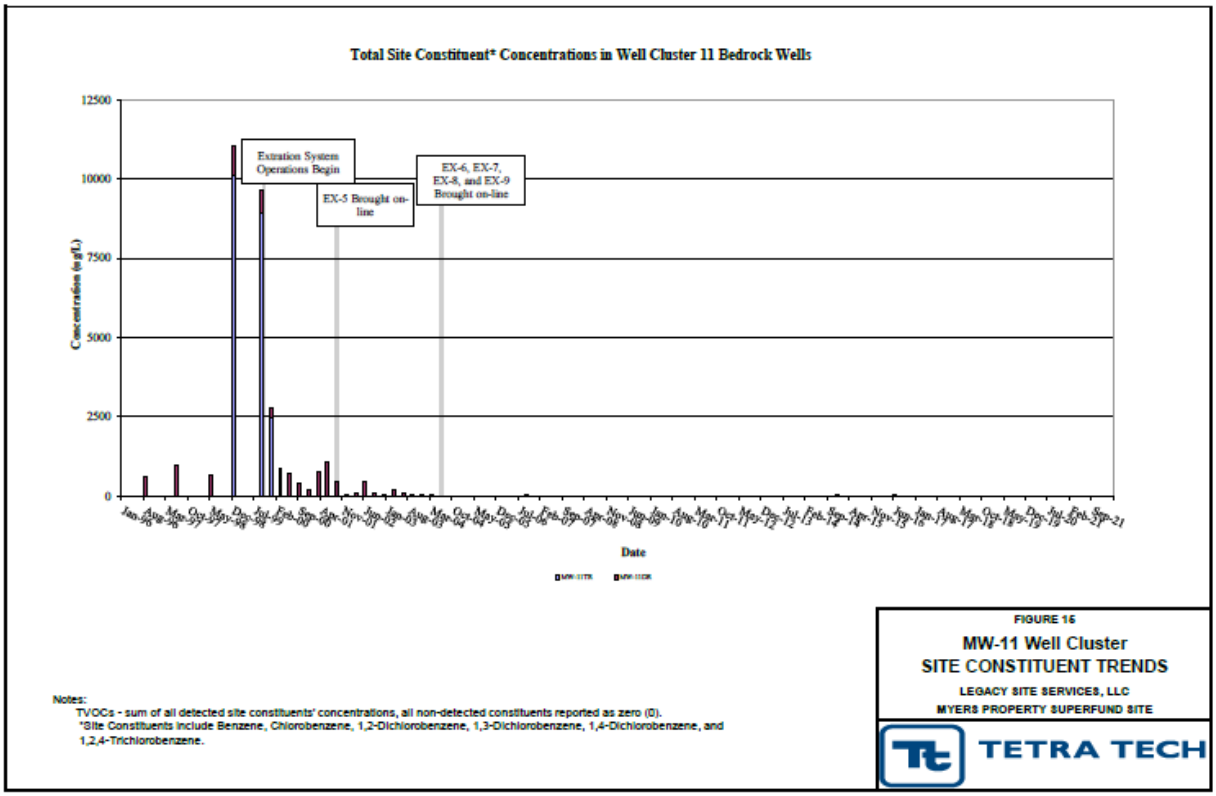
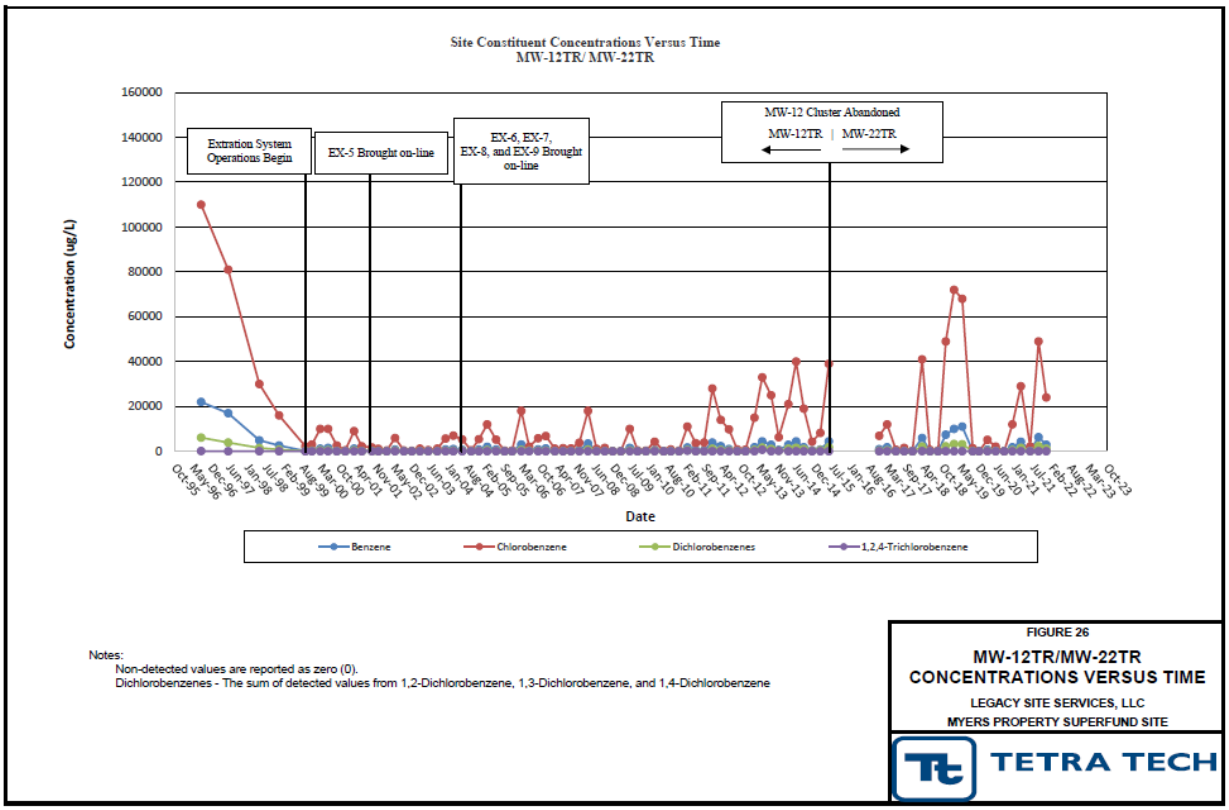


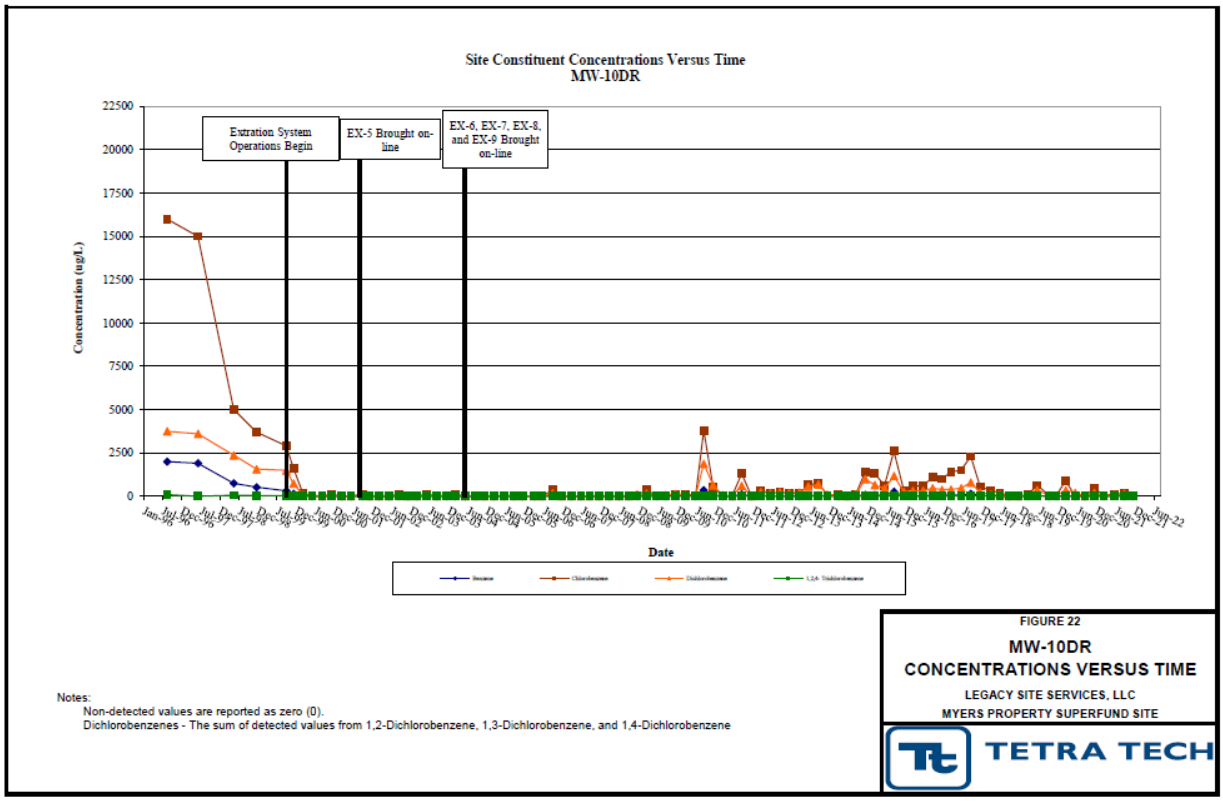
Figure 5 - Total Volatile Organics in Well Cluster 12TR/22TR over Time



Notes:
Non-detected values are reported as zero (0).
Dichlorobenzenes - The sum of detected values from 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, and 1,4-Dichlorobenzene

FIGURE 26
MW-12TR/MW-22TR
CONCENTRATIONS VERSUS TIME
LEGACY SITE SERVICES, LLC
MYERS PROPERTY SUPERFUND SITE
TETRA TECH

Figure 6 - Total Volatile Organics in MW-10DR versus Time



APPENDIX A – Reference List

- Record of Decision, EPA, September 1990
- Record of Decision Amendment, EPA, July 2000
- Record of Decision, EPA, September 2005
- Superfund Preliminary Close Out Report, EPA, September 2005
- First Five-Year Review for the Myers Property site, EPA, May 2008
- Second Five-Year Review for the Myers Property site, EPA, September 2013
- Third Five-Year Review for the Myers Property site, EPA, May 2018
- Monthly progress reports for the Site prepared by the PRP
- Soil Delineation Report, prepared by Environmental Liability Management, Inc. on behalf of the PRP, May 2001
- Bi-annual Domestic Well Sampling Reports prepared by the PRP
- Final (100%) Design Report, prepared by ERM on behalf of the PRP, June 2002
- Final Report for Remedial Construction and Notice of Completion, prepared by ERM on behalf of the PRP, June 2005
- Battelle, 2016. Final Technical Memorandum: Installation of Replacement Groundwater Monitoring Well Cluster at the Myers Property Site, Franklin Township, New Jersey. Prepared by Battelle on behalf of the U.S. Environmental Protection Agency Site Characterization and Monitoring and Technical Support Center. September 1.
- Cornerstone, 2017. Email Letter to Anne Rosenblatt. Installation of MW-22TR, Prepared by Cornerstone Environmental Group, Inc. on behalf of Legacy Site Services, February 2.
- Cornerstone, 2015. Email Letter to Stephanie Vaughn, RPM, EPA Region 2. Abandonment of MW-12 Well Cluster and Installation of MW-20TR and MW-21TR. Prepared by Cornerstone Environmental Group, Inc. on behalf of Legacy Site Services. November 4.
- Cornerstone, 2014-2017. Myers Property Site Groundwater Monitoring and Annual Reports.
- Tetra Tech, 2018-2021. Myers Property Site Groundwater Monitoring and Annual Reports.
- Tetra Tech, February 7, 2020. Conceptual Work Plan for Installation of an Additional Extraction Well.

APPENDIX B - Chronology of Site Events

Event	Date(s)
The land now known as the Myers Property site was owned by a series of companies and used primarily for pesticide production.	1928 to 1959
The property was purchased by Mr. and Mrs. Myers and used as their residence.	1971
The Site was listed on the NPL.	1983
The property was sold to Atochem North America, Inc. (now called Arkema).	1987
The OU 1 ROD was signed.	1990
EPA entered into a CD with Arkema to implement the selected remedy.	1992
The building portion of the remedy was completed.	1997 to 1998
The PRP began operation of the interim groundwater treatment system.	1999
Based on additional investigations completed by Arkema, an OU 1 ROD amendment was signed.	2000
The final OU 1 remedial design prepared by the PRP was approved by EPA.	2002
The OU 1 remedy was implemented by the PRP group pursuant to the CD.	2002 to 2005
The OU 2 FS (groundwater) was submitted by the PRP.	2005
The OU 2 ROD was signed.	2005
The PCOR for the Site was signed by EPA.	2005
The first five-year review for the Site was signed.	2008
The final OU 1 post-construction annual mitigation monitoring report was submitted.	2008
The deed restriction for OU 1 was filed with Hunterdon County, New Jersey.	2009
The second Five-Year Review was completed.	2013
Groundwater monitoring wells MW-12S, MW-12TR, and MW-12DR were abandoned due to stream bank encroachment.	2015
Groundwater monitoring MW-22TR was installed to replace MW-12TR.	2016
Groundwater Classification Exception Area approved by NJDEP.	2017
EPA’s Third Five-Year Review Report was completed.	2018
A new groundwater extraction well (EX-10) was installed and began operation.	2022

Appendix C – Monitoring Data

Table IA
Myers Groundwater Quality Data
VOCs
Third Quarter 2022
(All Values ug/L)

SAMPLE NAME	SCREENED INTERVAL	SAMPLE DATE	Acetone	Benzene	Bromo dichloro methane	Bromoform	Bromo methane	Butanone-2	Carbon disulfide	Carbon tetrachloride	Chloro benzene	Chloro ethane	Chloro methane
GWQS N.J.A.C. 7:9C: µg/L													
			6000	1	1	4	10	300	700	1	50	5	NA
MW-4D-09212022	UB	9/21/2022	150 UD	**340 D**	19 UD	25 UD	26 UD	190 UD	30 UD	13 UD	**8700 D**	13 UD	20 UD
MW-4DR-09212022	LB	9/21/2022	1.5 U	0.47 J	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	13	0.13 U	0.2 U
MW-10DR-09202022	UB	9/20/2022	3.6 UD	**10 D**	0.48 UD	0.62 UD	0.64 UD	4.8 UD	0.75 UD	0.34 UD	**240 D**	0.34 UD	0.5 UD
DUP-01-09202022(MW-10DR)	UB	9/20/2022	2.9 UD	**11 D**	0.38 UD	0.5 UD	0.51 UD	3.9 UD	0.6 UD	0.27 UD	**260 D**	0.27 UD	0.4 UD
MW-10TR-09202022	UB	9/20/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.18 U	0.13 U	0.2 U
MW-10XDR-09202022	LB	9/20/2022	1.5 U	0.73	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	30	0.13 U	0.2 U
MW-11DR-09212022	LB	9/21/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.41 J	0.13 U	0.2 U
MW-11TR-09212022	UB	9/21/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.18 U	0.13 U	0.2 U
MW-13DR-09202022	LB	9/20/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.71	0.13 U	0.2 U
MW-14DR-09202022	UB	9/20/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.21 J	0.13 U	0.2 U
MW-14XDR-09202022	LB	9/20/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.41 J	0.13 U	0.2 U
MW-15XDR-09202022	LB	9/20/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	1.9	0.13 U	0.2 U
MW-16DR-09212022	LB	9/21/2022	5.8 UD	**5.3 D**	0.77 UD	0.99 UD	1 UD	7.8 UD	1.2 UD	0.54 UD	**370 D**	0.54 UD	0.8 UD
DUP-02-09212022(MW-16DR)	LB	9/21/2022	5.8 UD	**5.4 D**	0.77 UD	0.99 UD	1 UD	7.8 UD	1.2 UD	0.54 UD	**370 D**	0.54 UD	0.8 UD
MW-18XDR-09212022	LB	9/21/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.5	0.13 U	0.2 U
MW-19XDR-09212022	LB	9/21/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.85	0.13 U	0.2 U
MW-22TR-09232022	UB	9/23/2022	29 UD	**250 D**	3.8 UD	5 UD	5.1 UD	39 UD	6 UD	2.7 UD	**1900 D**	2.7 UD	4 UD
TRIP BLANK-09202022		9/19/2022	1.5 U	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.18 U	0.13 U	0.2 U
TRIP BLANK-0922022		9/19/2022	1.5 J	0.08 U	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.18 U	0.13 U	0.2 U
FB-01-09202022		9/20/2022	1.5 U	0.13 J	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.18 U	0.13 U	0.2 U
FB-02-09212022		9/21/2022	1.9 J	0.15 J	0.19 U	0.25 U	0.26 U	1.9 U	0.3 U	0.13 U	0.18 U	0.13 U	0.2 U

Legend:

Screened Intervals:

UB=Upper Bedrock

LB=Lower Bedrock

S=Overburden

Data Qualifiers

U=Not Detected Above Detection Limit

D=Diluted Sample

J=Reported Value is Above Detection Limit but Below

Practical Quantitation Limit, Value is Estimated

B=Analyte is Found in Blank

E= Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument

Bold Exceeds Groundwater Qaulity Standards

Table IA
Myers Groundwater Quality Data
VOCs
Third Quarter 2022
(All Values ug/L)

SAMPLE NAME	Dibromo chloro methane	Dichloro benzene-1,2	Dichloro benzene-1,3	Dichloro benzene-1,4	Dichloro ethane-1,1	Dichloro difluoro methane	Dichloro ethene-1,1	Dichloro ethene-cis-1,2	Dichloro ethene-trans-1,2	Dichloro propene-cis-1,3	Dichloro propene-trans-1,3	Ethyl benzene	Methyl-2-pentanone-4	Naphthalene
GWQS N.J.A.C. 7:9C: µg/L														
	1	600	600	75	50	1,000	1	70	100	1	1	700	NA	300
MW-4D-09212022	15 UD	**1300 D**	19 UD	**2100 D**	21 UD	24 UD	17 UD	19 UD	16 UD	14 UD	16 UD	17 UD	42 UD	22 UD
MW-4DR-09212022	0.15 U	1.7 J	0.19 U	3.1	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-10DR-09202022	0.37 UD	120 D	3.2 JD	35 D	1 JD	0.61 UD	0.42 UD	0.47 UD	0.41 UD	0.36 UD	0.41 UD	0.42 UD	1 UD	0.54 UD
DUP-01-09202022(MW-10DR)	0.3 UD	130 D	3.6 JD	38 D	1.1 JD	0.49 UD	0.34 UD	0.37 UD	0.33 UD	0.29 UD	0.33 UD	0.33 UD	0.83 UD	0.43 UD
MW-10TR-09202022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-10XDR-09202022	0.15 U	2.4 J	0.19 U	3.9	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-11DR-09212022	0.15 U	0.22 J	0.19 U	0.24 J	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-11TR-09212022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-13DR-09202022	0.15 U	0.27 J	0.19 U	0.31 J	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-14DR-09202022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-14XDR-09202022	0.15 U	0.23 J	0.19 U	0.22 J	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-15XDR-09202022	0.15 U	0.57 J	0.19 U	1.1 J	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-16DR-09212022	0.6 UD	60 D	3 JD	**77 D**	0.84 UD	0.98 UD	0.68 UD	0.75 UD	0.65 UD	0.58 UD	0.66 UD	0.67 UD	1.7 UD	0.86 UD
DUP-02-09212022(MW-16DR)	0.6 UD	63 D	0.74 UD	**80 D**	0.84 UD	0.98 UD	0.68 UD	0.75 UD	0.65 UD	0.58 UD	0.66 UD	0.67 UD	1.7 UD	0.86 UD
MW-18XDR-09212022	0.15 U	0.28 J	0.19 U	0.26 J	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-19XDR-09212022	0.15 U	0.5 J	0.19 U	0.58 J	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
MW-22TR-09232022	3 UD	26 JD	3.7 UD	56 D	4.2 UD	4.9 UD	3.4 UD	3.7 UD	3.3 UD	2.9 UD	3.3 UD	3.3 UD	8.3 UD	4.3 UD
TRIP BLANK-09202022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
TRIP BLANK-0922022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
FB-01-09202022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U
FB-02-09212022	0.15 U	0.18 U	0.19 U	0.19 U	0.21 U	0.24 U	0.17 U	0.19 U	0.16 U	0.14 U	0.16 U	0.17 U	0.42 U	0.22 U

Legend:

Screened Intervals:

UB=Upper Bedrock

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Bold Exceeds Groundwater Qaulity Standards

Table IA
Myers Groundwater Quality Data
VOCs
Third Quarter 2022
(All Values ug/L)

SAMPLE NAME	Methylene chloride	Styrene	Tetrachloro ethene	Toluene	Trichloro benzene-1,2,3	Trichloro benzene-1,2,4	Trichloro ethane-1,1,1	Trichloro ethane-1,1,2	Trichloro ethene	Vinyl chloride	Trichloro fluoro methane	Chloroform	Dichloro ethane-1,2	Dichloro propane-1,2	Hexanone-2	Tetrachloro ethane - 1,1,2,2	Xylene (O)
GWQS N.J.A.C. 7:9C: µg/L																	
	3	100	1	600	NA	9	30	3	1	1	2,000	70	2	1	40	1	NA
MW-4D-09212022	68 UD	36 UD	18 UD	20 UD	170 JD	**460 D**	16 UD	14 UD	18 UD	7.1 UD	16 UD	50 JD	13 UD	14 UD	52 UD	17 UD	39 UD
MW-4DR-09212022	0.68 U	0.36 U	0.32 J	0.2 U	0.28 J	0.67 J	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	1.9	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-10DR-09202022	1.7 UD	0.9 UD	0.45 UD	0.51 UD	1.8 JD	4.5 JD	0.4 UD	0.36 UD	0.44 UD	0.18 UD	0.4 UD	18 D	0.33 UD	0.34 UD	1.3 UD	0.42 UD	0.98 UD
DUP-01-09202022(MW-10DR)	1.4 UD	0.72 UD	0.36 UD	0.41 UD	1.9 JD	4.9 JD	0.32 UD	0.29 UD	0.35 UD	0.14 UD	0.32 UD	18 D	0.26 UD	0.27 UD	1 UD	0.33 UD	0.78 UD
MW-10TR-09202022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-10XDR-09202022	0.68 U	0.36 U	0.38 J	0.2 U	0.23 U	0.55 J	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	3.2	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-11DR-09212022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	1.6	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-11TR-09212022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-13DR-09202022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.78	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-14DR-09202022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	1	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-14XDR-09202022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	1.6	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-15XDR-09202022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-16DR-09212022	2.7 UD	1.4 UD	0.72 UD	0.81 UD	5.7 JD	**23 D**	0.63 UD	0.58 UD	0.7 UD	0.28 UD	0.64 UD	12 D	0.53 UD	0.55 UD	2.1 UD	0.67 UD	1.6 UD
DUP-02-09212022(MW-16DR)	2.7 UD	1.4 UD	0.72 UD	0.81 UD	5.9 JD	**24 D**	0.63 UD	0.58 UD	0.7 UD	0.28 UD	0.64 UD	12 D	0.53 UD	0.55 UD	2.1 UD	0.67 UD	1.6 UD
MW-18XDR-09212022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	1.3	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-19XDR-09212022	0.68 U	0.36 U	0.18 U	0.2 U	0.24 J	0.34 J	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
MW-22TR-09232022	14 UD	7.2 UD	3.6 UD	4.1 UD	4.7 UD	4.4 UD	3.2 UD	2.9 UD	3.5 UD	1.4 UD	3.2 UD	7.1 JD	2.6 UD	2.7 UD	10 UD	3.3 UD	7.8 UD
TRIP BLANK-09202022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
TRIP BLANK-0922022	0.68 U	0.36 U	0.18 U	0.2 U	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
FB-01-09202022	0.68 U	0.36 U	0.18 U	0.33 J	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U
FB-02-09212022	0.68 U	0.36 U	0.18 U	0.36 J	0.23 U	0.22 U	0.16 U	0.14 U	0.18 U	0.07 U	0.16 U	0.22 U	0.13 U	0.14 U	0.52 U	0.17 U	0.39 U

Legend:

Screened Intervals:

UB=Upper Bedrock

LB=Lower Bedrock

S=Overburden

Data Qualifiers

U=Not Detected Above Detection Limit

D=Diluted Sample

J=Reported Value is Above Detection Limit but Below Practical Quantitation Limit, Value is Estimated

B=Analyte is Found in Blank

E= Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument

Bold Exceeds Groundwater Qaulity Standards

Appendix D – Climate Change Assessment

In accordance with the *Region 2 Guidance for Incorporating Climate Change Considerations in Five-Year Reviews*, three climate change tools were utilized to assess the Myers Property Superfund Site. The three climate change tools which were utilized were (1) *The Climate Explorer*, (2) *Flood Factor*, and (3) *USGS National Landslide Inventory*. The *Sea Level Rise Viewer* was not used because this tool pertains to major bodies of water like larger rivers or oceans, which this Site is not near. Screenshots from each of the utilized tools are displayed below.

The first tool to assess the Site was *The Climate Explorer*. Shown in Figure D1, the projected number of days with a temperature > 100°F will increase over time. Consistent with Figure D1, Figure D2 represents an increase in the overall average daily maximum temperature over time. Lastly, Figure D3 represents the number of dry days within a year, showing a slight increase in potential drought conditions. These conditions, however, are not expected to significantly impact the remedy.

The second tool utilized is called the *Flood Factor*. According to this assessment tool, there are approximately 6,002 properties in Hunterdon County which have greater than a 26% chance of being severely affected by flooding over the next 30 years, which gives Hunterdon County a rating of "Major". This represents 5% of all properties in Hunterdon County. A breakdown of the different flood risks within Hunterdon County is shown in Figure D4.

The third tool utilized was *USGS National Landslide Inventory*. Based on Figure D5, landslides are more common in the Northern New Jersey area as compared to surrounding areas. However, landslides have not occurred at the location (gray dot on image) of the Site.

Potential Site impacts from climate change have been assessed, and the performance of the remedy is marginally at risk due to more frequent flooding. The Site is located within the 500-year floodplain of Cakepoulin Creek and has been subject to flooding in the past. As a consequence, the Cakepoulin Creek bank is eroding and monitoring well cluster MW-12 (MW-12S, MW-12TR, and MW-12DR) has been lost. Significant storm events within the review period have caused the creek bank to erode beyond MW-20TR, while flooding has damaged MW-11S and MW-21TR. Recent storm events have also eroded the creek bank immediately adjacent to MW-22TR, which is near extraction well EX-10. Erosion of the creek bank is expected to continue in the future. EPA and the PRP have discussed options to stabilize the stream bank as described in Section II and the PRP will continue to monitor erosion after future storm events. In addition, more frequent flooding may damage electrical components associated with groundwater extraction wells that are also within the 500-year floodplain.

Figure D1

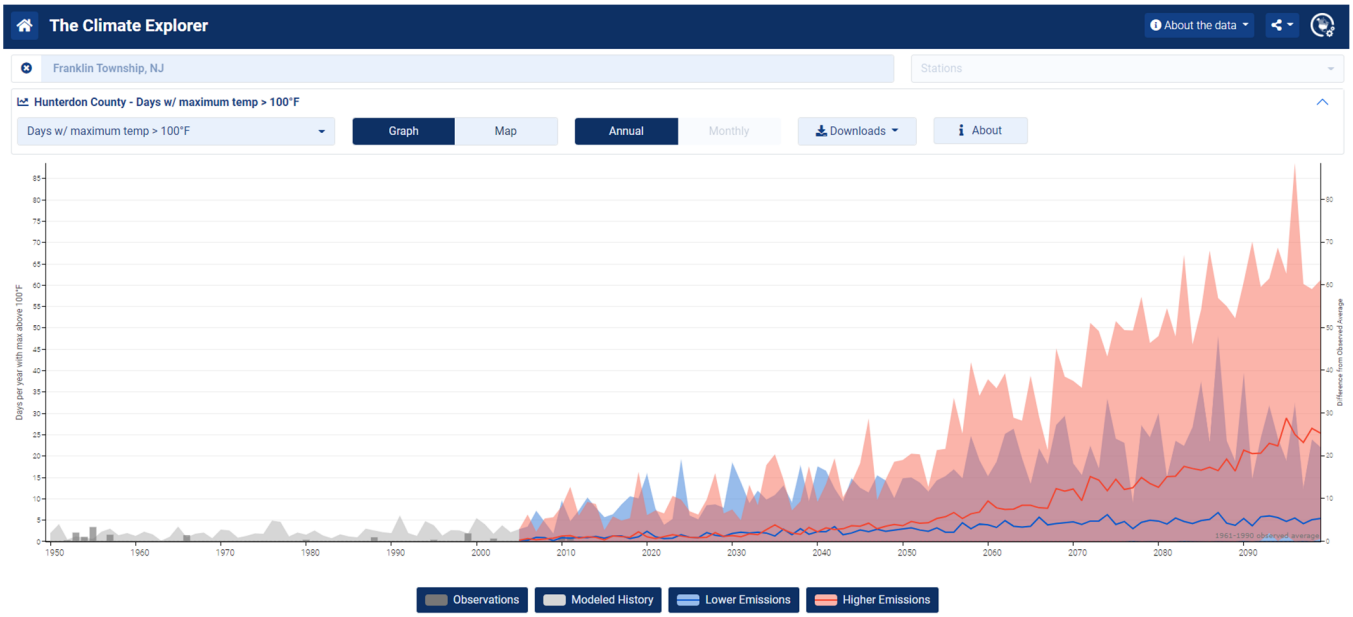


Figure D2

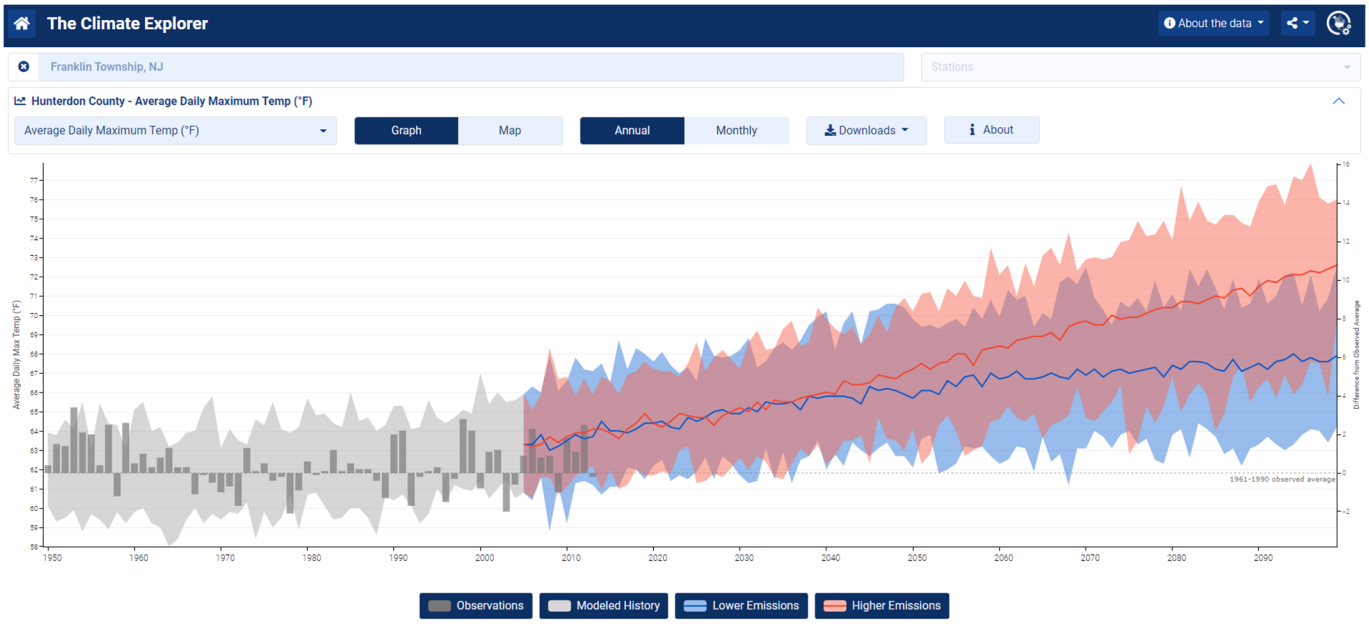
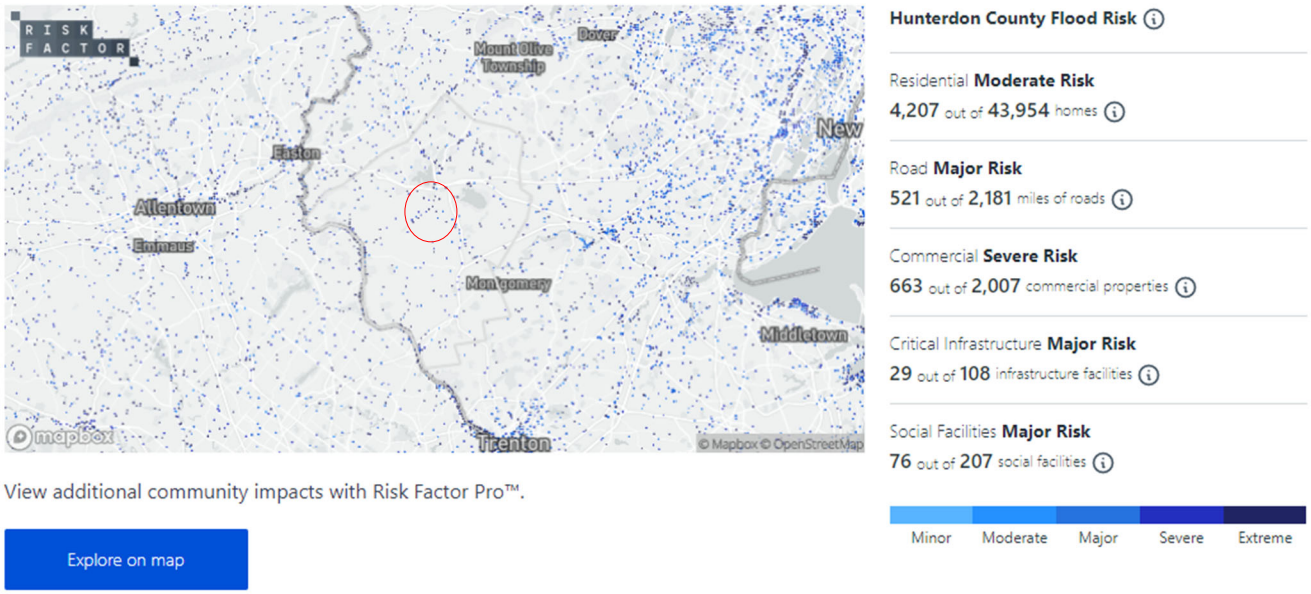


Figure D3

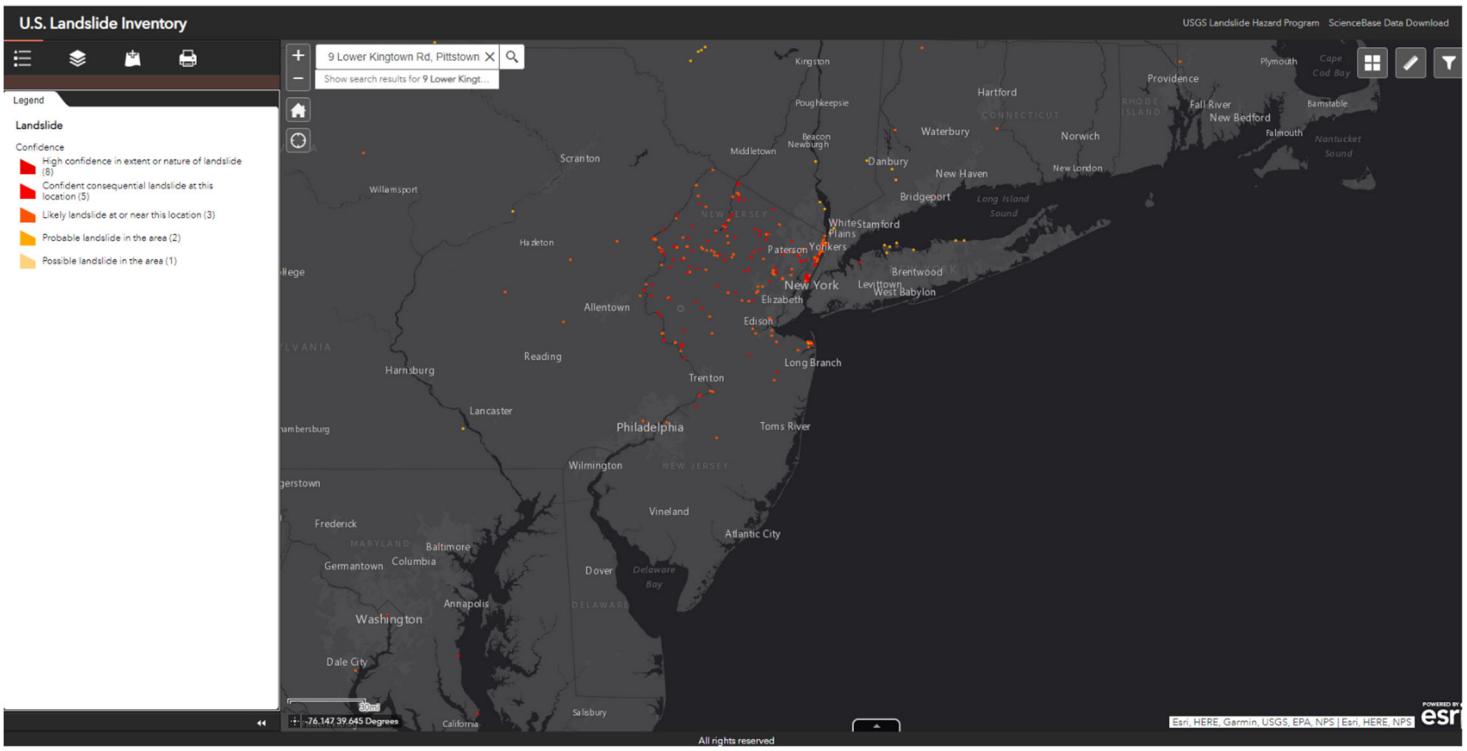
Figure D4



View additional community impacts with Risk Factor Pro™.

Explore on map

Figure D5


U.S. Landslide Inventory
USGS Landslide Hazard Program
ScienceBase Data Download
9 Lower Kingtown Rd, Pittstown
Show search results for 9 Lower Kingt...
Legend
Landslide
Confidence
High confidence in extent or nature of landslide (8)
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)
Kingston
Poughkeepsie
Hartford
Providence
Plymouth
Cape Cod Bay
Fall River
New Bedford
Barnstable
Falmouth
Nantucket Sound
Waterbury
Norwich
Beacon
Newburgh
Middletown
Danbury
New Haven
New London
Scranton
Williamsport
Bridgeport
Long Island Sound
White Plains
Stamford
Hazleton
Paterson
Yonkers
Brentwood
New York
Levittown
West Babylon
Elizabeth
Allentown
Edison
Reading
Harrisburg
Long Branch
Trenton
Lancaster
Philadelphia
Toms River
Wilmington
Vineland
Atlantic City
Frederick
Baltimore
Germantown
Columbia
Dover
Delaware Bay
Annapolis
Washington
Dale City
Salisbury
-76.147 39.645 Degrees
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