SECOND FIVE-YEAR REVIEW REPORT
MOHONK ROAD INDUSTRIAL PLANT SUPERFUND SITE
HAMLET OF HIGH FALLS
ULSTER COUNTY, NEW YORK

Prepared by

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

Pat Evangelista, Acting Director
Superfund and Emergency Management Division

5/29/19

Date

Table of Contents

LIST OF ABBREVIATIONS AND ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
EPA	(United States) Environmental Protection Agency
ERT	Environmental Response Team
FYR	Five-Year Review
FLUTe	Flexible Liner Underground Technologies, Inc.
GWET	Groundwater Extraction and Treatment
HFWD	High Falls Water District
ICs	Institutional Controls
MRIP	Mohonk Road Industrial Plant
NAPL	Non-Aqueous Phase Liquid
NPL	National Priorities List
DWQC	Drinking Water Quality Council
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYCDEP	New York City Department of Environmental Protection
NTCRA	Non-Time-Critical Removal Action
O&M	Operation and Maintenance
OU	Operable Unit
PCE	Tetrachloroethane
POET	Point-of-Entry Treatment
PWS	Public Water Supply
RAO	Remedial Action Objective
RA	Remedial Action
RD	Remedial Design
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
ROD	Record of Decision
TAGM	Technical and Administrative Guidance Memorandum
TCE	Trichloroethene
UAO	Unilateral Administrative Order
UOC	Unspecified Organic Contaminant
VI	Vapor Intrusion
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 FYRs are documented in FYR reports, such as this one. In addition, FYR reports identify issues found during this review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR review, 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 second FYR for the Mohonk Road Industrial Plant (MRIP) Site (Site), located in the Hamlet of High Falls, Towns of Marbletown and Rosendale, Ulster County, New York. The triggering action of this policy review is the completion date of the previous FYR. 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 one Operable Unit (OU1) and will be addressed in this FYR.

The Site FYR team was led by Damian Duda, remedial project manager (RPM). EPA participants included Sharissa Singh (Site hydrogeologist), Urszula Filipowicz/Nick Mazziotta (Site risk assessors), Brian Carr (Site attorney) and Pam Tames (Acting Section Chief). The FYR process began on August 21, 2018.

Site Background

The Site is located in the Hamlet of High Falls, the Towns of Marbletown and Rosendale, Ulster County, New York, approximately seven miles north-northwest of the Village of New Paltz and ten miles south-southwest of the City of Kingston (see **Figure 1**). The Site, located at 186 Mohonk Road, includes a 43,000 square foot on-site commercial building, the surrounding MRIP property and all surrounding properties impacted by the contaminated groundwater plume emanating from the MRIP property (see **Figure 2**). The original MRIP property consisted of approximately 14.5 acres and had previously been used for industrial and commercial activities since the early 1960s.

Previous hazardous waste disposal practices, especially solvents, from one or more of the previous industrial operators in the MRIP building resulted in the area groundwater being contaminated with various volatile organic compounds (VOCs). Many of these wastes were disposed of in an on-site septic system. The various operators included manufacturers of plastic and metal store display fixtures, metal finishing, wet spray painting, card punch machines and computer frames operations. Drums, paint sludge and other wastes were also buried in several locations on the MRIP Property. The current Site layout is shown in **Figure 3**.

Three distinct water bearing zones have been identified at the Site, including an overburden (till) flow zone, a bedrock interface flow zone (at the shallow soil/bedrock interface) and a bedrock flow zone (the bedrock aquifer).

The High Falls Water District (HFWD) acquired a seven-acre unimproved portion of the original MRIP property. The HFWD's new public water supply (PWS) treatment plant and water tower were constructed on this parcel. Many of the private properties in the vicinity of the MRIP property are residential in nature.

The MRIP Property is currently zoned for commercial/light industrial use. The Town of Marbletown has indicated no zoning changes are planned for the MRIP property. The most reasonably anticipated future use for the MRIP Property remains commercial and light industrial.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Mohonk Road Industrial Plant		
EPA ID: NYD986950012		
Region: 2	**State:** NY	**City/County:** High Falls/Ulster
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA **If "Other Federal Agency" was selected above, enter Agency name:** N/A		
Author name (Federal or State Project Manager): Damian Duda		
Author affiliation: EPA		
Review period: 03/25/2014 – 03/25/2019		
Date of site inspection: 02/14/19		
Type of review: Policy		
Review number: 2		
Triggering action date: 03/25/2014		
Due date *(five years after triggering action date)*: 03/25/2019		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

In 1994, the New York State Department of Environmental Conservation (NYSDEC) began investigating the Site. Subsequently, NYSDEC installed individual granular activated carbon filtration systems, *i.e.*, point-of-entry treatment (POET) systems, at homes or businesses whose potable water supply exceeded the New York State (NYS) maximum contaminants levels (MCLs) of 5 micrograms per liter (µg/L) for individual VOCs.

In 1996, NYSDEC performed a remedial investigation (RI) at the Site which included collection of soil gas and subsurface soil samples; installation of monitoring wells; collection of groundwater samples and collection of water and sludge samples from the on-site septic tank, located north of the MRIP building.

Based on the findings of the RI, cis-1,2-dichloroethene (cis-1,2-DCE), 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethene (1,1-DCE) 1,1-dichloroethane (1,1-DCA), trichloroethene (TCE), tetrachloroethane (PCE), ethylbenzene and xylenes were identified as contaminants of concern (COCs) in Site soils. The septic tank sludge contained elevated concentrations (percentage levels) of 1,1,1-TCA and 1,1-DCE.

Analytical data for groundwater indicated that the dissolved-phase VOC-plume extends approximately one mile north-northeast from the MRIP property. 1,1,1-TCA at a concentration of 82,000 µg/L was reported in one monitoring well, MW-4. Further groundwater sampling in downgradient private wells contained 1,1,1-TCA concentrations ranging from non-detect to 880 µg/L and total VOC concentrations ranging from 1.6 to 1,077 µg/L. In addition, the groundwater in the bedrock aquifer beneath the MRIP property exhibited VOC-concentrations above the EPA removal action levels, federal and NYS MCLs and New York State Department of Health (NYSDOH) Class GA Drinking Water Standards.

The results of the baseline risk assessment indicated that the groundwater at the Site posed an unacceptable risk to human health. This assessment assumed that the POET systems, which were in operation at the time, would no longer be used. The assessment concluded that actual or threatened releases of hazardous substances from this Site, if not addressed by remedial actions or other active measures, presented a current or potential threat to human health and the environment.

A preliminary fish and wildlife impact assessment was performed to address the potential impacts from the Site to ecological resources. Since the assessment did not identify any existing pathways for significant exposures to fish or wildlife to Site-related contaminants, EPA determined that an ecological risk assessment was not deemed necessary.

The Site was added to the National Priorities List (NPL) on January 19, 1999.

Response Actions

In 1994, NYSDEC installed 70 POET systems at residents' homes and businesses as an interim action to address the elevated levels of VOCs detected in the drinking water. The POET systems consisted of particle filtration, GAC adsorption and ultraviolet treatment processes.

In response to a 1998 NYSDEC request, the EPA conducted a non-time-critical removal action (NTCRA), involving the construction of a groundwater extraction and treatment (GWET) system which was designed to minimize the further migration of the most highly contaminated portion of the groundwater plume. In May 2000, the NTCRA GWET plant became operational.

In December 1999, as part of the ongoing NTCRA to construct a GWET facility, EPA excavated and disposed of contaminated soil, paint waste and debris from an area, identified as a Paint Waste Pit #1. All visible waste was removed from the pit; the soil on the sidewalls and floor were screened with field instrumentation and sampled for laboratory analysis. Sampling results showed that the EPA soil action levels for the Site, identified in the 2000 Record of Decision (ROD), were not exceeded in any of the post-excavation samples. A total of 532 tons of soil and debris were excavated and disposed of off-site as nonhazardous waste. During October to December 2000, an additional approximately 2,036 tons of contaminated soil, paint waste and debris were excavated on the MRIP property. This soil, as well as the previously-stockpiled soil on the MRIP property, were disposed of off-site at permitted facilities. All excavated areas were backfilled with clean soil.

From Spring 2000 until June 2005, EPA installed an additional five POET systems. In total, 75 residential and commercial wells down-gradient of the MRIP property were found to have VOC concentrations above NYS MCLs (5 µg/L for individual VOCs).

Record of Decision – March 2000

The remedial action objectives (RAOs) in the ROD included:

- Eliminate inhalation and ingestion of, and dermal contact with, contaminated groundwater associated with the Site that does not meet federal or state drinking water standards;
- Restore the bedrock aquifer to its most beneficial use, *i.e.*, as a source of potable water, and restore it as a natural resource;
- Prevent or minimize cross-media impacts from COCs in contaminated soil to the underlying groundwater, which will also eliminate potential future soil exposure (Site soil cleanup objectives for COCs would be based on NYSDEC's TAGM 4046 for groundwater protection); and
- Eliminate further off-MRIP property contaminated bedrock groundwater migration.

The selected remedy of the 2000 ROD included the following components:

- Extraction of contaminated groundwater in both the near-field plume and the far-field plume to restore the aquifer to its most beneficial use (as a potable water supply), treatment with an air stripper, and discharge of the treated water to the Rondout Creek

and Coxing Kill. The near-field plume refers to that portion of the groundwater plume with total VOC concentrations greater than 1,000 µg/L while the far-field plume refers to the component of the groundwater plume containing concentrations of 10 to 1,000 µg/L total VOCs. The near-field plume would be addressed through long-term operation of the groundwater P&T system. (The continued operation of the NTCRA GWET became a component of the ROD.) The far-field groundwater plume would be addressed through the construction and the long-term operation of an additional GWET system;

- Construction of a PWS system to provide potable water to the residences and businesses in the Towns of Marbletown and Rosendale that have impacted or threatened private supply wells. The primary water supply for the system will be the New York City Catskill Aqueduct (NYCCA), as managed by the New York City Department of Environmental Protection (NYCDEP). The POET systems that were in use at the time would operate only until the new PWS supply system had become operational;
- Implementation of a groundwater monitoring program to evaluate the effectiveness of the selected remedy;
- Institutional controls may be employed to prevent future use of the bedrock aquifer in the impacted or threatened area;
- Excavation of VOC-contaminated soils from various areas of concern (AOCs) with concentrations above the cleanup criteria to prevent or minimize cross-media impacts from COCs in soil to the underlying groundwater; and
- Off-site disposal of the contaminated soil at appropriately permitted facilities.

ROD Amendment – September 2008

One component of the original 2000 ROD selected remedy included the installation of a far-field plume GWET system. In September 2008, the EPA issued a ROD Amendment in which the far-field treatment system component of the groundwater remedy was replaced with a monitored natural attenuation (MNA) remedy.

The RAOs were updated to reflect activities completed to date and include:

- Restore the aquifer to its most beneficial use, *i.e.*, as a source of potable water, and restore it as a natural resource;
- Eliminate further off-MRIP property contaminated groundwater migration; and
- Eliminate inhalation and ingestion of, and dermal contact with, contaminated groundwater associated with the Site that does not meet state or federal drinking water standards.

The amended groundwater remedy includes:

- MNA within the far-field plume to restore the aquifer to its most beneficial use (as a potable water supply) and continued GWET (air stripper and GAC adsorption) of contaminated groundwater in the near-field plume on the MRIP property. The treated water discharges to the Coxing Kill. As stated above, the near-field plume refers to that portion of the groundwater plume containing total VOC concentrations greater than 1,000 µg/L. The far-field plume was updated to refer to that portion of the groundwater plume containing concentrations of five to 1,000 µg/L total VOCs;

- Implementation of a groundwater monitoring program to evaluate groundwater conditions and the effectiveness of the components of the remedy;
- Institutional controls in the form of existing governmental controls to prevent future use of the aquifer as a drinking water source in the impacted or threatened area. These institutional controls would no longer be necessary following the restoration of the groundwater to beneficial use; and
- Continued operation of a soil vapor extraction (SVE) system and vapor mitigation systems (discussed below).

For a more complete history of important response actions, other Site activities and documents issued, please consult **Table 1**: Chronology of MRIP Site Events.

Status of Implementation

Near-Field Groundwater Extraction and Treatment System

Currently, contaminated groundwater is pumped from three extraction wells: MW-5R, MW-7R and ERT-1, located on the MRIP property. EPA operated the plant until September 2011 when the EPA transferred responsibility of the ongoing operation and maintenance (O&M) of the near-field GWET system to NYSDEC. NYSDEC is currently operating a revamped version of the original system which is configured within a smaller housing configuration that was built within the original plant building. (see **Figure 4**).

Contaminated Soils Excavation

Under the 2000 ROD, additional removal and disposal of contaminated soil was performed. EPA excavated contaminated soils, paint waste and debris from various areas of concern at the Site. Post-excavation soil samples collected from the sidewalls and floor indicated that no action levels were exceeded in soils remaining within the excavation. Approximately 2,000 tons of contaminated soils, paint waste and debris were removed and disposed of off-site. No additional soil remediation has been performed.

Alternate Water Supply Remedy

Begun in Fall 2005, the PWS system provides potable water to the residences and businesses in the Towns of Marbletown and Rosendale with impacted or threatened private supply wells. Potable water from the NYCCA was chosen as the source of the new PWS. EPA and the Army Corps of Engineers constructed the new PWS treatment facility under guidance from the New York City Department of Environment Protection (NYSDEP). A community water district was established in the Towns of Marbletown and Rosendale, *i.e.*, the HFWD. The HFWD has entered into a use agreement with the NYCDEP.

Soil Vapor Extraction System

In December 2006, in order to enhance the VOC-removal provided by the GWET system, EPA installed an SVE system and SVE wells on the MRIP property immediately north of the commercial building and near the former underground septic tank and original septic drain field, targeting the COCs. The system was fully operational by February 2008 and became part of the

remedy with the 2008 ROD Amendment. In 2009, an additional five SVE wells were installed at deeper levels in the bedrock aquifer (approximately 55 feet below ground surface) which were able to capture more VOCs from the vadose zone.

During the period from 2006 until early 2011, whenever the water table was low, there was substantial VOC recovery from the vadose zone, especially evident in the reduction of VOC-contaminant concentrations in extraction well MW-5R, located directly downgradient of the source area, *i.e.*, septic tank area, that was being remediated by the SVE system. During these periods of low water table, the SVE system achieved substantial recovery in VOC contaminants.

In September 2011, prior to the transfer of Site operations to NYSDEC, the EPA Removal Program evaluated the effectiveness of the SVE system in continuing to clean up the vadose zone of residual VOC contamination in the source area. During this period, high water tables were registered for the Site area. As a result, the EPA noted that the effectiveness of VOC recovery from the vadose zone had diminished dramatically. Subsequently, the EPA believed that the SVE had served its purpose in removing a substantial amount of residual VOC contamination from the source area vadose zone. In early 2012, as a result of this evaluation, EPA terminated the operation of the SVE system and dismantled and removed it from the Site. The five additional SVE wells remain in place, are capped and may be used for future groundwater monitoring should the need arise. The originally installed SVE wells were properly abandoned.

Vapor Mitigation Systems

Elevated subslab and indoor air concentrations were found in various locations within the MRIP building. Since the MRIP building is divided into separate office or work spaces for the various tenants, six subslab depressurization systems (SSDS) were added to the MRIP building in February 2007and became part of the remedy in the 2008 ROD Amendment. They are currently operating as designed. Maintenance and any part replacement were performed on these systems in 2018.

Institutional Controls

Institutional controls (ICs) are being relied upon to prevent the future use of the aquifer within the HFWD until cleanup levels have been attained. An amended environmental protection easement and declaration of restrictive covenants with the owner of the MRIP property is in place and entered with Ulster County. The restrictions on the use of the property run with the land. These restrictions are binding on the owner and require the owner to refrain from installing or using any groundwater wells at the Site and from disturbing or interfering with all aspects of the ongoing groundwater remedy. Also, the restrictions require that if the owner expands the existing building or constructs a new building, the owner shall take appropriate steps to prevent any further vapor intrusion. These ICs would no longer be necessary following the restoration of groundwater to beneficial use.

IC Summary Table

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	Yes	Yes	Site	Prevent future use of bedrock aquifer. Ensure potable water supply to Site area.	Town Ordinance of Marbletown (Article II-High Falls Water District, Ch. 190)) Town Ordinance of Rosendate (Article II-High Falls Water District, Ch. 73)
Soil vapor and groundwater	Yes	Yes	Site	Prevent installation of groundwater wells at the MRIP Property. Ensure no disturbance or interference with ongoing groundwater remedies. Ensure preventative measures from potential future effects of vapor intrusion.	Environmental Protection Easement and Declaration of Restrictive Covenants (Amended - October 28, 2011).

System Operations/Operation and Maintenance

NYSDEC and Aztech, its contractor, perform the O&M of the revamped GWET plant and the SSDS system. The current GWET system is sampled quarterly for all COCs, *i.e.*, 1,1-DCA 1,1-DCE 1,1,1-TCA and TCE. In 2014, NYSDEC tasked Aztech to conduct a phased pilot test for the purpose of determining whether the type and capacity of the air-stripper and its components are appropriate for the current groundwater conditions. Based on the repeated failure of the granular activated carbon, Aztech determined that an air stripper unit would be utilized for the primary treatment at the Site. Eventually, on March 2, 2016, the system was upgraded to its current configuration and began operation with the installation of an air stripper and subsequent treatment processes within the smaller housing, as described above.

During 2018, some operational issues were identified during the ongoing O&M activities conducted at the GWET plant and are being addressed. The ongoing GWET operations consist of extraction of the contaminated groundwater, treatment through an air stripper and discharge of the treated groundwater to the Coxing Kill. As part of monitoring program, the influent and effluent concentrations of the GWET system, as well as extraction wells ERT-1, MW-5R and MW-7R, are routinely sampled.

In 2015, in a separate task, NYSDEC contracted with Mactec Engineering and Consulting, Inc. to develop a field activities plan to investigate any possible data gaps in the existing configuration of the GWET system, *i.e.*, three extraction wells, in order to evaluate the current remedy and develop options for overall remedial system optimization, including membrane interface probe (MIP) sampling, soil sampling, test pitting, downhole geophysics, groundwater level measurement and packer groundwater sampling to determine whether the chosen

technology will continue to be effective at the Site. These recommendations are currently being considered.

Aztech technicians inspect the status of the sub-slab depressurization system (SSDS) fans mounted on the exterior of the industrial building. NYSDEC manages the SSDS systems and do not typically conduct vapor intrusion sampling (VI) sampling when there is an active SSDS in place. The SSDSs are inspected annually and any necessary modifications or upgrades are made. As recently as 2017, some replacements of fans and other maintenance were performed on some of the SSDSs.

EPA is in the process of transferring the O&M of the MNA of the far-field plume to the NYSDEC. EPA has provided the LTM plan to NYSDEC with respect to sampling the various monitoring wells associated with the MNA remedy. As noted in the Data Review section, EPA has been sampling these wells on an annual basis.

Potential Site impacts from climate change have been assessed, and the performance of the remedy is currently not at risk from the expected effects of climate change in the region and near the Site.

III. PROGRESS SINCE LAST FIVE-YEAR REVIEW

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

In the last FYR, EPA made the following determination.

Protectiveness Statement(s)		
Operable Unit: 01	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* N/A
Protectiveness Statement: The remedy is protective of human health and the environment.		
Sitewide Protectiveness Statement (if applicable)		
For sites that have achieved construction completion, enter a sitewide protectiveness determination and statement.		
Protectiveness Determination: Protective	*Addendum Due Date (if applicable):* N/A	
Protectiveness Statement: The remedy currently protects human health and the environment.		

No issues nor recommendations were identified in the last FYR.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement and Site Interviews

On October 1, 2018, the EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at 42 Superfund sites in New York, New Jersey, Puerto Rico, and the U.S. Virgin Islands, including the Mohonk Road Industrial Plant site. The announcement can be found at the following web address: https://www.epa.gov/sites/production/files/2018-10/documents/five_year_reviews_fy2019_for_web_posting.pdf.

In addition to this notification, a public notice was made available on EPA's MRIP website: https://www.epa.gov/superfund/mohonk-road. The public notice was also sent to the Town Clerk's office of the Town of Rosendale and was posted on its website on April 29, 2019. EPA's website also offers access to various Site documents referenced for this FYR as listed in **Appendix C**.

The purpose of the public notice is to inform the community about the FYR and to list where the final report will be posted. Once the FYR is completed, the results will be made available on EPA's webpage and at the Site repositories located at EPA, 290 Broadway, 18th Floor, New York, New York and at the Stone Ridge Library, 3700 Main Street, Stone Ridge, New York.

Data Review

Extraction and Treatment Plant

As discussed above, NYSDEC and Aztech operates the GWET system which consists of extraction wells, pumps, blowers and an air stripper (see **Figure 4**). As discussed above, in March 2016, the current configuration of the GWET was completed as part of a remedial system optimization. Aztech performs quarterly maintenance and sample collection at the Site.

Groundwater samples are collected from the recovery wells: MW- 5R, MW-7R and ERT-1, as well as, the combined system influent and effluent. As expected, the three extraction wells show relatively high concentrations of COCs in the groundwater. For this FYR period, the combined influent concentrations were as follows:

- 1,1-DCA ranged from 10 µg/L to 27 µg/L;
- 1,1-DCE ranged from 12 µg/L to 22 µg/L;
- 1,1,1-TCA ranged from 45 µg/L to 130 µg/L and
- TCE ranged from 3.8 µg/L to 5.4 µg/L.

See **Table 2** for detailed groundwater data for the extraction wells and GWET system. All VOC concentrations in the effluent have typically been below detection limits. NYSDEC provides quarterly Site status reports of their operations.

The system has an average flow rate of 24 to 30 gallons per minute. Permit discharge limits continue to be met. During 2018, the plant treated approximately 144 million gallons of

contaminated groundwater. The continued presence of VOC-contaminants in the source area wells may be attributed to a residual source, *i.e.*, the former septic tank area, being not fully removed by the SVE system.

Vapor Intrusion Study and Mitigation System

The most recent (October 2009) indoor air sampling at the MRIP building indicated that detectable levels of TCE were found at some locations; however, concentrations of VOCs in indoor air do not exceed risk-based levels for commercial/industrial exposure. The SSDS systems are operating as designed.

Groundwater Monitoring

The monitoring wells are categorized based on their location (background, on-site, mid plume or perimeter). The background well is located upgradient (southwest) of the groundwater plume. On-site wells are located within the MRIP property. Mid-plume wells are located outside of the MRIP property boundary and are generally near the center of the VOC plume. The perimeter wells are generally located at the perimeter of the groundwater plume. The overall monitoring well network is shown on **Figure 5**. As shown on the figure, the overall Site boundary is the HFWD.

Annual monitoring includes sampling of the background, on-site, mid-plume, and perimeter wells in accordance with the 2013 LTM monitoring plan (AECOM, 2013), as presented in Table 5. The following monitoring wells are included in the LTM monitoring plan:

- 17 conventional monitoring wells: MW-1B, MW-4, MW-5B, MW-6B, MW-8B, MW-9B, MW-10B, MW-11B, MW-11C, MW-12B, MW-13B, MW-14B, MW-15B, MW-16, ERT-2, ERT-3, and ERT-4.
- Five Flexible Liner Underground Technologies, Inc.™ (FLUTe) wells: MW-17 (Ports 1-3), MW-18 (Ports 1 - 3), MW-19 (Ports 1 - 3), MW-20 (Ports 1 - 3), and MW-21 (Ports 1, 2, 3, 4, 5, and 6); however, Port 3 of well MW- 21 is damaged (i.e., obstructed) and cannot be sampled.
- Three extraction wells: ERT-1, MW-5R and MW-7R.

The wells proposed for analyses of MNA parameters have been selected based on evaluations of the groundwater geochemistry conditions, the presence of degradation products, and the physical locations of the monitoring wells. In accordance with the modified sampling schedule, MNA parameters were collected during the October 2017 sampling event. Based on historical data, historical sampling practices, and well clustering, the LTM plan does not include monitoring well MW-7B as part of the annual monitoring program (MW-7B is immediately adjacent to and shallower than MW-7R).

The ROD divided the plume into two (2) categories based on the total VOC concentration: the “near-field plume” is defined as total groundwater VOC concentrations greater than 1,000 ug/L and the “far-field plume” is defined as total groundwater VOC concentrations between 10 ug/L and 1,000 ug/L. An iso-concentration map of total VOCs is shown on **Figure 6**.

Groundwater samples are collected from 25 monitoring wells, including 20 standard wells and five (5) FLUTe wells (MW-17 through MW-21). FLUTe wells have ports located at various

levels along the liner in order to be able to sample the groundwater at various intervals within an aquifer. According to EPA's Long Term Monitoring Plan, groundwater monitoring wells are currently sampled and analyzed for VOCs every year and for 1,4 dioxane every other year. Groundwater samples are also analyzed for MNA parameters every five years. Data from a select group of monitoring wells are shown in **Table 3**. Data trends in the extraction wells and select monitoring wells are shown in **Figure 7**.

Groundwater potentiometric surface maps for this FYR period confirmed that the GWET system pumping activities are creating localized drawdown which captures most of the groundwater plume (see **Figure 8**).

No Site-related COCs were detected in the upgradient background well during this FYR period.

Groundwater samples were analyzed for 1,4-dioxane in 2015 and 2017. 1,4 dioxane concentrations were not detected above the ROD cleanup goal of 50 µg/L in any of the samples collected; however, 1,4-dioxane was detected above the EPA contract-required quantification level in several samples during these two sampling events. Trend analysis of 1,4-dioxane concentrations are either decreasing or remain stable across the Site.

Near-Field Plume

The near-field plume is defined as the portion of the groundwater plume with total VOC concentrations greater than 1,000 µg/L. During this FYR period, VOC concentrations consistently exceeded 1,000 µg/L in monitoring wells MW-4, ERT-4 and MW-5B, located on the MRIP property, *i.e.*, source area wells. Groundwater trend analysis for these wells indicates that VOC concentrations appear to fluctuate seasonally with an overall decreasing trend. The most recent sampling data from 2017 indicate that total VOC concentrations ranged from 1,970 µg/L in MW-4 to 3,859 µg/L in ERT-4. Monitoring well MW-5B was not sampled in 2017. The data reviewed indicates that the contamination in the overburden and shallow portion of the bedrock near the former SVE wells and the original septic tank continues to be a source of groundwater contamination.

Far-Field Plume

The far-field plume is defined as the portion of the groundwater plume containing concentrations of 10 µg/L to 1,000 µg/L total VOCs. Monitoring wells MW-5R, MW-6B, MW-7R, ERT-1, ERT-2 and ERT-3 are located on the MRIP property in the source area; however, the most recent concentrations of total VOCs ranged from 11 µg/L in MW-6B to 97 µg/L in ERT-3. Additionally, COC concentrations in extraction wells MW-5R, MW-7R, ERT-1 and ERT-2, located on the MRIP property, showed consistent downward trends. COC concentrations in monitoring wells MW-6B and ERT-1 exhibited fluctuations associated with seasonal changes and concentrations are relatively consistent with historical results.

Mid-plume monitoring wells located immediately downgradient of the source area are identified as monitoring wells MW-11B, MW-11C, MW-12B, MW-15B, MW-16 and MW-9B. The most recent (2017) total VOC concentrations in these wells ranged from 0.33 µg/L in MW-9B to 78.9 µg/L in MW-16. COC concentrations in wells MW-11B, MW-11C, MW-12B and MW-15B

showed consistent downward trends. Monitoring well MW-16 exhibited fluctuations associated with seasonal changes. The lowest concentrations are typically detected in the spring and higher concentrations are typically detected in the summer and fall. All COCs in monitoring well MW-9B were either detected below laboratory method detection limits or below MCLs in the last five years.

Mid-plume/cross-gradient wells MW-8B, MW-10B, MW-13B and all three ports of FLUTe wells MW-18 and MW-20 were either below laboratory method detection limits or MCLs for all COCs during the last five years, therefore indicating that the far-field plume is delineated on the western and northeastern sides.

Mid-plume/cross-gradient FLUTe well MW-21 is located in the southeastern portion of the plume. It is an artesian well and contains six (6) ports. COC concentrations in ports 1, 2 and 4 exhibit increasing trends with 1,1-DCE detected slightly above MCLs. 1,1,1-TCA and TCE was also detected slightly above MCLs in port 1. COC concentrations in Ports 5 and 6 of MW-21 exhibit consistent downward trends, except for 1,1 DCE which was detected slightly above MCLs during this five (5) year review period. The most recent (2017) total VOC concentrations ranged from 9.2 µg/L in port 5 to 22 µg/L in port 1. The six mid-plume wells (MW-11B, MW-11C, MW-12B, MW-15B, MW-16, and MW-17) generally had lower VOC concentrations for all COCs, compared to the wells located on the MRIP property, and concentrations in these wells remained relatively consistent both with historical results and with continued downward concentration trends and still remain above MCLs. The most recent (2017) total VOC concentrations ranged from 43.6 µg/L in port 3 of MW-17 to 52.5 µg/L in port 1 of MW-17.

Concentrations in far-field/perimeter well MW-14B have been generally consistent since 2010. Since 2012, it has shown a slight upward trend from historic levels; however, COC concentrations continue to be below MCLs. The most recent (2017) total VOC concentrations is 5.5 µg/L.

Far-field/perimeter FLUTe well MW-19, which is immediately downgradient of MW-14B and is located at the leading edge of the plume, has been consistent since 2009. Seasonal trends are noted in port 1, and all detections are either below detection limits or below MCLs. There appears to be a slight upward trend in ports 2 and 3; however, all COC detections are either below detection limits or below MCLs.

MNA at the Site appears to be occurring based on the following:

- Decreasing contaminant trends in the mid-plume area;
- Stable or low contaminant concentrations in the far-field plume;
- Presence of daughter products in the far-field and/or near-field plume and
- Presence of reducing conditions bounding the far-field plume.

Strong lines of evidence indicate that reductive dechlorination of VOCs (production of ethanes/ethenes) is possible in monitoring wells MW-8B, MW-14B and select ports in MW-18, MW-19 and MW-20. Decreases in 1,1-DCE and 1,1-DCA concentration in the far-field plume appear to be primarily related to nondestructive mechanisms, such as dilution, dispersion and advection.

Site Inspection

An MRIP site visit and inspection was conducted on February 14, 2019. The MRIP Site inspection was attended by Damian Duda from EPA; Charles Gregory, William Bennett and Jeffrey Dyber from NYSDEC; Jamie Welch, Hank Andolsek, Jayme Connolly from Mactec/Wood; and Terry Bohn and Andrew Talbot from Aztech Environmental (Aztech).

Prior to the Site walk-through, a meeting was held at the High Falls Fire Hall where Aztech provided an overview of the recent operations of the GWET plant at the Site via a powerpoint presentation to the attendees. Subsequently, the participants performed a walk-through inspection of the Site area. Some of the monitoring wells were located and inspected. No issues were documented during the Site inspection.

V. TECHNICAL ASSESSMENT

Question A: Is the remedy functioning as intended by the decision document?

The remedies identified in the 2000 ROD and the 2008 ROD Amendment included extraction and treatment of contaminated groundwater for plume capture, continued operation of the on-site SVE system, indoor air monitoring, as required, continued operation of the vapor mitigation systems, long-term groundwater monitoring and groundwater use restrictions. In 2012, the SVE system was determined to be no longer viable and was shut down and dismantled. The SVE wells remain on-site as monitoring wells.

NYSDEC and Aztech are operating the GWET system which continues to capture and remove VOC-contamination from the groundwater in the near-field plume. NYSDEC and Aztech have worked to improve the efficiency of the GWET system, as well as reduce costs. In 2016, the system was reconfigured to a more efficient one. Adjustments to the remedial system will continue to be made, as appropriate. To date, the system reduces the VOC contamination found in the three extraction well (MW-5R, MW-7R and ERT-1) to non-detect in the effluent. The continued presence of VOC-contaminants in the source area wells may be attributed to a residual source, *i.e.*, former septic tank, not fully removed by the SVE system.

Although there is evidence of reductive dechlorination in localized anaerobic areas of various parts of the near-field and far-field plumes, low levels of COCs are detected. The current and historical boundaries of the near-field and far-field plume are defined and stable with the exception of the south south-east portion of the plume within the vicinity of MW-21, where concentrations ranged from 9.2 µg/L total VOCs in port 5 to 22 µg/L in port 1. Data from this well indicates that complete dechlorination of the COCs is not occurring in this area. However, concentrations remain low and trends will be further evaluated.

Based on the Site inspection and the groundwater monitoring data over the last five years, the remedy is functioning effectively by removing VOC-contamination. Consequently, as intended by the decision documents, human health and ecological exposure pathways have been interrupted.

A review of groundwater quality data from the over twenty monitoring wells and sampling intervals indicate that the plume of groundwater contamination has decreased significantly in size and that the GWET remedy is working.

NYSDEC will also continue the monitoring and maintenance of the vapor mitigation systems that are installed and operating on the MRIP building to ensure that indoor air levels remain below health-based guidelines. ICs continue to remain in place and are effective.

The remedy will continue to function as intended as long as 1) the GWET system continues to operate, 2) the groundwater monitoring program for both the near-field and far-field plumes continues and 3) the vapor mitigation systems continue to operate.

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?

There have been no changes in the physical conditions of the Site over the past five years that would change the protectiveness of the remedy. The baseline risk assessment indicated that groundwater at the site posed unacceptable risk to human health. The COCs identified for groundwater included 1,1-TCA, 1,1-DCE, 1,1-DCA and TCE. These chemicals, in addition to 1,2-DCE, PCE, xylenes and ethylbenzene, were also identified as COCs in soil due to ongoing impacts to the underlying groundwater. The exposure assumptions, pathways and toxicity values used to estimate potential cancer risks and noncancer hazards to human health followed the Risk Assessment Guidance for Superfund used by the Agency and remain valid. Although specific parameters may have changed since the time of the risk assessment, the process used also remains valid.

The RAOs remain valid, and the selected remedy is protective of human health. Exposures to contaminated soils and cross-media impacts to the underlying groundwater were addressed through excavation and removal, as well as the SVE system.

As stated in the 2008 ROD Amendment, prior to backfilling with clean fill, analytical results from post excavation soil samples indicated that no cleanup levels were exceeded in soils remaining within the excavation. The PWS system provides potable water to the formerly impacted or threatened residences and businesses in the Towns of Marbletown and Rosendale.

An ecological impact assessment was also performed during the development of the NTCRA which concluded that the effluent discharge of the GWET system to the Coxing Kill would not have an adverse impact on the Coxing Kill ecosystem.

The extraction and treatment of contaminated groundwater in the near-field plume and MNA of the far-field plume continue to reduce contaminant concentrations. ICs imposed further ensure that Site groundwater will not be used for any potable purposes in the future. In addition, vapor mitigation systems within the commercial building on the MRIP Property are functioning as intended and continue to be monitored and maintained by NYSDEC. Therefore, all human exposure pathways of concern have been successfully interrupted.

Changes in Standards and TBCs

The remedial goals for soil were based on NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) 4046 for groundwater protection. The TAGMs have since been succeeded by the NYSDEC 6 NYCRR Part 375 (2006) and CP-51 (2010) soil cleanup objectives. The cleanup goals identified in the ROD, however, are still protective since they are based on impacts to groundwater and are lower than current risk-based screening levels based on a target cancer risk of 1×10^{-6} or a Hazard Index of 1.

The groundwater cleanup levels for each of the Site's COCs were based on the NYS Class GA Groundwater standards which have not changed since the decision documents were issued. 1,4-dioxane, a chemical of interest at the Site, is covered under the current NYSDOH maximum contaminant level (MCL) of 50 µg/L identified for unspecified organic contaminants (UOCs). In December 2018, however, the New York Drinking Water Quality Council (DWQC) recommended an MCL of one (1) µg/L for 1,4-dioxane to NYSDOH. Although the current NYSDOH standard for UOCs remains valid, adoption of a 1,4-dioxane specific MCL may need to be considered further during the next FYR period. Nevertheless, trend analysis indicates 1,4-dioxane concentrations are either decreasing or remain stable across the Site. The latest data from 2017 indicate that the highest concentration detected throughout both the near-field and far-field plumes was 5 µg/L, found in monitoring well ERT-3.

Vapor Intrusion

The vapor intrusion investigation that was conducted in 2005 determined that the concentrations of VOCs detected at all residential subslab locations were below the risk-based screening levels and that no further evaluation and/or action were deemed necessary. As part of this FYR, residential results of the 2005 sampling effort were compared to current risk-based screening levels. Consistent with past determinations, the results of the evaluation indicate no further action is necessary.

Samples obtained in the MRIP commercial building indicated the need to install one or more vapor mitigation systems. In early 2007, six vapor mitigation systems were installed to collect soil gas vapors underneath the building's concrete floor at various locations. These mitigation systems were last sampled in October 2009. Although there are no recent vapor intrusion data to review during this FYR period, the data from 2009 indicated that indoor air concentrations were below risk-based levels for commercial/industrial exposures.

In addition, NYSDEC continues to conduct annual evaluation and maintenance of the vapor mitigation systems. Repairs and fan replacement actions for several systems were performed in 2015 and 2017. These actions ensure the systems continue to operate as intended, which was confirmed during the FYR site inspection in February 2019.

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

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES, RECOMMENDATIONS AND FOLLOW-UP ACTIONS

The remedies have been implemented and are functioning as intended by the Site decision documents. There are no additional actions required. As expected by the decision documents, the O&M activities are subject to routine modifications and/or adjustments. The near-field and far-field plumes will continue to be monitored.

Other Findings/Considerations

- Consider installing packers in the extraction wells to determine if targeting shallower, conductive bedrock fracture zones would be suitable for maintaining hydraulic control while improving contaminant recovery.
- Consider installation of an additional groundwater extraction well in the source area, *i.e.*, septic tank area, particularly if COC groundwater concentrations in this area show an increase.
- Consider pilot testing of an SVE system in the source area, in conjunction with the additional extraction well.
- Consider additional investigations if COC-contaminant trends are not decreasing and/or COCs are not completely attenuating in the southeastern portion of the far-field plume to confirm that it not migrating beyond the current limits.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)		
Operable Unit: 01	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* N/A
Protectiveness Statement: The OU-1 remedy at the Mohonk Road Industrial Plant site is protective of human health and the environment.		

Sitewide Protectiveness Statement (if applicable)	
For sites that have achieved construction completion, enter a sitewide protectiveness determination and statement.	
Protectiveness Determination: Protective	*Addendum Due Date (if applicable):* *N/A*
Protectiveness Statement: The implemented remedies for the Mohonk Road Industrial Plant site protect human health and the environment.	

VIII. NEXT FIVE-YEAR REVIEW

The next FYR report for the Mohonk Road Industrial Plant site is required five years from the completion date of this review.

APPENDIX A

TABLES

TABLE 1

Chronology of MRIP Site Events

Event	Date
Volatile organic compounds (VOCs) detected in residential wells.	1994
New York State Department of Environmental Conservation (NYSDEC) installed point-of-entry treatment (POET) systems on residential wells.	1994-1998
NYSDEC performed Remedial Investigation/Feasibility Study.	1996-1999
The EPA began non-time-critical removal action (NTCRA) [built groundwater extraction and treatment plant and excavated and disposed of contaminated soils].	1999-2000
EPA issued Record of Decision (ROD) - Operable Unit One (OU1).	March 2000
Remedial Design for soils excavation/disposal.	September 2000
Remedial Action for soils excavation/disposal.	October 2000 - March 2001
Long Term Response Action (LTRA) begins.	May 2001
Interim Remedial Action Report - extraction and treatment of groundwater (OU1).	July 2001
Remedial Design of the High Falls Water Treatment Plant.	2004
Construction of the High Fall Water Treatment Plant.	September 2005 to May 2007
Installation of the Soil Vapor Extraction (SVE) System	December 2006
NYSDOH approval of completed water works.	September 2007
All POET systems removed/disposed of – all residences within the High Falls Water District hooked up to new potable water system.	December 2007
ROD Amendment for Monitored Natural Attenuation (MNA).	September 2008
Installation of five additional SVE wells to the SVE System.	July 2009
Transfer of operation and maintenance (O&M) of ongoing extraction and treatment system and vapor mitigation systems to NYSDEC.	September 2011
Close-Out of the SVE System.	June 6, 2012
Extraction and treatment system operations and vapor mitigation systems operations.	Ongoing
MNA sampling of the far-field plume.	Ongoing
Transfer of O&M of MNA sampling of far-field plume to NYSDEC.	Underway

TABLE 2

Groundwater Data
Extraction Wells and GWET System

Analytical Results (September 2014) (Concentrations in µg/L)				
Sample ID	**1,1-DCA**	**1,1-DCE**	**1,1,1-TCA**	**TCE**
7R	12	13	38	2.4
ERT-1	8.2	16	44	3.5
5R	9.7	25	33	6.7
Combined Influent	10	15	53	4
Effluent	ND	ND	ND	ND
Notes: ND – Non-Detect				

Analytical Results (September 2016) (Concentrations in µg/L)				
Sample ID	**1,1-DCA**	**1,1-DCE**	**1,1,1-TCA**	**TCE**
7R	27	9.6	75	2.1
ERT-1	11	29	110	8.7
5R	NS	NS	NS	NS
Combined Influent	19	18	89	5.4
Effluent	ND	ND	ND	ND
Notes: ND – Non-Detect; NS- Not sampled				

Analytical Results (September 2017) (Concentrations in µg/L)				
Sample ID	**1,1-DCA**	**1,1-DCE**	**1,1,1-TCA**	**TCE**
7R	63	17	160	1.8
ERT-1	11	18	75	6.5
5R	18	53	240	13
Combined Influent	27	22	130	5.3
Effluent	ND	ND	ND	ND
Notes: ND – Non-Detect				

Analytical Results (September 2018) (Concentrations in µg/L)				
Sample ID	**1,1-DCA**	**1,1-DCE**	**1,1,1-TCA**	**TCE**
7R	22	10	58	1.2
ERT-1	8.1	16	41	5.2
5R	3.2	11	36	5.1
Combined Influent	11	12	45	3.8
Effluent	ND	ND	ND	ND
Notes: ND – Non-Detect				

TABLE 3

GROUNDWATER DATA FROM SELECT MONITORING WELLS
DETECTIONS ABOVE CLEANUP STANDARDS
CONTAMINANTS OF CONERN

MW-ID	Sample Date	1,1,1-TCA	1,1-DCA	1,1-DCE	TCE	1,4-Dioxane
MW-4	October 2017	1400	38	180	340	NS
MW-5B	October 2016	3700	58	480	180	NA
MW-5R	October 2017	8	1.5	4.8	3.6	2
MW-6B	October 2017	790	0.44	2.7	0.50	2U
MW-7R	October 2017	49	17	9.4	1.1	2U
MW-11B	October 2017	2	3.3	5.3	1.2	2U
MW-15B	October 2017	40	12	7.8	1.5	1.4
MW-16	October 2017	38	5	30	4.1J	1.8J
MW-17-1	October 2017	19	6.7	21	4	1.8J
MW-17-2	October 2017	13	11	16	3.4	2
MW-17-3	October 2017	4.2	15	19J	0.46J	1.5J
MW-21-1	October 2017	7.6	1.6	8.3	5.5	5U
MW-21-2	October 2017	4.8	2.4	6.2	2.6	2U
MW-21-4	October 2017	3.6	1.4	5.3	2.6	2U
ERT-1	October 2017	39	7.5	19	5.6	2U
ERT-2	October 2017	5.8	3.2	6.5	2.1	2U
ERT-3	October 2017	63	5.8	12	16	5
ERT-4	October 2017	3300	79	320	160	3.2

NOTES:

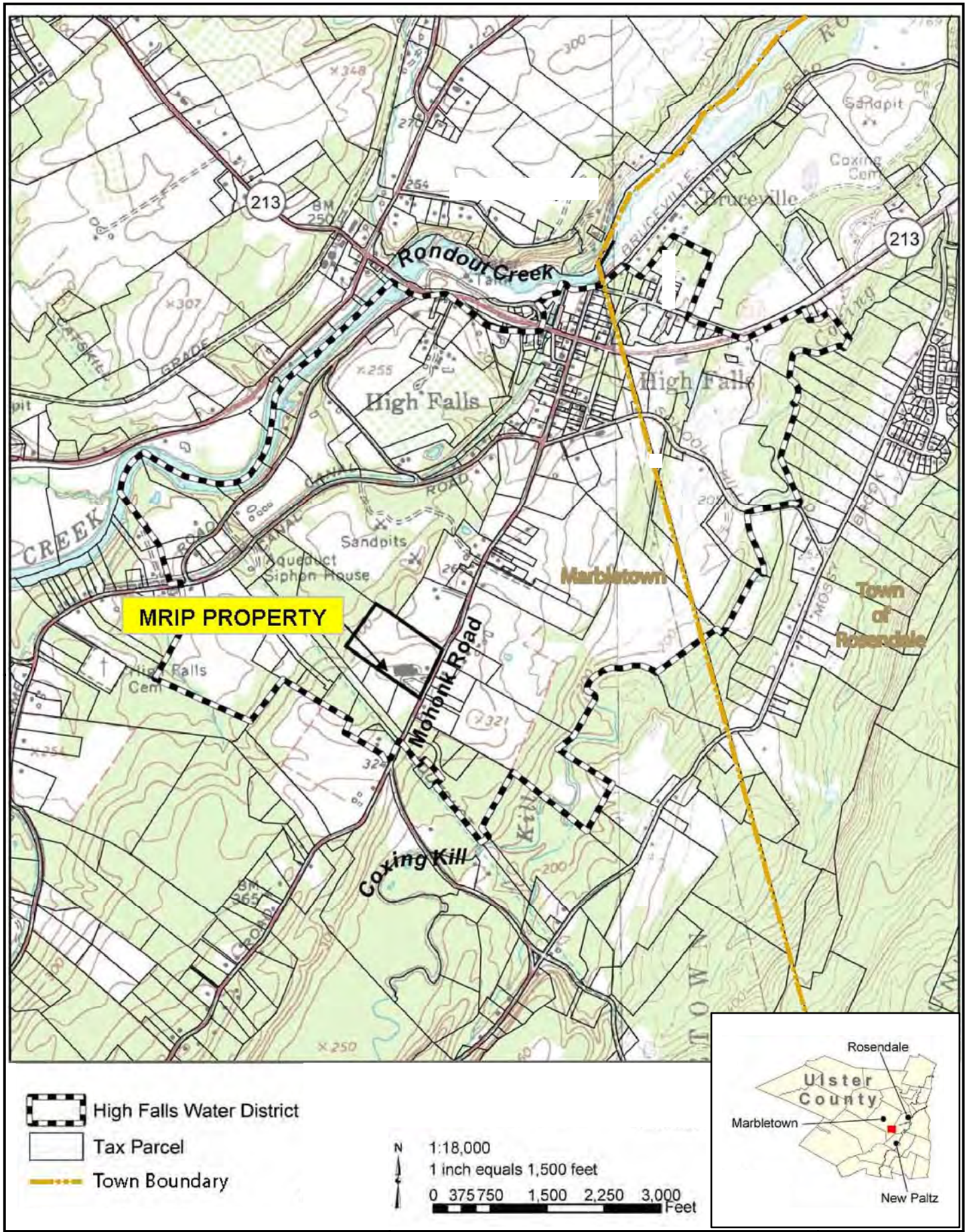
All concentrations in micrograms per liter (µg/L)

1,1-DCA - 1,1-Dichloroethane
1,1-DCE - 1,1-Dichloroethene
1,1,1-TCA - 1,1,1-Trichloroethane
TCE - Trichloroethene

NA = Not analyzed
NS – Not sampled
U – Non-detect
J – Estimated value

APPENDIX B

FIGURES



AECOM
675 N. Washington Street, Suite 300, Alexandria, VA. 22314
Phone: 703.549.8728 FAX: 703.549.9134 aecom.com

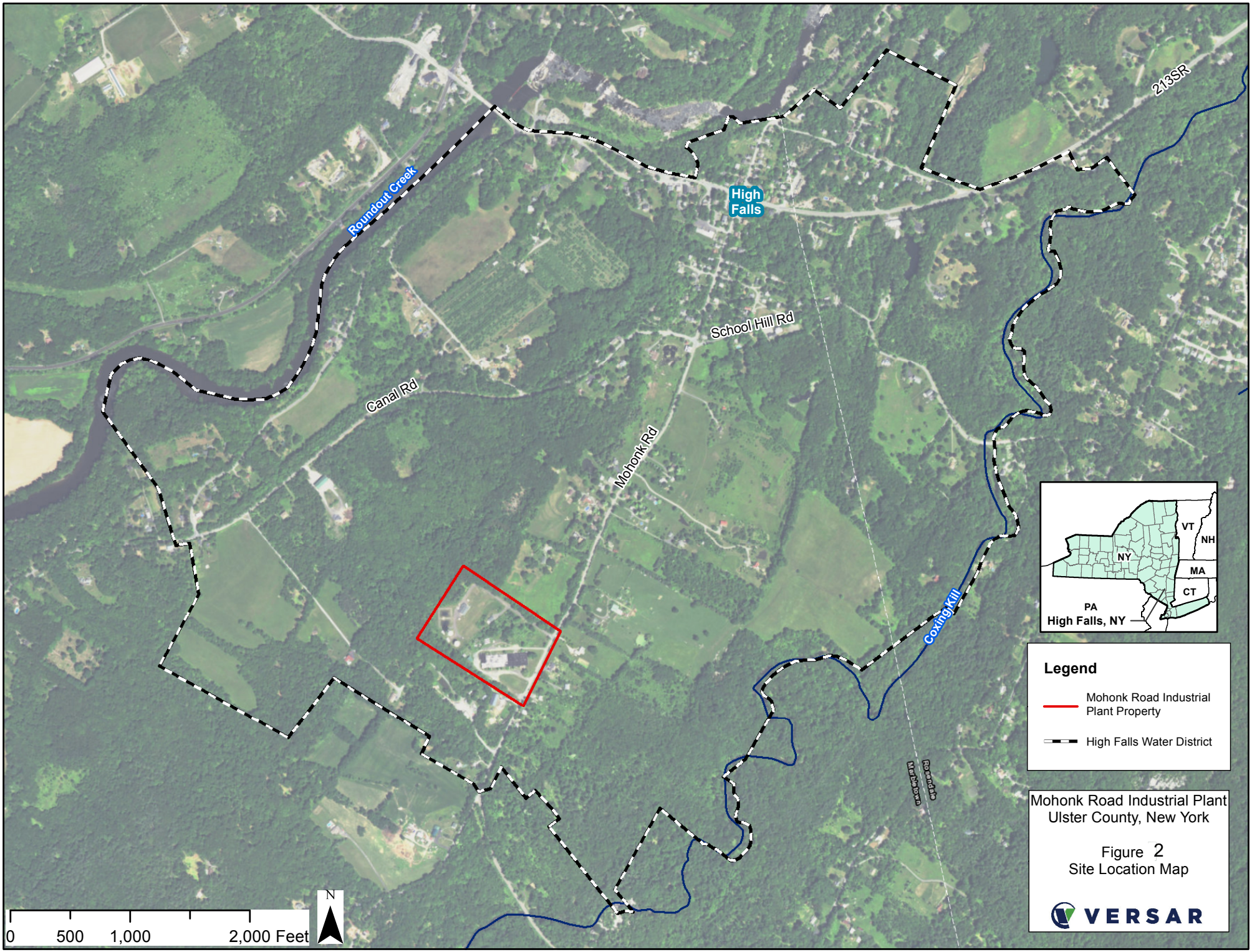
Mohonk Road Industrial Plant Ulster County, New York

FIGURE 1

Area Location Map

CONTRACT NO ##########	TASK NO ####
DESIGNED BY K. Weber	DRAWN BY K. Weber
CHECKED BY F. Metcalf	DATE June 2013
SCALE See Figure	SHEET 1 of 1

Figure_1.mxd

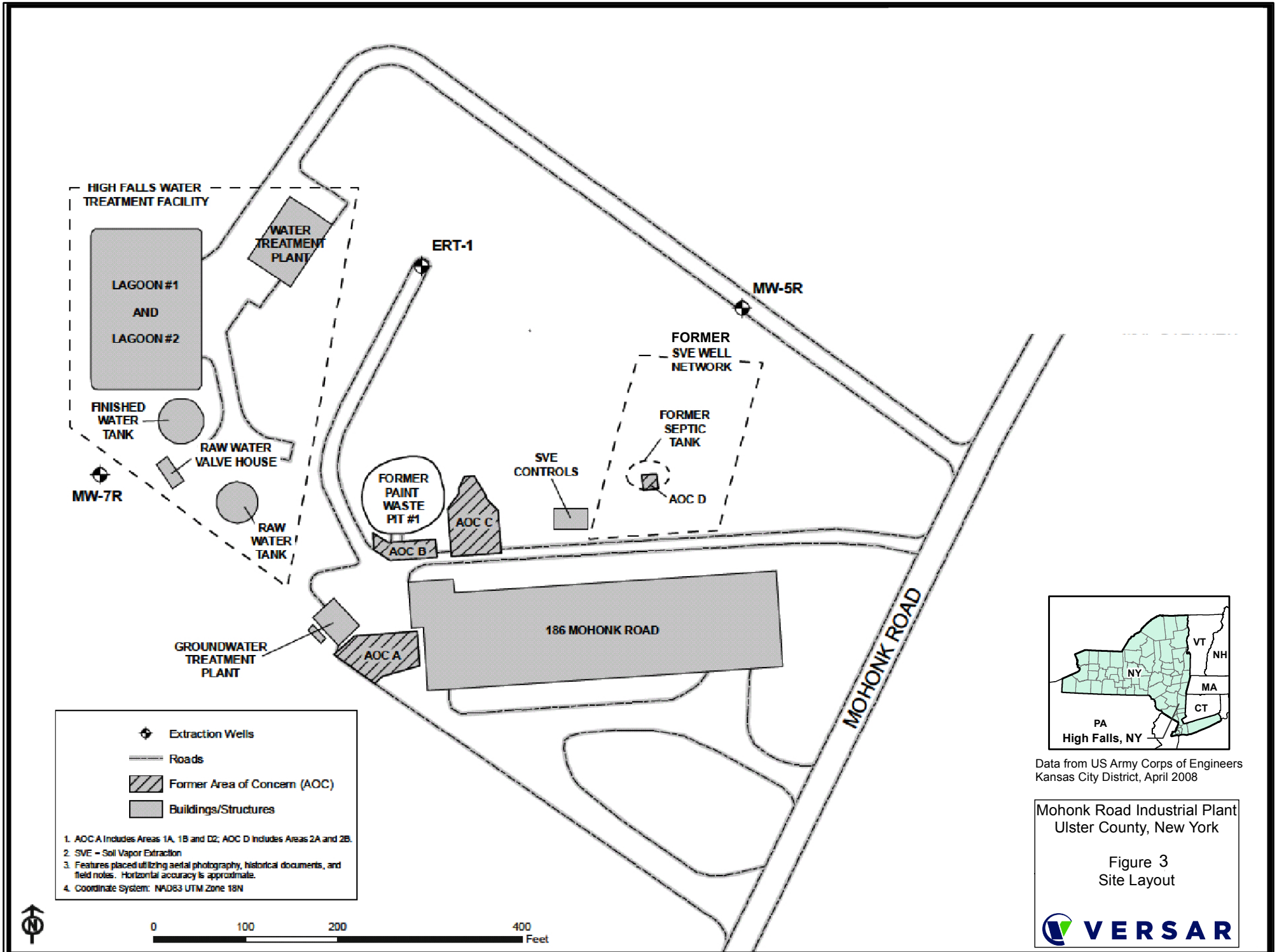


Mohonk Road Industrial Plant
Ulster County, New York

Figure 2
Site Location Map

VERSAR

Document Path: Y:\EPA RAC II Lite\Mohonk\GIS Data\Figure 1 Site Location Map.mxd Aerial Source: ESRI



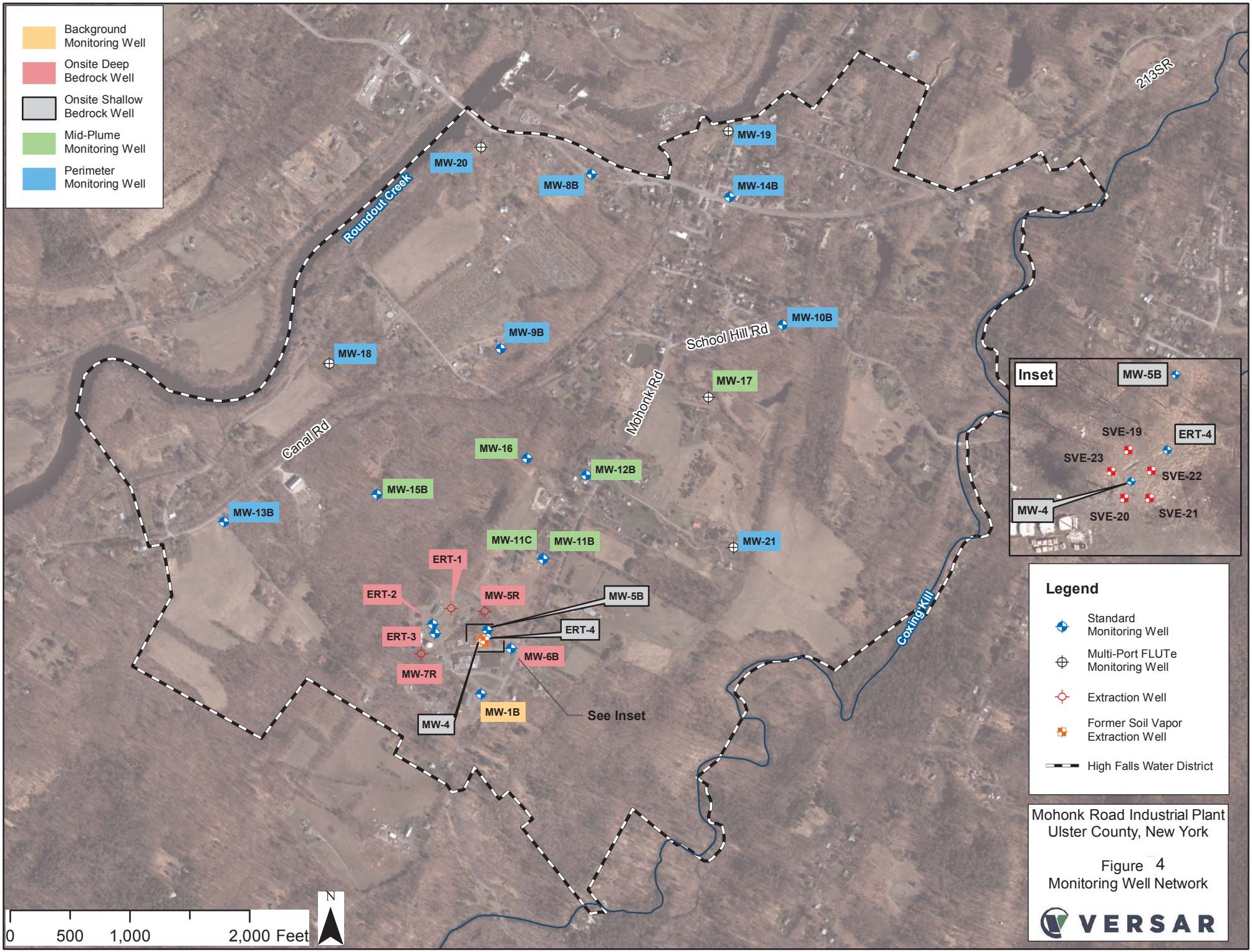
Data from US Army Corps of Engineers
Kansas City District, April 2008

Mohonk Road Industrial Plant
Ulster County, New York

Figure 3
Site Layout

VERSAR

Document Path: Y:\EPA RAC II Lite\Mohonk\GIS Data\Figure 2 Site Layout.mxd

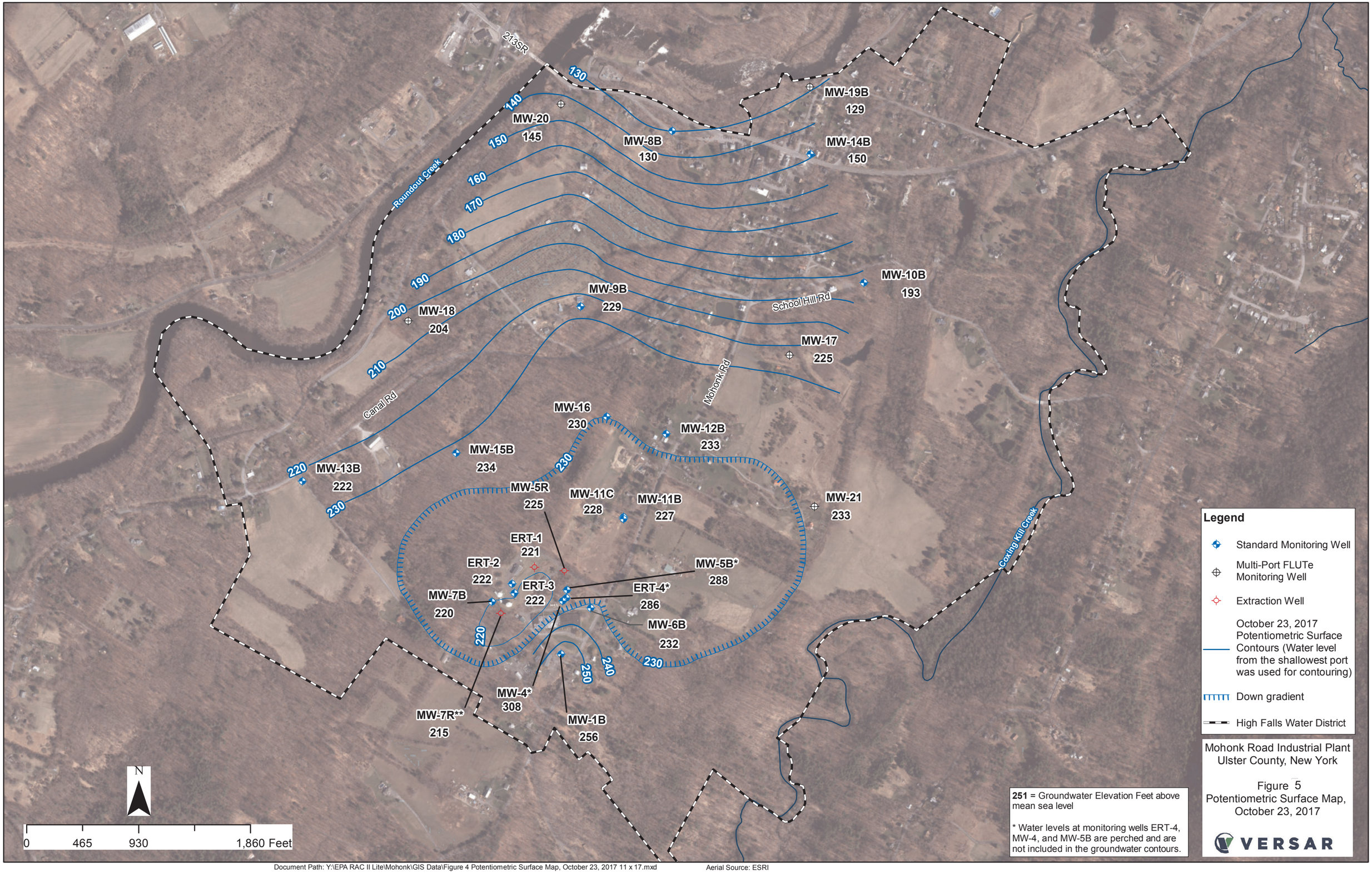


Mohonk Road Industrial Plant
Ulster County, New York

Figure 4
Monitoring Well Network

VERSAR

Document Path: Y:\EPA RAC II Lite\Mohonk\GIS Data\Figure 3 Monitoring Well Network.mxd Aerial Source: ESRI

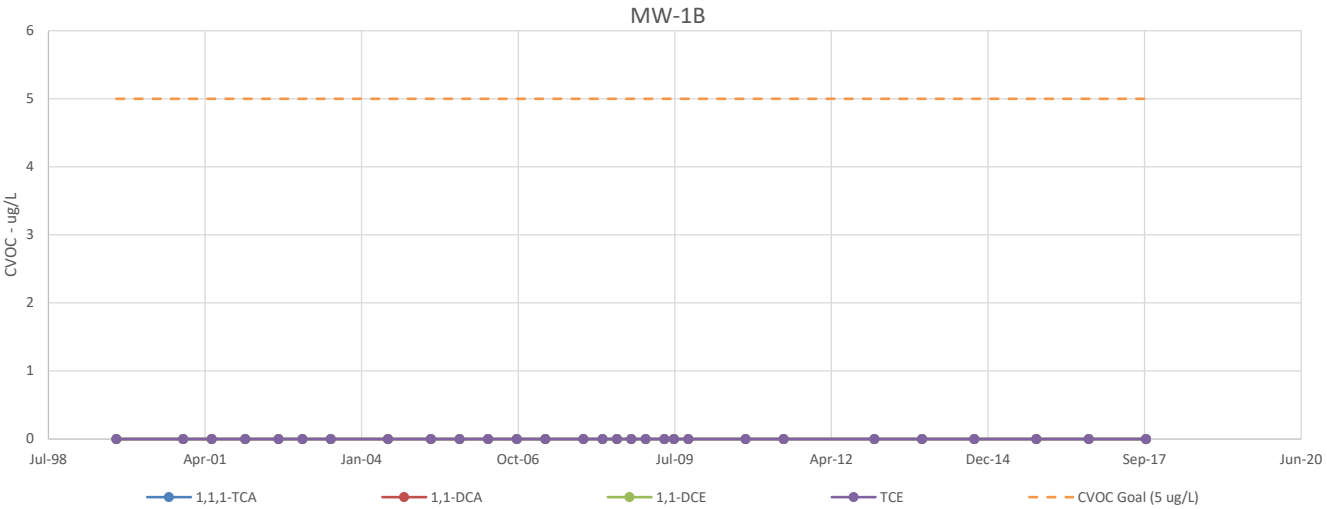


Document Path: Y:\EPA RAC II Lite\Mohonk\GIS Data\Figure 4 Potentiometric Surface Map, October 23, 2017 11 x 17.mxd

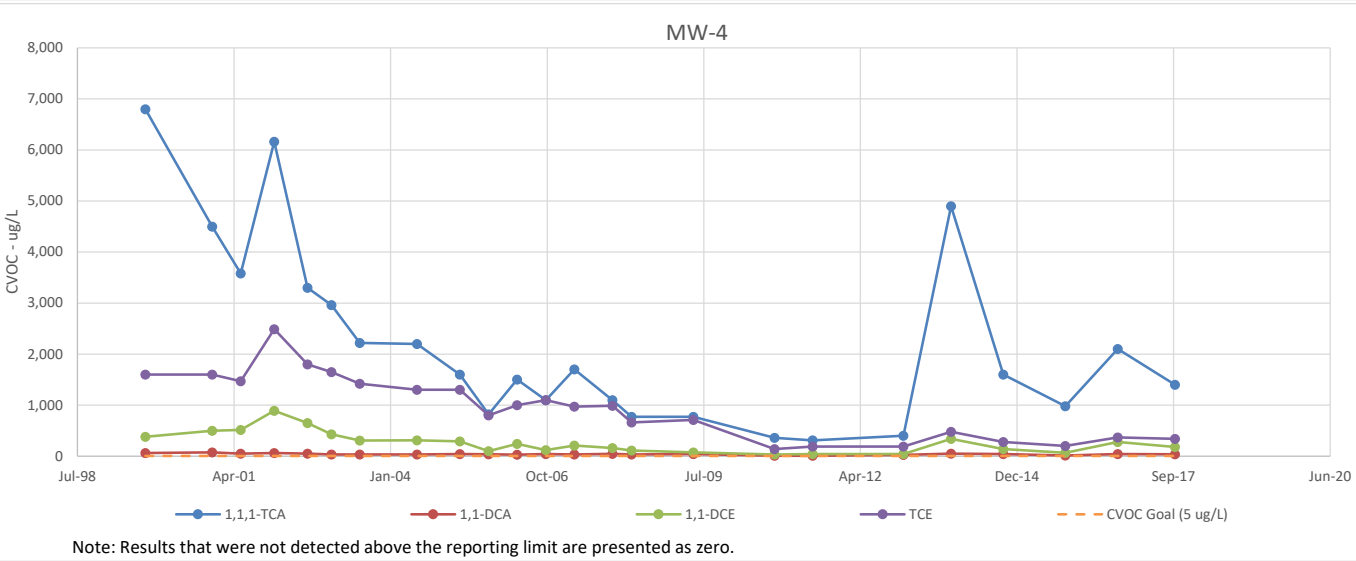
Aerial Source: ESRI

FIGURE 6

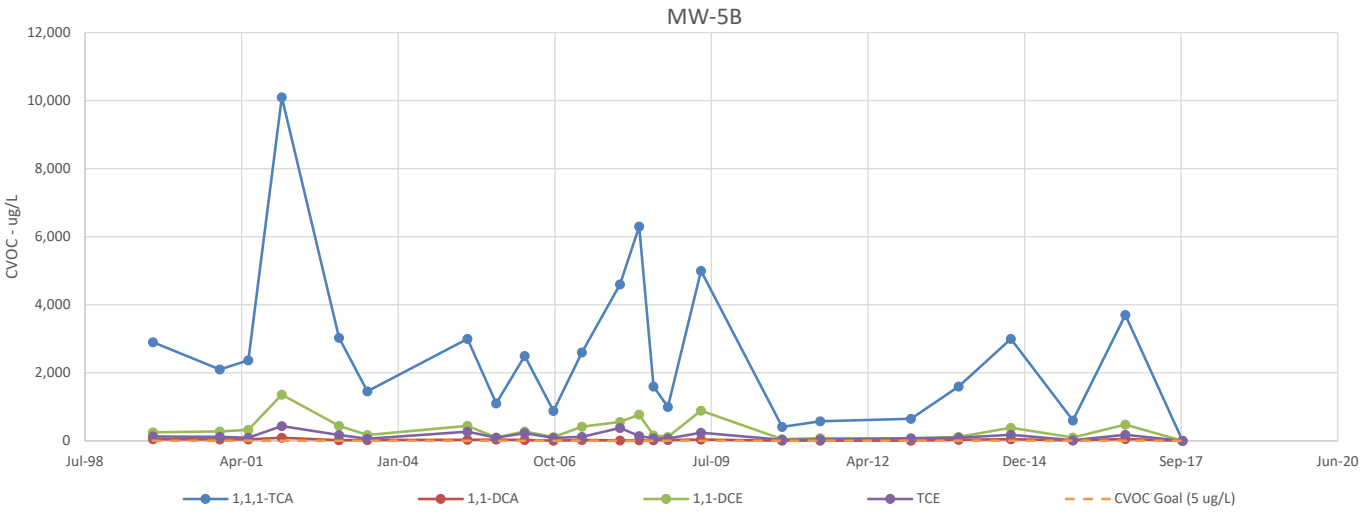
Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



Note: Results that were not detected above the reporting limit are presented as zero.



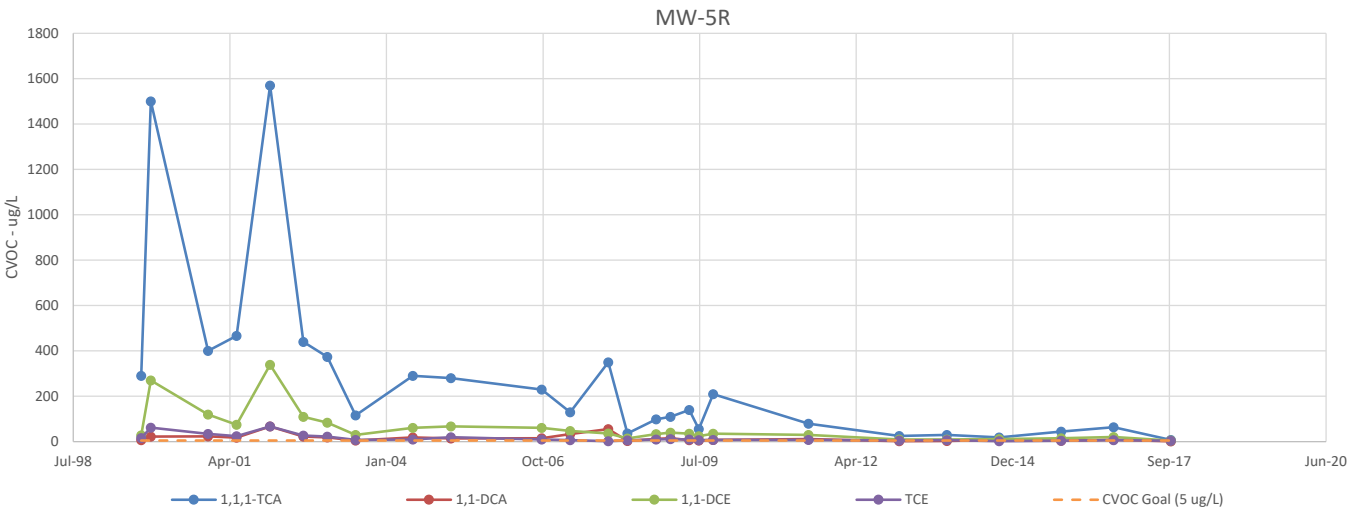
Note: Results that were not detected above the reporting limit are presented as zero.



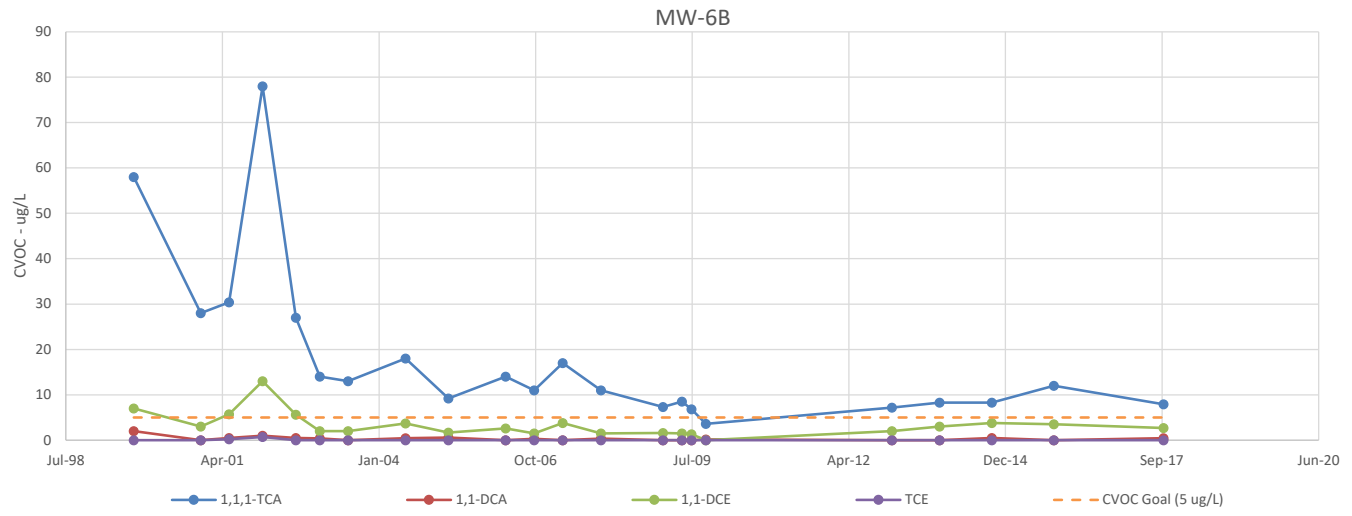
Note: Results that were not detected above the reporting limit are presented as zero.

FIGURE 6 (cont'd)

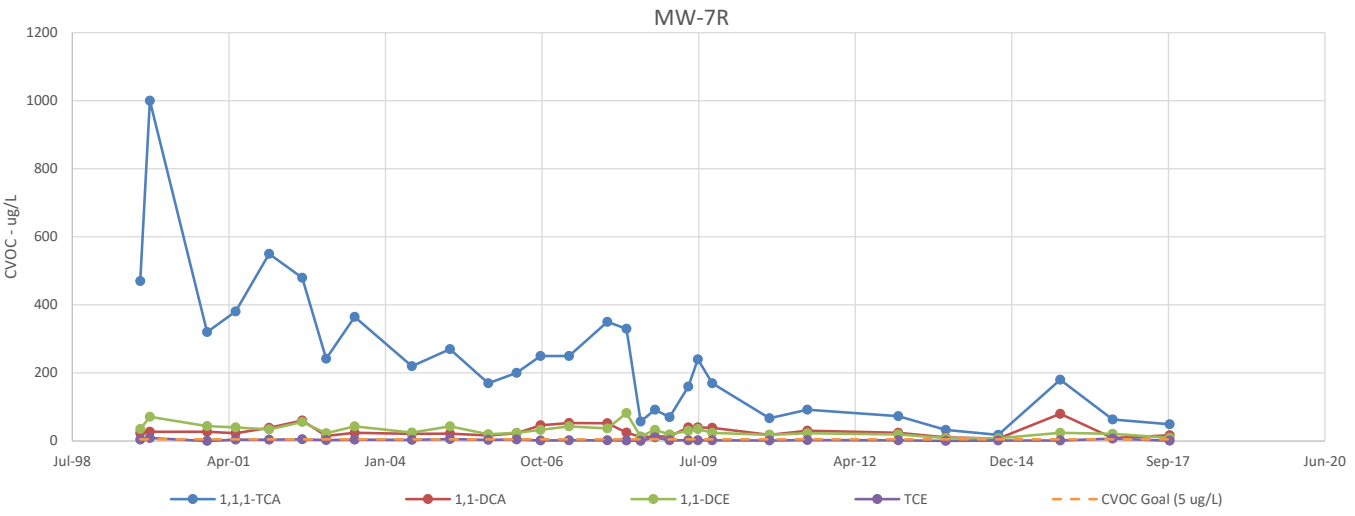
Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



Note: Results that were not detected above the reporting limit are presented as zero.



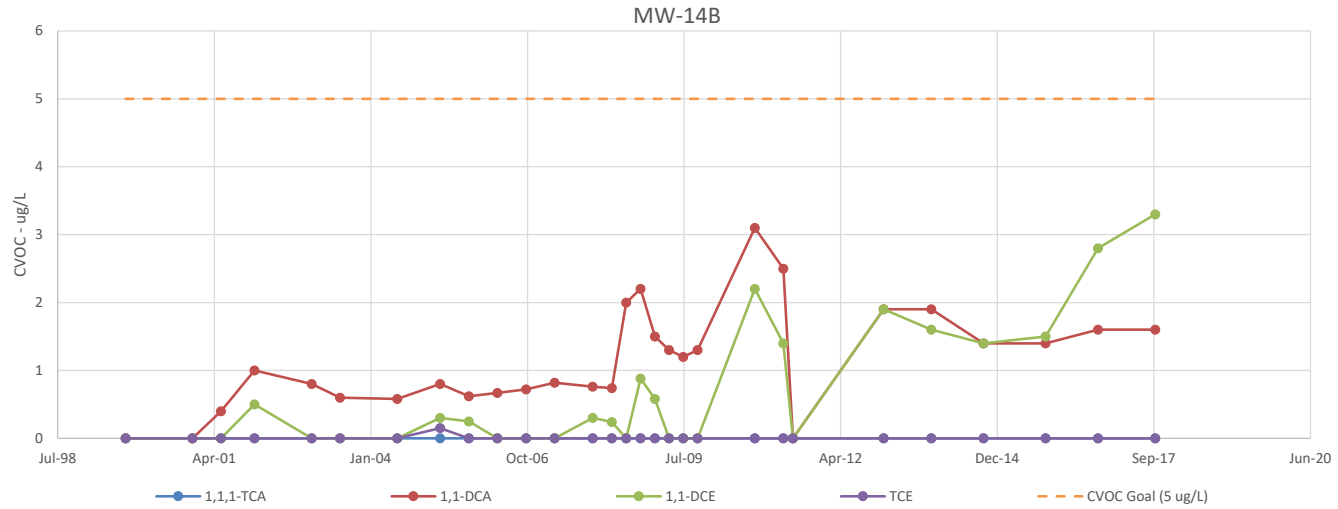
Note: Results that were not detected above the reporting limit are presented as zero.



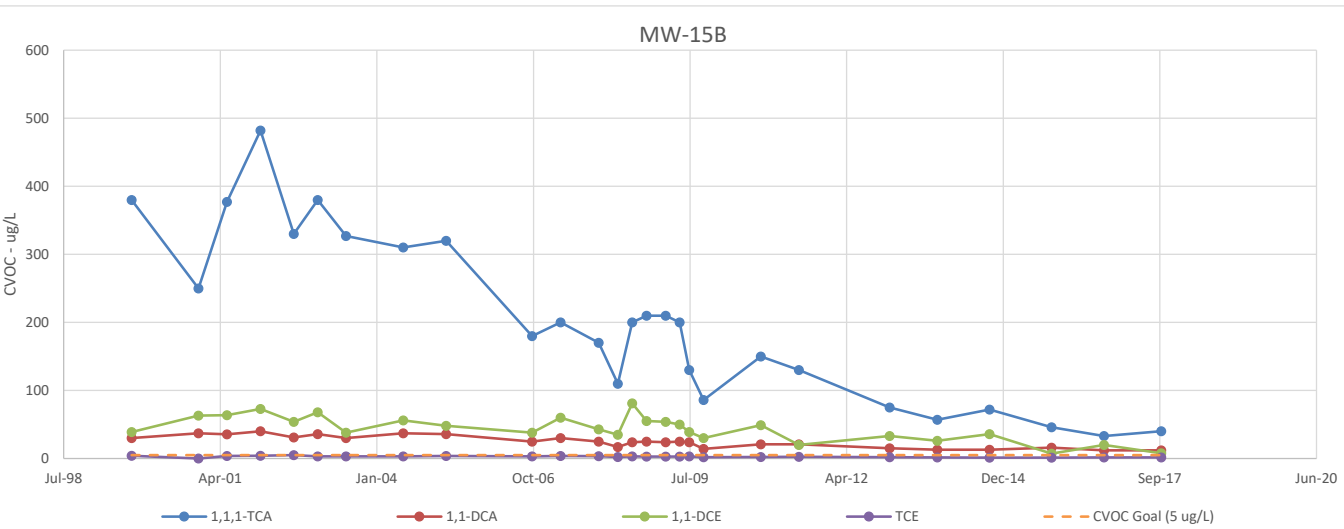
Note: Results that were not detected above the reporting limit are presented as zero.

FIGURE 6 (cont'd)

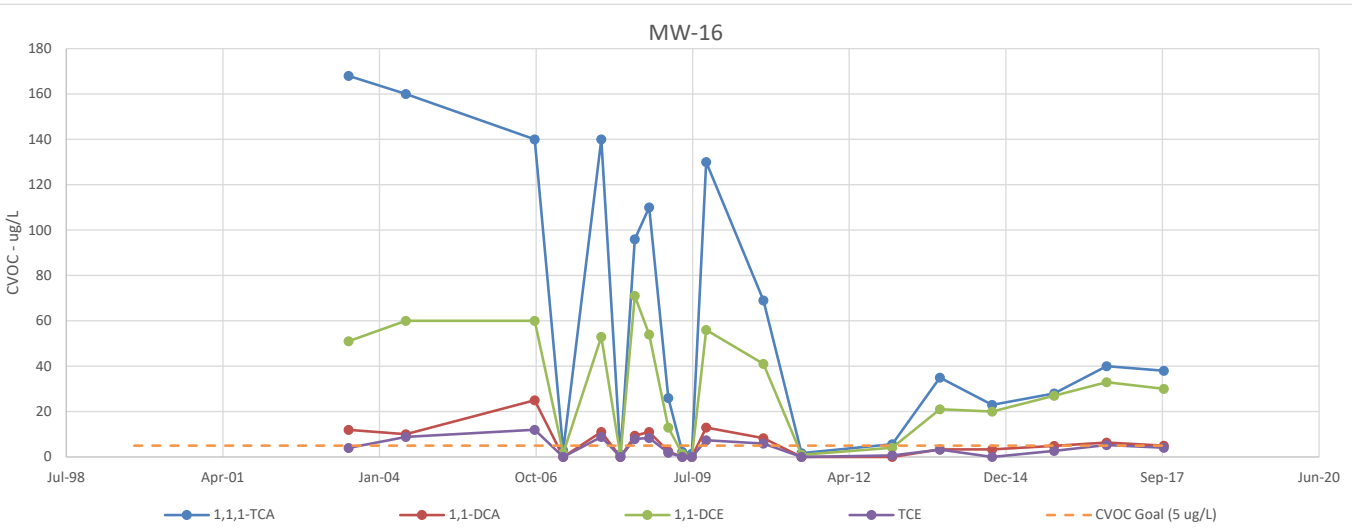
Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



Note: Results that were not detected above the reporting limit are presented as zero.



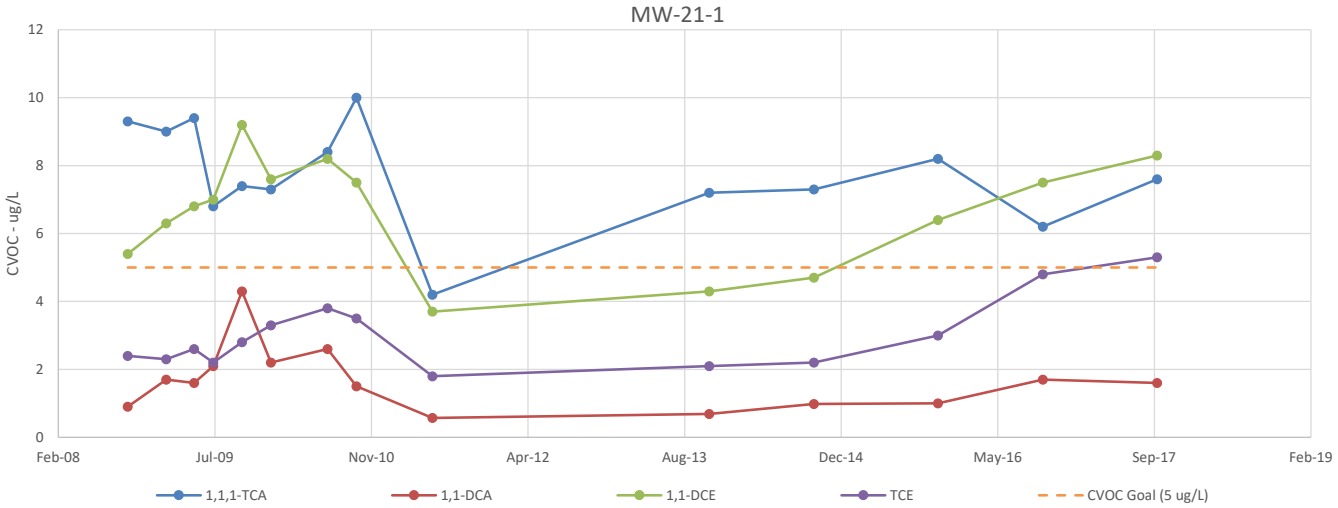
Note: Results that were not detected above the reporting limit are presented as zero.



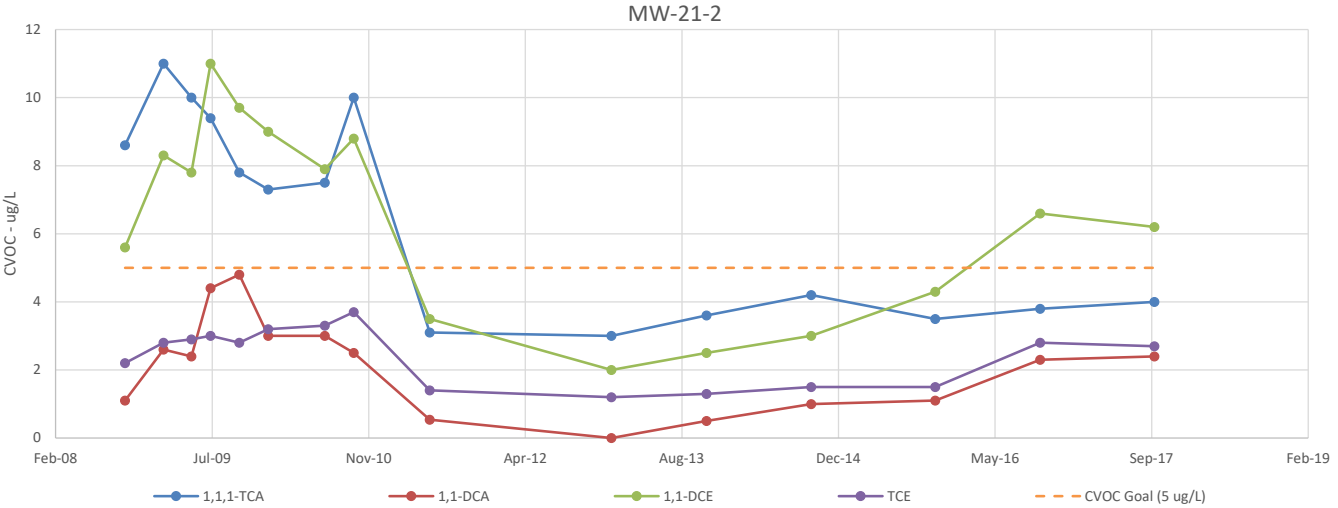
Note: Results that were not detected above the reporting limit are presented as zero.

FIGURE 6 (cont'd)

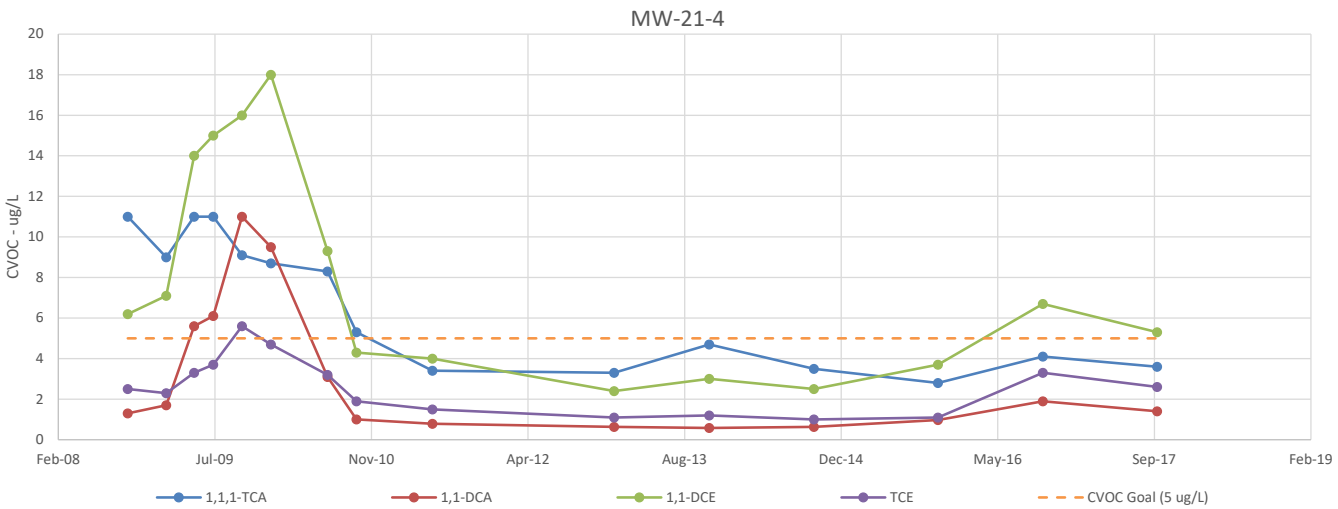
Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



Note: Results that were not detected above the reporting limit are presented as zero.



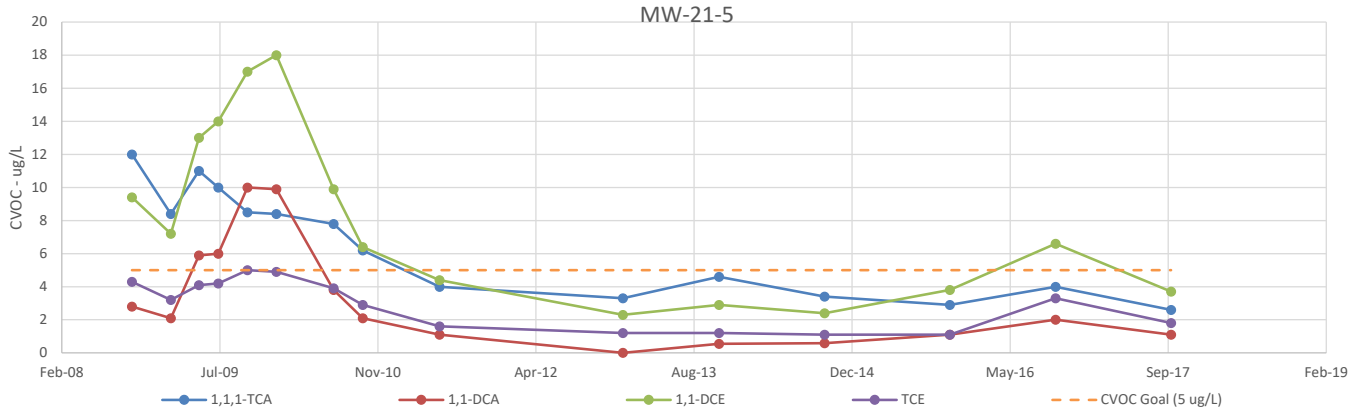
Note: Results that were not detected above the reporting limit are presented as zero.



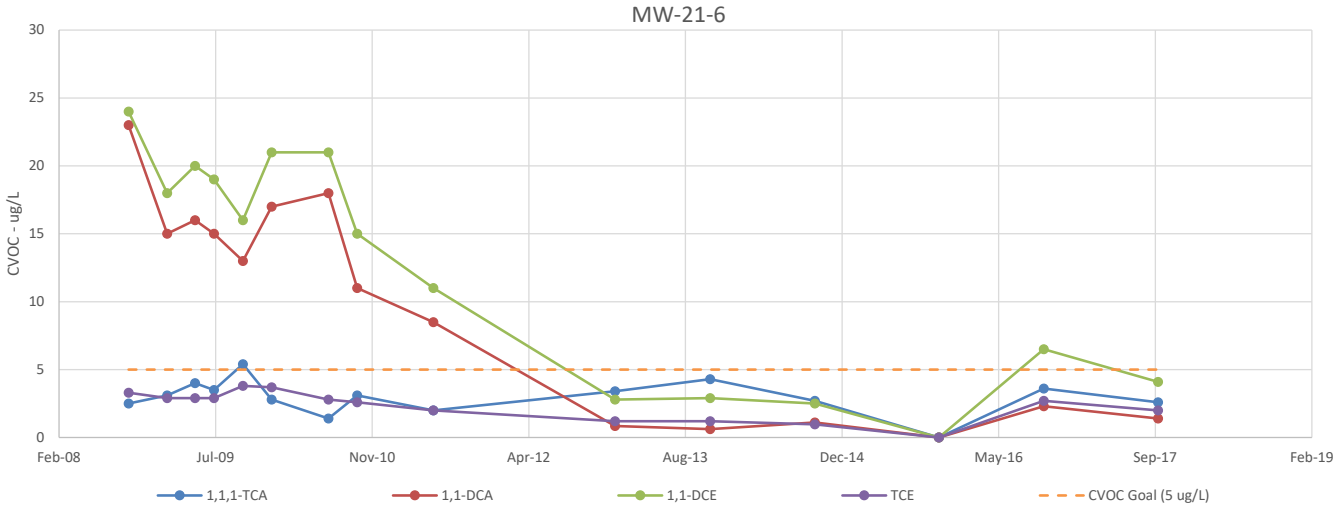
Note: Results that were not detected above the reporting limit are presented as zero.

FIGURE 6 (cont'd)

Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



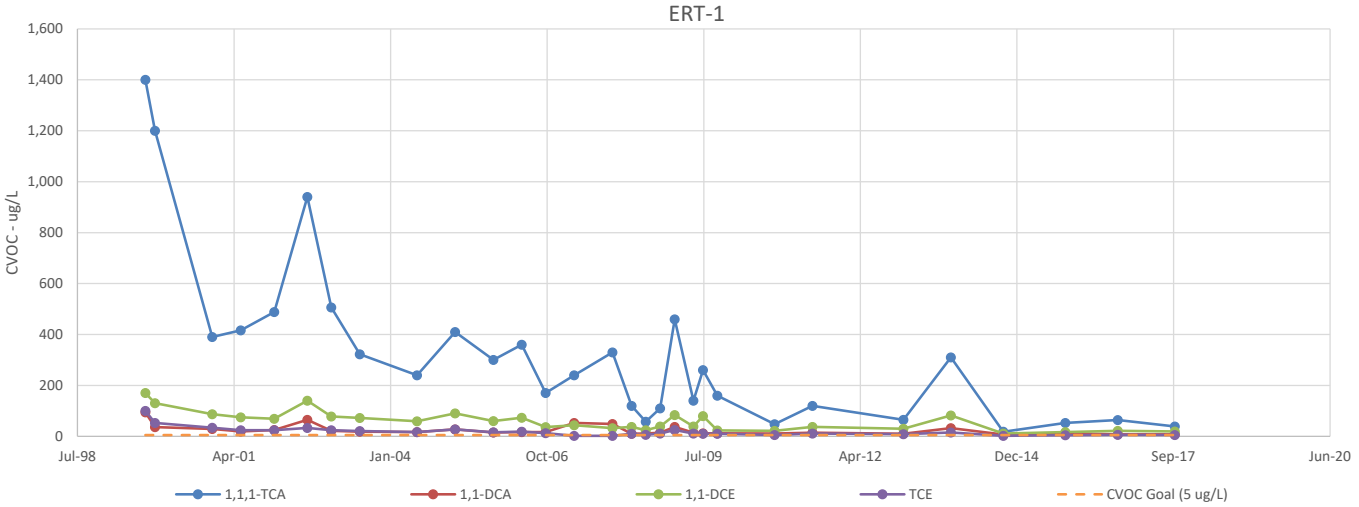
Note: Results that were not detected above the reporting limit are presented as zero.



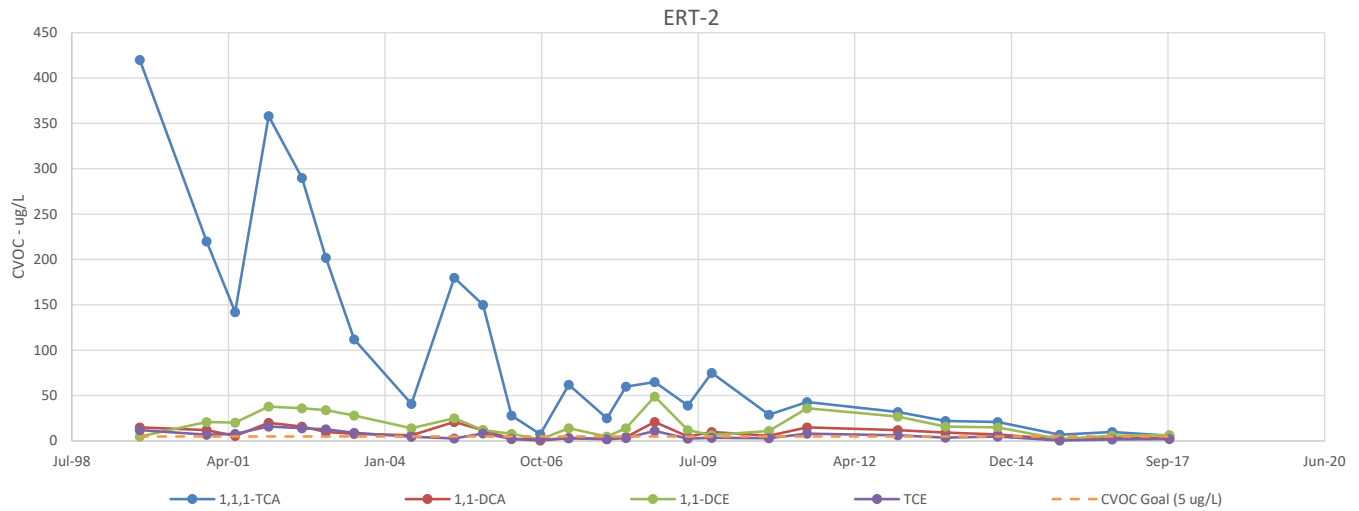
Note: Results that were not detected above the reporting limit are presented as zero.

FIGURE 6 (cont'd)

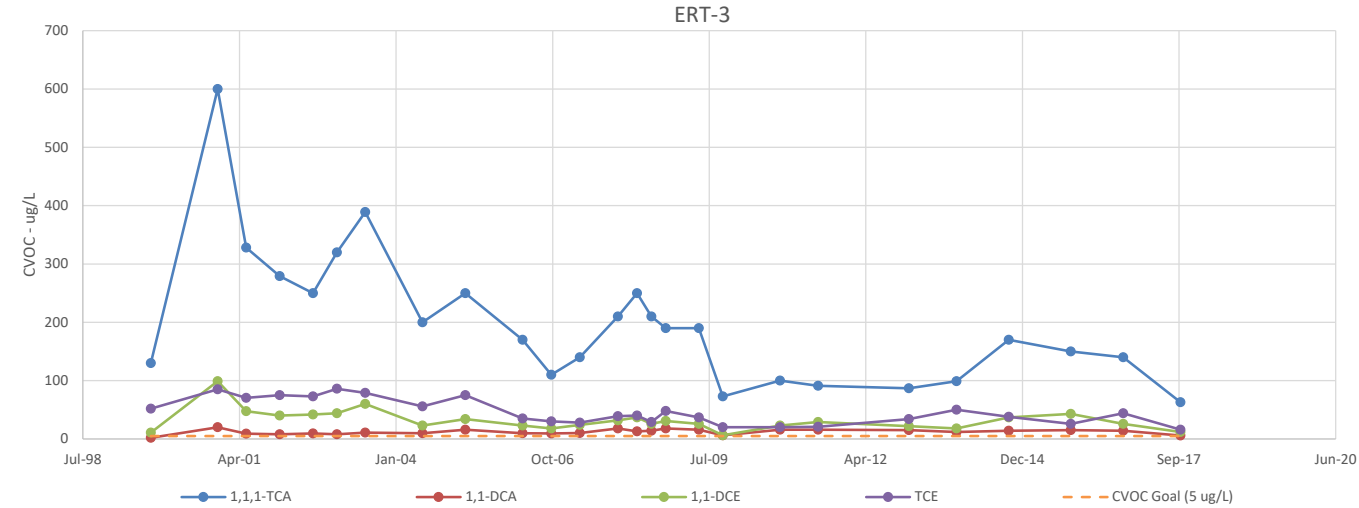
Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



Note: Results that were not detected above the reporting limit are presented as zero.

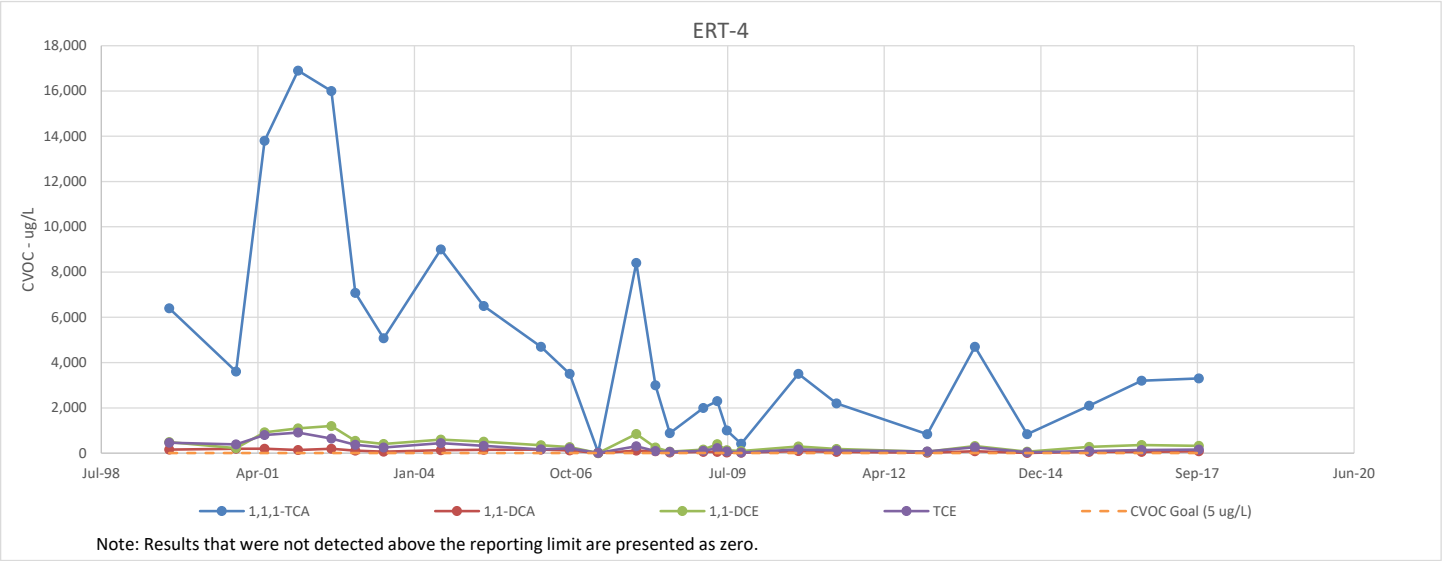


Note: Results that were not detected above the reporting limit are presented as zero.

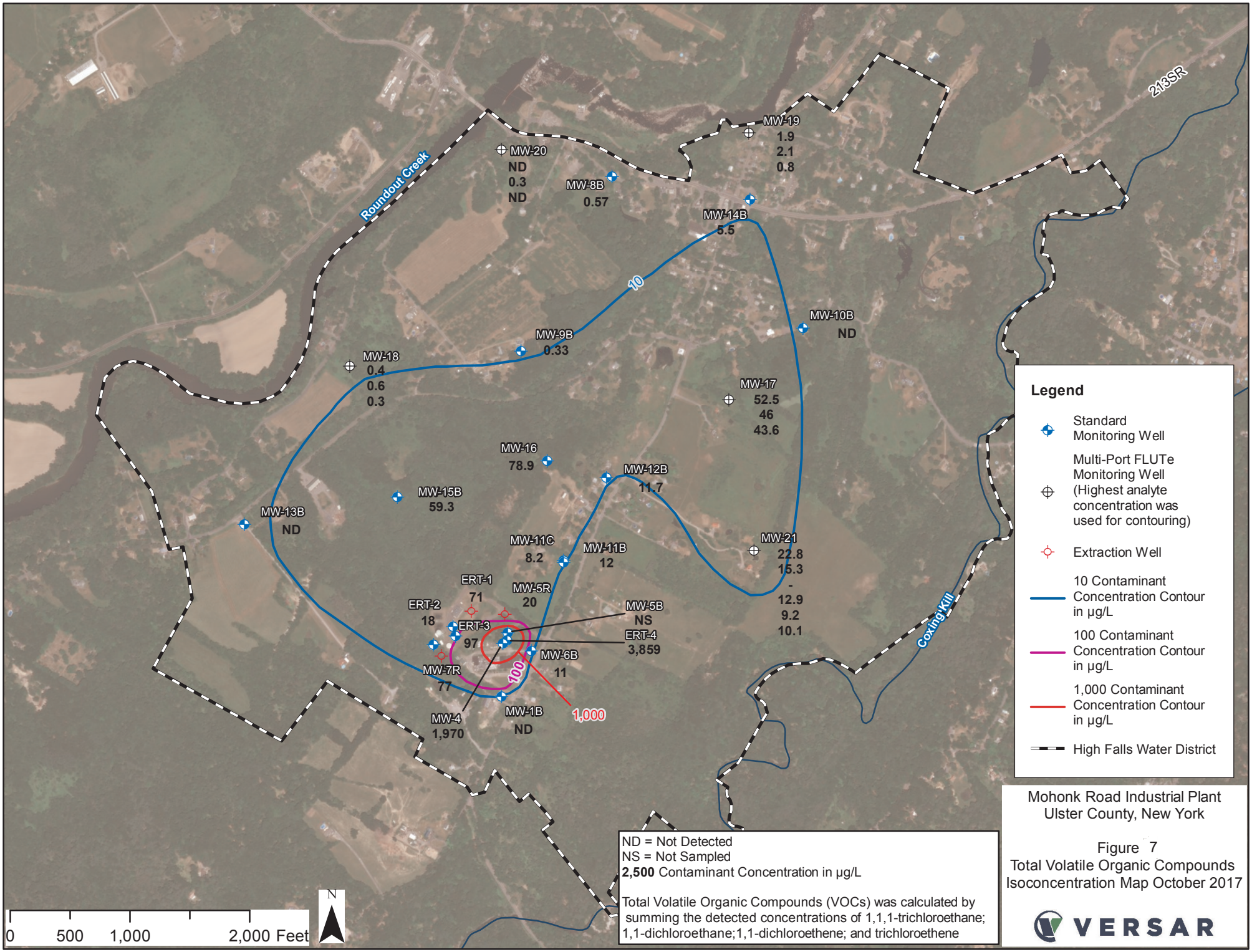


Note: Results that were not detected above the reporting limit are presented as zero.

FIGURE 6 (cont'd)
Groundwater Trend Charts
Historical Summary of Groundwater Analytical Results (Contaminants of Concern)
Mohonk Road Industrial Plant Superfund Site



Note: Results that were not detected above the reporting limit are presented as zero.



Mohonk Road Industrial Plant
Ulster County, New York

Figure 7
Total Volatile Organic Compounds
Isoconcentration Map October 2017

VERSAR

Document Path: Y:\EPA RAC II Lite\Mohonk\GIS Data\Figure 5 Total VOCs October 2017.mxd Aerial Source: ESRI

APPENDIX C

REFERENCE LIST

MOHONK ROAD INDUSTRIAL PLANT
FIVE-YEAR REVIEW
REFERENCE LIST

Record of Decision – Mohonk Road Industrial Plant (MRIP) Site, EPA	March 31, 2000
Final Remedial Action Report – Excavation and Off-Site Disposal of Contaminated Soils (OU1) – MRIP Site, EPA	June 2001
O&M Discharge Reports, MRIP Site, U.S. Army Corps and EPA	February 2001-September 2011
Remedial Action Report (Excavation and off-site disposal of contaminated soils) (OU1), MRIP Site, EPA and U.S. Army Corps	June 2001
Interim Remedial Action Report – Extraction and Treatment of Groundwater in the Near Field Plume (OU1) – MRIP Site, EPA and U.S. Army Corps	July 2001
Remedial System Evaluation, MRIP Site, Army Corps	November 2005
Subsurface Soil Sampling and Soil Vapor Well Installation, MRIP Site, EPA Environmental Response Team	April 2007
Remedial Action Report – Point-of-Entry Treatment (POET) Systems (Residential and Commercial Properties) (OU1) – MRIP Site, EPA and U.S. Army Corps	March 2008
Final Monitored Natural Attenuation Assessment, MRIP Site – U.S. Army Corps	April 2008
Remedial Action Report – Alternate Water Supply, MRIP Site, EPA and U.S. Army Corps	September 30, 2008
Record of Decision Amendment (OU1) – MRIP Site, EPA	September 30, 2008
Preliminary Close-Out Report, MRIP Site, EPA	September 30, 2008
Long Term Groundwater Monitoring Plan – U.S. Army Corps and AECOM	January 2013
Field Activities Plan - Data Gap Investigation, MRIP, NYSDEC and MACTEC Engineering and Consulting, Inc.	June 2015
Remedial System Optimization Report, MRIP, NYSDEC, MACTEC Engineering and Consulting, Inc.	June 2016
Quarterly Site Status Reports – MRIP Site, NYSDEC and Aztech Technologies, Inc.	2014-2018
Monitoring Well Sampling – Data Reports (including MNA data) – U.S. Army Corps and AECOM, J.M. Waller and Associates, and Versar, Inc.	May 2014 – May 2018