SIXTH FIVE-YEAR REVIEW REPORT FOR
RAYMARK SUPERFUND SITE
MONTGOMERY COUNTY, PENNSYLVANIA

Prepared by

U.S. Environmental Protection Agency
Region III
PHILADELPHIA, PENNSYLVANIA

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Date

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LIST OF ACRONYMS

bgs	Below ground surface
$CC1_4$	Carbon Tetrachloride
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COC	Contaminant of Concern
DCE	Dichloroethene
EPA	U.S. Environmental Protection Agency
FYR	Five-Year Review
GPRA	Government Performance and Results Act
GWTS	Groundwater Treatment System
HBWA	Hatboro Borough Water Authority
HSCA	Hazardous Site Cleanup Act
IC	Institutional Control
MCHD	Montgomery County Health Department
MCL	Maximum Contaminant Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List

O&M	Operation and Maintenance
OU	Operable Unit
PADEP	Pennsylvania Department of Environmental Protection
PCE	Perchloroethene or Tetrachloroethene
PFAS	Per-and polyfluoroalkyl Substances
ppb	parts per billion
ppt	parts per trillion
RA	Remedial Action
RAO	Remedial Action Objective
ROD	Record of Decision
RPM	Remedial Project Manager
SDWA	Safe Drinking Water Act
SEPTA	Southeastern Pennsylvania Transit Authority
SVE	Soil Vapor Extraction
TCA	Trichloroethane
TCE	Trichloroethylene
VC	Vinyl Chloride
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 reviews are documented in FYR reports. 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 Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulation Section 300.430(f)(4)(ii)) and considering EPA policy.

This is the Sixth FYR for the Raymark Superfund Site (the Site). The triggering action for this statutory review is the completion date of the previous FYR: 9/12/2019. This statutory FYR is required due to the fact that hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure.

The Site consists of three operable units (OU), which will be addressed in this FYR. OU1 addresses on-site soil (soil/source control), OU2 addresses off-site groundwater (drinking water supply wells H-14 & H-17), and OU3 addresses on-site groundwater (groundwater treatment system).

The Pennsylvania Department of Environmental Protection (PADEP) was notified of the start of the FYR on 12/3/2023. The Site FYR was led by José R. Redmond Girón, remedial project manager (RPM) for EPA. Additional participants included other members of the EPA as the lead agency and the Pennsylvania Department of Environmental Protection (PADEP) as the support agency (Table 1). The review began on 12/4/2023.

Table 1: Five-Year Review Team Participants

Name	Position	Affiliation
José R. Redmond Girón	Remedial Project Manager	EPA
Martin Gehlhaus	Toxicologist	EPA
Ryan Bower	Hydrogeologist	EPA
Kimberly Hudson	Biological Technical Assessment Group	EPA
Renata Tharkurdyal	Community Involvement Coordinator (CIC)	EPA
Timothy Cherry	Solid Waste Supervisor	PADEP
Duncan Semmens	Project Officer	PADEP

Site Background

The Site is located on Jacksonville Road between Tanner and Markley Avenues in Hatboro, Montgomery County, Pennsylvania as shown in Figure 1. The Site includes a 7-acre parcel

where activities associated with Site contamination are known to have previously occurred and an actively operating facility currently resides. The Site is located in an industrial area approximately 100 feet from the nearest residence on Jacksonville Road. The Site consists of a manufacturing building which contains office space and a groundwater treatment system (GWTS) building. Metal fabrication operations, including rivet manufacturing and electroplating, began at the Site in 1948. Solvents containing trichloroethene (TCE) were used in the manufacturing process to clean and degrease metal parts. Over several decades of manufacturing, TCE apparently leaked or spilled in areas where it was used and stored. These areas included storage tanks and four small, unlined wastewater lagoons that were located at the rear of the property. The lagoons were excavated and backfilled in 1972. TCE has not been used at the Site since 1980.

Table 2: FIVE YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Raymark Superfund Site		
EPA ID: PAD039017694		
Region: 3	**State:** PA	**City/County:** Borough of Hatboro, Montgomery County
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]*:** None		
Author name (Federal or State Project Manager): José R. Redmond Girón		
Author affiliation: EPA		
Review period: 12/3/2023 - 9/12/2024		
Date of site inspection: 5/9/2024		
Type of review: Statutory		
Review number: 6		
Triggering action date: 9/12/2019		
Due date *(five years after triggering action date)*: 9/12/2024		

II.RESPONSE ACTION SUMMARY

Basis for Taking Action

Past disposal practices at the Site resulted in groundwater and soil contamination. As a result of Site Investigations, three areas were identified as sources of TCE contamination to the groundwater. The areas were the lagoon area, the solvent storage tank area, and the degreaser area. Based on the risk assessment performed, the only significant exposure scenario with significant human health risks due to exceedances of EPA's risk management criteria for either the average or the reasonable maximum exposure scenarios was direct contact in both media. An eco-risk assessment was also performed, no exposure to ecological receptors were encountered.

The following contaminants of concern (COCs) were identified for soil and groundwater:

Table 3: Site COCs and their cleanup goals

Groundwater COCs		Soil COCs
TCE (5ppb)	tetrachloroethene (PCE) (5ppb)	TCE (50ppb)
cis-1,2-dichloroethene (cis-1,2-DCE) (70 ppb)	trans-1,2-dichloroethene (trans-1,2-DCE) (100ppb)	PCE
1,1-dichloroethene (1,1-DCE) (7ppb)	vinyl chloride (VC) (2ppb)	1,2-DCE
1,1,1-trichloroethane (1,1,1-TCA)(0.2 ppb)	carbon tetrachloride (CCL4) (5ppb)	

Initial Response

In late 1979, a series of investigations conducted by EPA, the former Pennsylvania Department of Environmental Resources, now PADEP, and the Hatboro Borough Water Authority (HBWA), revealed the presence of TCE and several other volatile organic compounds (VOCs) in 8 of 16 public supply wells. As a result, HBWA removed the affected wells from routine operation and began to supplement its water needs from an interconnection with a neighboring water company.

EPA installed monitoring wells and conducted additional investigations from 1981 until 1987. As a result, the Site was proposed to the National Priorities List (NPL) in June 1988 and added to the NPL in October 1989.

Remedial Actions

Initial remedial activities at the Site were conducted pursuant to a 1989 Consent Decree Work Plan which called for pumping and treating groundwater at HBWA water supply wells. In January 1990, EPA completed its Remedial Investigation/Feasibility Study report; it was reported that the main contaminants were VOCs, primarily TCE. Since the RI/FS and the RODs precede the USEPA Risk Assessment Guidance for Superfund, a formal Ecological Risk Assessment was not performed; however, a consultation with US Fish and Wildlife (Nov,1983) indicated that there were no critical habitats or endangered species within 1 mile from the Site.

In September 1990, EPA issued a Record of Decision (ROD) for OU2 and OU3. The Remedial Action Objectives (RAOs) for that ROD were:

- Protect public health and the environment;
- Reduce further migration of contaminated groundwater from the Site towards public supply wells;
- Contain the contamination within the currently affected area;
- Reduce risk resulting from release of contaminants into the air from treatment devices; and,
- Contribute to the restoration of the aquifer to its beneficial use, and further to background quality, if practicable.

The major components of the selected remedy in the 1990 ROD are as follows:

- Completion of a groundwater remedial design study to determine the most efficient design of a groundwater extraction and treatment system;
- Continued operation and maintenance of public water supply wells by the HBWA
- Continued operation and maintenance (O&M) of the air stripping towers installed at contaminated public water supply wells by the HBWA;
- Installation, operation, and maintenance of vapor phase carbon adsorption units at water supply wells equipped with air stripping towers;
- Installation, operation, and maintenance of onsite groundwater extraction wells to remove contaminated groundwater from beneath the Site and to prevent contaminants from migrating offsite;
- Installation, operation, and maintenance of air stripping treatment at onsite groundwater extraction wells to treat groundwater to required levels;
- Installation, operation, and maintenance of vapor phase carbon adsorption units on onsite air stripping towers;
- Construction, operation, and maintenance of a pipeline from the onsite groundwater treatment plant to the storm sewer system to discharge treated groundwater into the storm sewer system and then offsite to the Pennypack Creek;

- Periodic sampling of groundwater and treated water to ensure treatment components are effective and groundwater remediation is progressing towards the cleanup goals; and
- Institutional controls (ICs) to ensure that the HBWA continues to operate public water supply wells equipped with treatment systems.

Clean up levels were based on contaminants concentration reaching maximum contaminant levels (MCLs), non-zero Maximum Contaminant Level Goals, or background, whichever is lower.

The ROD for the on-site soil remedy (OU1), was signed on December 30, 1991. The COCs are VOCs, primarily TCE. The RAOs established for the 1991 ROD are as follows:

- Protect public health and the environment;
- Reduce amount of contamination in subsurface soil and bedrock such that leaching of contamination to groundwater is minimized;
- Minimize leaching of residual contamination from the Site to the groundwater such that levels of TCE in groundwater do not exceed 5 µg/L or background, whichever is lower, as defined in the 1990 ROD for onsite and offsite groundwater; and
- Reduce risk resulting from release of contaminants into the air from treatment devices.

The major components of the selected remedy in the 1991 ROD are as follows:

- Construction, operation, and maintenance of a vapor extraction system to remove contamination from subsurface soils;
- Construction, operation, and maintenance of a vapor extraction system to remove contamination from unsaturated bedrock;
- Construction, operation, and maintenance of a vapor phase carbon adsorption system on the vapor extraction systems to remove contaminants from the extracted air;
- Construction and maintenance of a low permeability cap to minimize infiltration through soil containing residual contamination and resultant leaching to groundwater and to increase the efficiency of the vapor extraction system by decreasing the moisture content of the soil;
- ICs to ensure that the integrity of the cap is maintained; and
- Additional sampling of surface soil to determine if surface soil contiguous to the former lagoon area is a characteristic hazardous waste.

The cleanup level in the OU1 ROD for TCE is 50 µg/kg. This number was calculated as the maximum amount of TCE allowable in soil to prevent further migration that may impact the

aquifer to levels above the remediation goal for groundwater. The OU1 remedy, excavated contaminated soil from the disposal lagoons, treated the soil with the ex-situ vapor extraction system; once it reached the cleanup goal of 50 µg/kg, it was incorporated into the cap area. The cap has been inspected multiple times since its construction. The cap and its surroundings are maintained by the property owners, via an agreement with PADEP. The Cap is mowed and inspected two to three times a year, while the surrounding fence is inspected regularly and fixed when needed. The OU2 remedy include actions to treat contaminated water at the Site and outside the Site in order to minimized and prevent migration and exposure of contaminants from groundwater.

In September 2007, EPA issued an Explanation of Significant Differences (ESD) to eliminate the monitoring and treatment of off-site wells H-14 and H-l7. Those wells were being impacted by known regional contamination which includes potential non-site sources. EPA determined that it may not be possible to achieve cleanup levels within the Hatboro Regional Aquifer and remediation of the wells may be impractical and ineffective due to the presence of the other sources.

Another component of the ESD eliminated the ICs that required HBWA to operate certain public water supply wells as part of the remedy (wells equipped with treatment). Since the issuance of the 1990 ROD, HBWA sold its entire water distribution system to a private company (Aqua America Inc.) which brings water from outside aquifers.

Following the recommendations of the 2009 FYR report, EPA began studying the potential of vapor intrusion to be an issue at the Site. In 2011, EPA installed two sets of nested wells (MWR1 and MW-R2) in the vicinity of Bonair Avenue to study VOC concentrations in the groundwater downgradient from the Site. The concentrations encountered were significant enough to warrant studying the potential for vapor intrusion in the area.

In 2013, EPA conducted VI sampling at 13 residential properties. In 2016, based on the previous sampling results and access from property owners, EPA re-sampled three of these houses. In 2017, based on access by owners, EPA sampled an additional five houses.

The results from this sampling indicated that indoor air, in the living spaces at the residential properties, does not present an immediate public health concern. However, the results also indicated that the vapors beneath the slabs (sub-slabs) at three of the houses are being impacted by TCE. Elevated levels of TCE in the sub-slabs may present a future risk should conditions change. Based on the results of the sampling and recommendation from the site team, the EPA Removal Program installed mitigation systems at three residential properties. At this time, the vapor intrusion at the residential properties does not appear to be related to the Raymark Superfund Site and has been designated the Bonair Avenue Removal Site. Additional efforts to conduct residential vapor intrusion sampling and investigate the source of the TCE were conducted as part of a removal assessment for the Bonair Avenue Removal Site.

In February 2018, sub-slab samples were collected from the main industrial building associated with the Site to determine if vapor intrusion was a potential issue at that location. Sub-slab vapor ports were installed at locations through the main industrial building to allow for multiple rounds of sub-slab sampling, if needed. The sub-slab samples collected during the February 2018 sampling event were collected with 6-Liter Summa canisters and analyzed by EPA. The results of the February 2018 sampling effort at the main industrial building showed elevated concentrations of TCE in the sub-slab throughout most of the building. However, only one room of the building had TCE concentrations greater than EPA Regional Screening Levels (RSLs) in the indoor air.

In July 2018, EPA again investigated the main industrial building associated with the Site for the presence of vapor intrusion with the assistance of the Trace Atmosphere Gas Analyzer (TAGA) mobile laboratory. The investigation included sampling of previously installed sub-slab vapor ports in the main industrial building, on-site analysis of the sub-slab soil gas samples in EPA's TAGA mobile laboratory, monitoring of indoor air of the separate units within the main industrial building and the groundwater treatment building, and mobile monitoring of the areas adjacent to the Site. TCE concentrations in the sub-slab of the main industrial building were again elevated and indicate that the soils in these locations may have residual TCE contamination. The elevated sub-slab concentrations of TCE present potential future risk of vapor intrusion in the Raymark building. If the use of the building changes or if the floor in any of the areas becomes compromised, unacceptable indoor air concentrations of TCE may occur. TCE concentrations in the indoor air at the one location in the main building was confirmed to be of potential concern. Increased ventilation was recommended to dilute indoor air concentrations to acceptable levels.

On April 29th, 2023, EPA issued the second ESD for the Site. This Second ESD modifies the ARARs for Site-related contaminants addressed in the 1990 ROD, as modified; and modified the performance standard for the remediation of COCs in groundwater. The performance standards selected in the 1990 ROD, as modified, specified that all groundwater must be remediated to MCLs or "background level" quality as specified by the Pennsylvania Hazardous Waste Management Regulations, 25 Pa. Code§ 264.97 (i)-(j) and§ 264.100 (a)(9). EPA is not required to amend a ROD to add ARARs that come into effect after such ROD is signed[1]. However, in instances where a state ARAR that is more stringent than a federal ARAR is revised, EPA can re-visit a ROD's ARARs in appropriate circumstances. The "background level" standard set forth in the ROD, and previously set forth at 25 Pa. Code § 264.97 (i)-G) and§ 264.100 (a) (9), has been superseded by Act 2. EPA has determined that the remediation standards contained in Act 2 for COCs at the Site do not impose any requirements more stringent than federal standards. Therefore, EPA will apply MCL standards for COCs at the Site. Additionally, the ESD requires a cumulative risk performance standard for all COCs to be conducted after all groundwater performance standards have been achieved.

[1] Unless the selected remedy is no longer protective, or a significant new component is added.

Status of Implementation

Remedial activities for OU2 and OU3 (construction of a GWTS) began in February 1993 and were completed in July 1993. In September 1993, EPA signed a remedial action report certifying that the remedy was operational and functional. PADEP took responsibility for OU3 O&M in September 2004.

The construction of the soil vapor extraction system (OU1) began in September 1993 and was completed in January 1994. The system was operated until the soil cleanup goal of 50 µg/kg was met in mid-October of 1995. The second major component of OU1 was the cap to cover contaminated/treated soils in the area of the former lagoons. A multilayer low-permeability cap was constructed from September 1993 through April 1994. The cap prevents exposure to contaminated soils, as well as migration of any contamination. EPA signed a remedial action report certifying that the remedy for OU1 was operational and functional in September 1994. PADEP took responsibility for OU1 O&M in July 1999.

IC Summary Table

Table 4: Institutional Controls Summary Table					
Media	**ICs Needed**	**ICs Called for in the Decision Documents**	**Impacted Parcel(s)**	**IC Objective**	**Title of IC Instrument Implemented and Date**
Groundwater, Soil & Engineered Cap	Yes	Yes	08-00-253265-00-3	No new wells, nor activity in the capped areas that may impact the remedy without permission from PADEP	PADEP HSCA 512 Order, February 2, 2007
Groundwater	Yes	Yes	Montgomery County	Well installation standards	MCHD Regulations, February 1, 1997, as amended on August 1, 2003

In the 2007 ESD, EPA determined that additional ICs with the objective of protecting the existing remedy and preventing exposure to residual contamination were necessary to assure long term protection of human health and the environment. EPA relied on two mechanisms as means of implementing these ICs. The first one is the February 2, 2007, PADEP Hazardous Sites Cleanup Act Section 512 Order (512 Order) to the current owners of the Site property. The order restricts the installation of new groundwater wells, new construction or activities

on the capped areas and its surroundings (without the approval of PADEP) that may impact the engineered remedies. Also, EPA identified the Montgomery County Board of Health Department's Division of Water Quality Management Individual Water Supply Regulations (MCHD Regulations), adopted on February 1, 1997, and amended on August 1, 2003, as an institutional control for the contamination outside of the Site property. Section 17-2 of the MCHD Regulations established parameters for location, construction, modification or abandonment of individual water supply wells and systems installation. Currently, there are no drinking water supply wells registered with the MCHD in the Borough of Hatboro. Production wells H, were sold to AQUA, Inc. Several years ago. Since the transaction, those wells have been abandoned and potable water is brought to Hatboro by AQUA, Inc.

Systems Operations/Operation & Maintenance

C& L Rivet Co. maintains OU1 by mowing the grass on the cap on a semi-annual basis, in accordance with Engineering and Institutional Control requirements set forth in Attachment A of a 2005 Consent Order and Agreement between DEP, C&L Rivet Co, and 220 Jacksonville Road, L.L.C.

The GWTS is designed to help treat the site COCs, as well as help prevent the existing plume from further dispersal. The groundwater recovery system includes two extraction wells: RW-1 and RW-3D. Extracted groundwater from these two wells is transferred to two air strippers for primary treatment. After this primary air stripper treatment, water has been directed through two granulated activated carbon (GAC) polishing tanks for final treatment before discharging into the sanitary sewer via a plant sump. PADEP had installed the GAC treatment in 2009 for extra "polishing" if needed. In May 2022, Tetra Tech added plumbing to the system that bypasses the GAC treatment because the air strippers appear to have been adequately treating the water. If needed, the valving can again be reset to allow again for the GAC polishing step. Exhaust air from the air strippers is treated through a vapor-phase GAC treatment vessel.

DEP performs operations and maintenance activities of the Site in accordance with the 2013 Operations and Maintenance Plan. DEP's activities include routine inspections and preventive maintenance of the treatment system, extraction and monitoring wells, plant building, and grounds. Preventative maintenance activities include, but were not limited to, the following (as needed):

- System parameters are recorded on inspection logs.
- Adjustments of main blower flow rate
- Draining of condensate from the main blower motor
- Replacement of electrical bulbs at the control box
- Clean up of vegetation around the parameter of the treatment plant.
- Periodic readings from a photoionization detection (PID) to measure organic vapors that may be present outside the treatment plant building, particularly in the area of the vapor-phase GAC treatment effluent.
- Lubrication of main blower fan motor and pulley shaft.

Currently PADEP samples both recovery well influents and the effluent on a monthly basis. DEP plans to revise the 2013 O&M plan to adjust this to focus on just the effluent monthly and sampling the recovery well influents and the effluent on a quarterly basis.

III. PROGRESS SINCE THE LAST REVIEW

This section includes the protectiveness determinations and statements from the last five-year review as well as the recommendations from the last five-year review and the current status of those recommendations.

Table 5: Protectiveness Determinations/Statements from the 2019 FYR

OU #	Protectiveness Determination	Protectiveness Statement
1	Protective	The remedy at OU1 is protective of human health and the environment, and the exposure pathways that could result in unacceptable risks are under control.
2	Protective	The remedy at OU2 is protective of human health and the environment, and the exposure pathways that could result in unacceptable risks are under control.
3	Short-term Protective	The remedy currently protects human health and the environment in the short-term because groundwater contamination is decreasing, groundwater monitoring is ongoing, there are no exposures to groundwater contamination and institutional controls are in place to prevent exposures. However, in order for the remedy to be protective in the long term, the following actions need to be taken: The ARARs in the 1990 ROD should be updated to select the more stringent of PADEP Act 2 MSCs, EPA non-zero MCLGs, and EPA MCLs as groundwater cleanup levels for Site COCs; and the Selected Remedy in the 1990 ROD should be modified to include a cumulative risk assessment once all groundwater cleanup levels, have been met for all Site COCs.
Sitewide	Short-term Protective	The remedy currently protects human health and the environment in the short term because groundwater contamination is decreasing, groundwater monitoring is ongoing, there are no exposures to groundwater contamination and institutional controls are in place to prevent exposures. However, in order for the remedy to be protective in the long term, the following actions need to be taken: • The ARARs in the 1990 ROD should be updated to select the more stringent of PADEP Act 2 MSCs, EPA non-zero MCLGs, and EPA MCLs as groundwater cleanup levels for Site COCs; and

		• The Selected Remedy in the 1990 ROD should be modified to include a cumulative risk assessment once all groundwater cleanup levels have been met for all Site COCs.

Table 6: Status of Recommendations from the 2019 FYR	
Issue #1	
OU#	3
Issue Category	Remedy Performance
Issue	The groundwater ARARs in the 1990 ROD are the federal MCLs, non-zero MCLGs, or natural background concentrations, whichever is more stringent. Subsequent to the issuance of the ROD, the Commonwealth of Pennsylvania repealed its groundwater cleanup level of natural background and established a new cleanup level under Act 2. Therefore, the Pennsylvania background regulations are no longer considered ARARs.
Recommendation	Modify the ROD for the Site to reflect the change in groundwater ARARs and select the more stringent of PADEP Act 2 MSCs, EPA non-zero MCLGs and MCLs as the groundwater cleanup levels for Site COCs.
Current Status	Completed
Current Implementation Status Description	On April 29th, 2023, EPA issued the second ESD for the Site. This Second ESD modifies the ARARs for Site-related contaminants addressed in the 1990 ROD, as modified, and modified the performance standard for the remediation of COCs in groundwater. The performance standards selected in the 1990 ROD, as modified, specified that all groundwater must be remediated to MCLs or "background level" quality as specified by the Pennsylvania Hazardous Waste Management Regulations, 25 Pa. Code§ 264.97 (i)-(j) and§ 264.100 (a)(9). EPA is not required to amend a ROD to add ARARs that come into effect after such ROD is signed[2]. However, in instances where a state ARAR that is more stringent than a federal ARAR is revised, EPA can re-visit a ROD's ARARs in appropriate circumstances. The "background level" standard set forth in the ROD, and previously set forth at 25 Pa. Code § 264.97 (i)-G) and§ 264.100 (a) (9), has been superseded by Act 2. EPA has determined that the remediation standards contained in Act 2 for COCs at the Site do not impose any

[2] Unless the selected remedy is no longer protective, or a significant new component is added.

	requirements more stringent than federal standards. Therefore, EPA will apply MCL standards for COCs at the Site
Completion Date	April 29th, 2023

Issue #2	
OU#	3
Issue Category	Remedy Performance
Issue	There have been significant changes in EPA's risk assessment guidance since the 1990 ROD. These include changes in dermal guidance, inhalation methodologies, vapor intrusion, exposure factors, identification, and assessment of mutagenic mode of action contaminants and a change in the way early-life exposure is assessed for vinyl chloride.
Recommendation	Modify the ROD for the Site to include a cumulative risk. assessment once all groundwater cleanup levels have been met for all Site COCs.
Current Status	Completed
Current Implementation Status Description	In the second ESD, it was also declared that when it has been determined that ARARs and other chemical-specific goals have been achieved, residual risks from exposure to site contaminants will be re-evaluated to ensure long-term protectiveness has been achieved. The evaluation will be based on an assessment of the cumulative risk across all applicable exposure routes for all COCs remaining in groundwater following achievement of the remedial goals. To achieve unlimited use and unlimited exposure (UU/UE), the total site-related risk from COCs shall not exceed target-organ-specific Hazard Indices of 1 nor a total cancer risk of $1x\ 10^{-4}$.
Completion Date	April 29th, 2023

Other Findings (from the previous 5YR report).

1. Continue to monitor trends in groundwater data to determine if capture zone analysis and optimization needed in the future.
2. Continue to monitor implementation of recommendations to mitigate potential vapor intrusion exposure at the main industrial building.
3. Continue to monitor conditions of building foundation, work schedules and use of the main industrial building to determine if additional vapor intrusion evaluation is needed.

This section includes the protectiveness determinations and statements from the last five-year review as well as the recommendations from the last five-year review and the current status of

those recommendations. The first point of the previous Five-Year Review report is addressed at the end of the current report.

The second and third point, has been discussed with the current owners of the property. They have informed EPA that they have implemented additional fans to help with the exchange of air into the structure. Additionally, they have constantly monitored the conditions of the floors and repaired any cracks that have been observed in the foundations.

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Interviews

The RPM and CIC for the Site met in June and visited the Site on July of 2024, to plan activities that involved the community in the FYR process. A public notice was published in the *Times Chronicle* on June 23rd, 2024. The notice stated that the FYR was underway and invited the public to submit any comments to EPA.

On May 9th, 2024, met with PADEP to do the Site visit and inspection of the treatment structure and cap. Duncan Semmens and Tim Cherry were present for DEP. During the meeting EPA and DEP, agreed that the Site may benefit from an optimization study. In addition, a review of the Per-fluoroalkyl substances (PFAS) sampling results from 2019, to see if further sampling and characterization regarding the Site is necessary.

Data Review

The monitoring well network consist of 13 wells, drilled, and constructed at different depths. PADEP samples for Site COCs annually at the wells: MW-1S, MW-1I, MW-1D, MW-2S, MW-2I, MW-2D, MW-3S, MW-3I, MW-3D, MW-R1S, MW-R1D, MW-R2S, and MW-2D (Please see Figure 2 in the appendices).

Table #7 below summarizes the exceedances during the current 5YR period.

Table #7. Groundwater Exceedances in monitoring well network (2019-2024)

Year	Well	COC	Concentration	MCL/Cleanup goals
2020	MW-2D	TCE	8.6	5
	MW-3I	TCE	5.8	5
	MW-3D	TCE	5.6	5
	MW-R1D	TCE	5.6	5
	MW-R2D	CCl_4	12.3	5
2021	MW-3D	TCE	6.3	5
	MW-R1D	TCE	423	5
	MW-R1D	PCE	55.3	5

	MW-R2D	CCl_4	12.3	5
2022	MW-2I	TCE	243	5
	MW-2D	TCE	89.5	5
	MW-3D	TCE	5.2	5
	MW-R1D	TCE	242	5
	MW-R1D	PCE	38.8	5
	MW-R2D	TCE	5	5
	MW-R2D	CCl_4	12.3	5
2023	MW-2I	TCE	270	5
	MW-R1D	TCE	5.5	5
2024	MW-R2D	CCl_4	13	5
Notes: All concentrations and MCL/Cleanup goals are in parts per billion (ug/L).				

In the past five years, out of 378 samples taken via the O&M monitoring plan, only 5.8% has come back with exceedances. All the shallow wells (MW-1 well, MW-2S, MW-3S, R1S and R2S) have been below MCLs (which became the cleanup goals with the 2023 ESD).

MW-2I only showed exceedances of TCE which varied from 243ppb (2022) to 270ppb (2023). MW-2D showed the presence of TCE, which varied from 8.6 ppb (2020) to 89.5 ppb (2022). MW-3I only exceedance was in 2020, when TCE had a concentration of 5.8 ppb. MW-3D had exceedances between 2020 and 2022, the concentrations went from 5.6 ppb in 2020, 6.3 ppb in 2021 and 5.2 ppb in 2022. In 2023, the concentration for TCE was 3.3 ppb.

The other two wells part of the monitoring system, R1 and R2, which were drilled and installed in 2011[3], have shown the presence of COCs in the deeper wells. MW-R1D showed concentrations above the cleanup level for TCE; which had concentrations in 2020 of 5.6 ppb; in 2021, the concentrations were 423 ppb; in 2022 the concentration was 242 ppb; and in 2023 the concentration was 5.5 ppb. Additionally, in 2021 and 2022; there were exceedances for PCE at 55.3 ppb and 38.8 ppb respectively.

MW-R2D showed concentrations for TCE, 1,1-DCE, 1,1-DCA and Carbon Tetrachloride. The only exceedances were in 2022, when TCE had a concentration of 5 ppb. Carbon Tetrachloride had exceedances between 2020 and 2024; the concentrations were 12.3 ppb in 2020, 2021 and 2022; in 2024 the concentration was 13 ppb. All monitoring well network data is available on table 11, page 28.

[3] Due to the inability to used wells that were installed in SEPTA right of way. Since 2011, EPA have been using those new wells for reference and to strategize the next steps for the Site; including a series of VI studies in the neighborhood and the Crooked Billet School (both efforts led by the Removal Program from EPA).

The nearest potential groundwater to surface discharge point along Pennypack Creek is more than a half of a mile away from the Site. This pathway was previously evaluated and determined to not present a risk to human or ecological receptors. Additionally, all structures downgradient from the Site (west-southwest groundwater flow) are connected to public water, avoiding exposure via use of untreated groundwater.

For several years MW-2I and MW-2D has shown concentrations above cleanup goals for different COCs as has MW-3D in a lesser degree. Due to the consistent exceedances at these wells, EPA would like to recommend an optimization study to be performed at the Site. Other Site monitoring wells not part of the sampling plan, may be utilized to aid in the investigation.

Per-and polyfluoroalkyl Substances

In February 2019, a PFAS sampling event was performed at wells associated with the Site. All results were below the Health Advisory Level of 70 ppt. In 2024, the Health Advisory Levels were replaced by the new promulgated Federal MCLs (PFOS 4ppt and PFAS 4ppt). A recommendation of this report is a reassessment of the 2019 results compared to the new MCLs.

The sampling points were monitoring wells 1 to 6 (shallow, intermediate, and deep), as well as the influent point into the treatment system and the effluent of the system. Once the extracted groundwater is treated, the water is disposed into the HBWA sewage system.

Although a reassessment of the sampling results will be a recommendation of this report, it is important to mention that all residences in the Hatboro Borough are connected to public water, with the exception of a small group of houses upgradient (east-southeast of the Site). The State of Pennsylvania is responsible for the maintenance and treatment of public water systems. Results for the 2019 sampling event are in Appendix C

During this 5YR period, it has also been noted that since the last time 1,4-dioxane was evaluated at the Site (2008), the action levels for the contaminant has changed. A new sampling event and evaluation of the results should be performed.

Site Inspection

The inspection of the Site was conducted on May 9th, 2024. In attendance were José R Redmond Girón, RPM for EPA, Duncan Semmens and Tim Cherry from PADEP. The site inspection took place during a sampling event for the Site. With access to the cap and the treatment building, the RPM evaluated the condition of the cap and examined the logbook for the treatment building as well as the condition of the GWTS.

The cap is in good condition, as well as the fence around it. The cap is covered in grass that is mowed and inspected periodically (semi-annually). The facility owner is in charge of maintaining the cap and its surroundings (with PADEP oversight). The treatment facility appeared to be in good working order, with secure fencing around the cap and the treatment building, with all

necessary logs and documents accessible and in compliance. No issues were found that may impact current or future protectiveness of the remedy.

The CIC for the Site conducted two interviews for this report. The first interviewer was with Jackie Newcomb, representative for C.L. Rivet Company, the owns of the structure at the Site. The interview took place on June 18, 2024. The highlight of the conversation was the desire of the owners to regrade the current cap, in order maximized the space for possible parking locations. The second interview was conducted on July 30, 2024; the interview participant was Diane Hegele, Borough Manager for Hatboro Borough. There have been very little interest/complaints by the public, due to the periodic presence of the agency at public meetings. Both records of the interviews are attached in Appendix D.

A notice went on the Times Chronicle on June 23rd, 2024, about the issuance of this report. No comments nor questions has been received by the agency based on the ad. In accordance with CERCLA §117(d) and NCP §300.825(a), this Sixth FYR report and the information upon which it is based will be included in the Administrative Record for the Site which is available for review online at: http://loggerhead.epa.gov/arweb or at the location(s) identified below.

Union Library-Hatboro
243 South York Road
Hatboro, PA 19040
(215) 672-1420

U.S. Environmental Protection Agency
Attn: Superfund Records Team
4 Penn Center - 1600 JFK Blvd.
Philadelphia, PA 19103

Hours Monday – Friday 8:00am – 4:30pm.
by appointment only
(215) 814-3157

Questions concerning EPA's action and requests to review the Administrative Record at EPA's office should be directed by telephone and/or email to:

Jose R. Redmond Girón Remedial Project Manager (3SD25) U.S. EPA Region III (215) 814-3019 redmond.jose@epa.gov	Or	Renata Tharkurdyal Community Involvement Coordinator U.S. EPA Region III (215)814-2745 Tharkurdyal.renata@epa.gov

V. TECHNICAL ASSESSMENT

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

Yes, the remedy is functioning as intended by the 1990 OU2 & OU3 ROD (drinking water supply and groundwater, respectively) which called for extraction and treatment of contaminated groundwater; and the 1991 OU1 ROD (source remediation) which established a vapor extraction system for the soil as the remedy and required the construction of a geosynthetic cap for the area of the unlined lagoons at the rear of the property. Contaminated soil from Site was treated to the cleanup standard of 50 μg/kg. The remaining treated soil was deposited in the lagoon area and covered with a geosynthetic cap.

A groundwater extraction well and treatment facility was built on-site to address contaminated groundwater plume. The drinking water supply was addressed by adding vapor phase carbon absorption units on two municipal production wells. This last component was changed with the 2007 ESD which eliminated the requirement of the operation of the off-site component of the remedy and recognized PADEP 512 Order and the Montgomery County Health Department Water Regulations as part of the ICs.

For several years MW-2I and MW-2D have shown concentrations above cleanup goals, as has MW-3D periodically. Regardless of theses exceedances, all of the residences close to the Site and downgradient, are connected to public water, therefore, there is no exposure to contaminated water. Due to these ongoing exceedances, EPA recommends an optimization study to be performed at the Site. This study should investigate the performance of each well and optimize the pumping scheme of the extraction system. A capture zone analysis is also recommended to ensure the protectiveness of the remedy.

O&M sampling, as well as discrete investigations have demonstrated a reduction in the concentrations of COCs in the majority of the monitoring well network associated with the Site. In addition, ICs are in place to protect human health and the environment by preventing exposure to groundwater and contaminated soil and to protect the integrity of the remedy itself.

In 2018, TCE sub-slab concentrations in the main industrial building were elevated and indicated that the soils in these locations may have residual TCE contamination. The elevated sub-slab concentrations of TCE present potential future risk of vapor intrusion in the Raymark building. If the use of the building changes or if the floor in any of the areas becomes compromised, unacceptable indoor air concentrations of TCE may occur. Based on the elevated levels of TCE in the indoor air in the Machine Shop 1, EPA recommended that airflow in this area be increased to reduce the exposure potential. The owners of the facility have implemented this recommendation. The facility is run on two eight-hour shifts, and based on that exposure time, the exposure levels do not exceed EPA Industrial RSLs. If changes to conditions at the facility occur, such as longer periods of work or changes in the use of the building, future monitoring or sampling may be considered to ensure continue protectiveness of human health and the environment.

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 and RAOs used at the time of the remedy selection are still valid. At the time of the ROD, PFAS were not identified as potential COCs at the time of remedy selection. In 2024, EPA established promulgated MCLs for PFAS. Site monitoring wells were sampled for PFAS in 2019. All the results from that sampling event exceeded EPAs 2024 promulgated MCLs (PFOS 4ppt and PFAS 4ppt). Although there are exceedances, no human receptors are exposed as all downgradient properties from the Site are on public water. The Table presenting the PFAS sampling results from 2019 is presented in Appendix C.
Additionally, some of the toxicity data, cleanup levels, and risk assessment methods used at the time of the remedy selection are no longer valid. There have been significant changes in EPA's risk assessment guidance since the 1990 and the 1991 RODs. These include changes in dermal guidance, inhalation methodologies, vapor intrusion, exposure factors, identification, and assessment of mutagenic mode of action (MOA) contaminants and a change in the way early-life exposure is assessed for vinyl chloride. To address these changes, EPA has modified the 1990 ROD for the Site to require performance of a cumulative risk assessment once cleanup levels have been attained to confirm that human health and the environment are protected. This changed has been materialized in the 2023 ESD.

EPA has modified the ROD, via the 2023 ESD for the Site, to reflect changes in groundwater ARARs and select the more stringent of PADEP Act 2 medium specific concentrations (MSCs), EPA non-zero MCLGs, and MCLs as the groundwater cleanup levels for Site COCs. The groundwater ARARs in the 1990 ROD were the federal MCLs or natural background, whichever is more stringent. Subsequent to the issuance of the ROD, the Commonwealth of Pennsylvania repealed its groundwater cleanup level of natural background and established a new cleanup level under the Pennsylvania Land Recycling Act (Act 2). Therefore, the Pennsylvania background regulations are no longer considered ARARs.

1,4-dioxane was non-detect in samples analyzed in 2008; however, the quantitation limit for the analysis was 100 µg/L, which exceeds the tap water RSL of 46 µg/L (based on a cancer risk of 1E-4) and the PADEP used aquifer MSC of 6.7 µg/L. Groundwater samples should be collected and analyzed with EPA Method 8270E SIM to determine the presence and potential nature and extent of contamination.

With the significant TCE and PCE concentrations in the sub-slab vapors of the industrial building on site, the need for a more permanent remediation may be needed to ensure that future building receptors are protected from vapor intrusion. For now, the owner of the building has followed EPA's suggestion to increase air exchange through the building with increase air flow with additional fans and also limiting work shifts.

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

No, there is no new information that calls into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Table #8: Issues and Recommendations for 2024 report.				
Issues/Recommendations				
OU(s) without Issues/Recommendations Identified in the Five-Year Review:				
OU1				
Issues and Recommendations Identified in the Five-Year Review:				
OU(s): OU2	**Issue Category: Remedy Performance**			
	Issue: Presence of 1,4-dioxane at concentrations that present unacceptable risk and/or exceed the PADEP MSC is unknown.			
	Recommendation: Sample site monitoring wells and analyze for 1,4-dioxane using Method 8270E SIM			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	6/30/2025
OU(s): OU3	**Issue Category: Remedy Performance**			
	Issue: For several sampling events MW-2I and MW-2D have shown exceedances above cleanup goals (also sporadic exceedances at other wells).			
	Recommendation: Performance of an Optimization Study for the Selected Remedy at the Site. The Optimization Study should include a capture zone analysis.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	7/30/2027
OU(s): OU3	**Issue Category: Remedy Performance**			
	Issue: With the implementation of Federal MCLs standards for PFAS by EPA, previous sampling events results may not be protective of human health.			

	Recommendation: Reassess previous sampling event results against new standards and if needed follow up as appropriate if exceedances are determined.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	7/30/2025
OU(s): OU3	**Issue Category: Remedy Performance**			
	Issue: Presence of 1,4-dioxane at concentrations that present unacceptable risk and/or exceed the PADEP MSC is unknown.			
	Recommendation: Sample site monitoring wells and analyze for 1,4-dioxane using Method 8270E SIM			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	EPA	EPA	6/30/2025

Other Findings

- Perform a document review to determine if a formal screening level ecological risk assessment is needed at the Site.
- Verify with local authorities the presence/use of private wells near or downgradient from the Site.

VII. PROTECTIVENESS STATEMENT

Table #9: Protectiveness Statements	
Protectiveness Statement(s)	
Operable Unit: OU#1	*Protectiveness Determination:* Protective
Protectiveness Statement: The remedy at OU1 is protective of human health and the environment, and the exposure pathways that could result in unacceptable risks are under control.	
Protectiveness Statement(s)	
Operable Unit: OU#2	*Protectiveness Determination:* Short-term Protective
Protectiveness Statement: The remedy at OU2 is short-term protective of human health and the environment, even though the exposure pathways that could result in unacceptable risks are under control. Changes in the screening numbers for 1,4-dioxane would require the Agency to perform a	

new analysis for the contaminant. This new analysis would require a new sampling event at the Site.

Protectiveness Statement(s)	
Operable Unit:	*Protectiveness Determination:*
OU#3	Short-term Protective

Protectiveness Statement:

The remedy at OU3 is currently short-term protective of human health and the environment, and the exposure pathways that could result in unacceptable risks are under control. However, for the remedy to protective in the long-term the following actions should be completed; Perform an optimization review for the site and determine if alternatives might be available to accelerate site cleanup and reevaluate the 2019 PFAS sampling data with the updated criteria to determine if further investigation is warranted.

Sitewide Protectiveness Statement	
Operable Unit:	*Protectiveness Determination:*
Sitewide	Short-term Protective

Protectiveness Statement:

The remedy at OU-1 is protective of human health and the environment. The remedy at OU2 is short-term protective; although all exposure pathways are under control, the unknown factor of the possible presence of 1,4-dioxane, may compromise future protectiveness. For the remedy at OU2 to be protective, a sampling event including 1,4 dioxane is needed. OU3 is currently short-term protective of human health and the environment, and the exposure pathways that could result in unacceptable risks are under control. However, for the remedy to protective in the long-term the following actions should be completed; Perform an optimization review for the site and determine if alternatives might be available to accelerate site cleanup and reevaluate the 2018 PFAS sampling data with the updated criteria to determine if further investigation is warranted.

VIII. GOVERNMENT PERFORMANCE AND RESULTS ACT MEASURES

As part of this FYR, the Government Performance and Results Act (GPRA) Measures have also been reviewed. The GPRA Measures and their status are provided as follows:

Environmental Indicators

Human Health:
Current Human Health Exposure Controlled and Protective Remedy in place.

Groundwater Migration:
Groundwater Migration Under Control

Site-Wide Ready for Anticipated Use (SWRAU)

The Site was considered to be SWRAU on August 28, 2019.

VIV. NEXT REVIEW

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

APPENDIX A – REFERENCE LIST

- United State District Court for the Eastern District of Pennsylvania; USA, Hatboro Borough Authority v. Raymark industries, Inc. & et. al. Jan 26, 1989.
- USEPA; EPA Superfund Record of Decision (OU2 & OU3): Raymark Superfund Site. September 1990.
- USEPA; EPA Superfund Record of Decision (OU1): Raymark Superfund Site. Dec 30, 1991.
- Montgomery County Health Department; Division of Water Quality Management; Individual Water Supply System Regulations. Feb 1, 1997 (amended Aug 1, 2003)
- PADEP; Administrative Order Pursuant to Section 512(a) and 1102 of the Pennsylvania Hazardous Site Cleanup Act, 35 P.S. §§6020.512(a) and 6020.1102. Feb 2, 2007.
- USEPA; Explanation of Significance Difference(ESD). September 2007.
- USEPA; Explanation of Significance Difference(ESD). September 2023.
- USEPA; Raymark Superfund Site Five-Year Review Report. (2008, 2014, 2019).
- PADEP; Operation and Maintenance Reports (2019-2024).
- USEPA; PFOAs Sampling Event Report. February 2019.

APPENDIX B: FIGURES

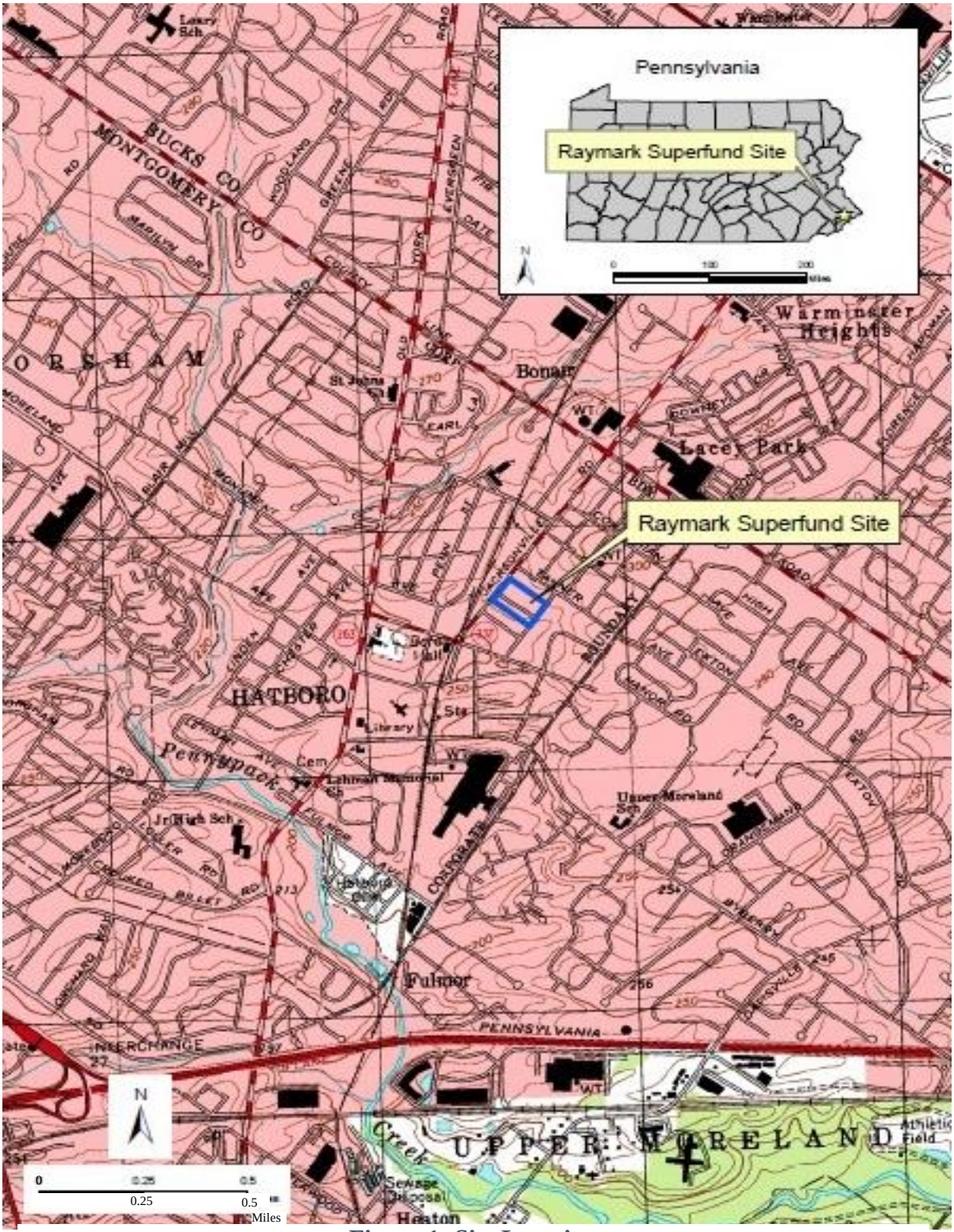


Figure 1: Site Location

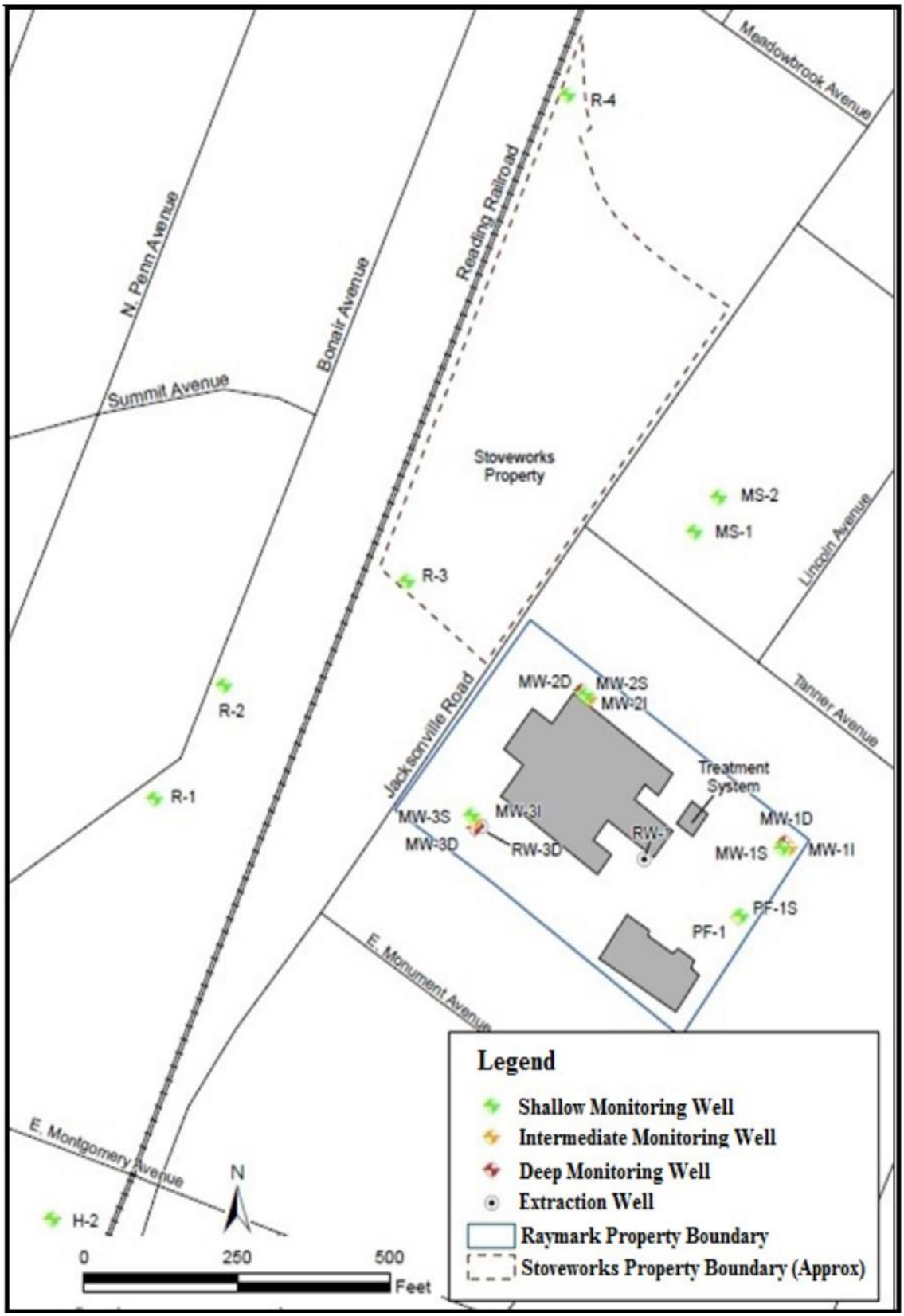


Figure 2: Site Boundaries

Appendix C: Additional Tables.

Table 11. Well Construction Details Raymark Superfund Site			
Well ID	**Bottom of Screen (feet bgs)**	**Top of Screen (feet bgs)**	**Elevation Top of PVC Casing**
Shallow Wells			
MW-1S	70	40	265.79
MW-2S	63	33	268.23
MW-3S	56	26	263.64
MW-4S	65	55	263.35
MW-6S	60	50	Not Available
MW-7S	67	57	278.42
MW-10S	48	38	261.9
MW-11S	60	50	270.5
MW-R1S	37	17	259.17
MW-R2S	37	17	264.32
MW-R2D	65	55	264.32
Intermediate Wells			
MW-1I	142	122	265.9
MW-2I	138	118	267.55
MW-3I	142	122	264.13
MW-4D	110	100	263.25
MW-5	103	93	267.76
MW-6D	111	101	Not Available
MW-7D	120	110	278
MW-8	95	85	258.75
MW-9S	120	110	257.63
MW-10D	105	95	262.03
MW-11D	100	85	270.51
MW-R1D	93	83	259.24
Deep Wells			
MW-1D	185	175	266.15
MW-2D	195	185	267.72
MW-3D	200	190	264.21
MW-9D	178	168	257.73
Notes:			
Original Monitoring wells			
Wells drilled between 2015 and 2016			
Wells drilled in 2011			

Table #12: Groundwater Sampling Results (2019 – 2024) (in ug/L)

Well (MW)	Date of sampling	TCE	PCE	1,1-DCE	cis-1,2-DCE	trans-1,2-DCE	VC	CCL_4
		MCL/ MSC	MCL/ MSC	MCL/ MSC	MCL/ MSC	MCL/ MSC	MCL/ MSC	MCL/ MSC
		5	5	7	70	100	2	5
1S	12/30/2020	1.2						
	11/29/2021	0.59						
	11/29/2022	0.94 (Q)						
	11/29/2023	1						
1I	12/30/2020	0.3						
	11/29/2021	0.73						
	11/29/2022	1						
	11/29/2023	0.7 (J)						
1D	12/30/2020							
	11/29/2021							
	11/29/2022							
	11/29/2023	0.36 (J)						
	11/29/2023 (Dup)	0.27 (J)						
2S	12/30/2020		0.76					
	11/29/2021		1.7					
	11/29/2022	0.51	1.8		0.6			
	11/29/2023	0.24(J)	.81 (J)					
2I	12/30/2020	259	0.92	3.1				
	11/29/2021	257	0.81	3.8				
	11/29/2022	243	1	3.8		2.1		
	11/29/2023	270	0.7 (J)	4.7	19	2.7		
2D	12/30/2020	8.6						
	11/29/2021	41.8		1				
	11/29/2022	89.5		1		15 (Q)		
	11/29/2022 (DUP)	45.4		0.88		9.1 (Q)		
	11/29/2023	7.5		0.46 (J)	4.1	2.8		
3S	12/30/2020		2.1					
	11/29/2021	0.52	1.3					
	11/29/2022	0.56	1.2					
	11/29/2023	0.56 (J)	.52 (J)					

Raymark COCs concentrations in groundwater at the monitoring well network (cont.)								
3I555	12/30/2020	5.8						
	11/29/2021	0.64						
	11/29/2022	1.2						
	11/29/2023	1.3						
3D	12/30/2020	5.6						
	11/29/2021	6.3						
	11/29/2022	5.2						
	11/29/2023	3.3			.36 (J)			
R1S	12/30/2020	0.69	0.54					
	11/29/2021	0.69	0.51					
	11/29/2022	0.59	0.51					
	11/29/2023	0.42 (J)	0.38 (J)					
R1D	12/30/2020	5.6						
	11/29/2021	423		55.3				
	11/29/2022	242		38.8 (Q)	10.2 (Q)			
	11/29/2023	5.5	.4 (J)	0.86 (J)	1.1			
R2S	12/30/2020	1						0.71
	11/29/2021	12						0.51
	11/29/2022	1.7			0.63			0.93
	11/29/2023	0.62 (J)			.71 (J)			
R2D	12/30/2020	3.7						12.3
	11/29/2021	5						12.3
	11/29/2022	4.8			9.9			12.3
	11/29/2023	4.4		.49 (J)	11			13

Notes:

All results are in ppb

(J) indicates an estimated value, reported between the reporting limit and the minimum detection limit.

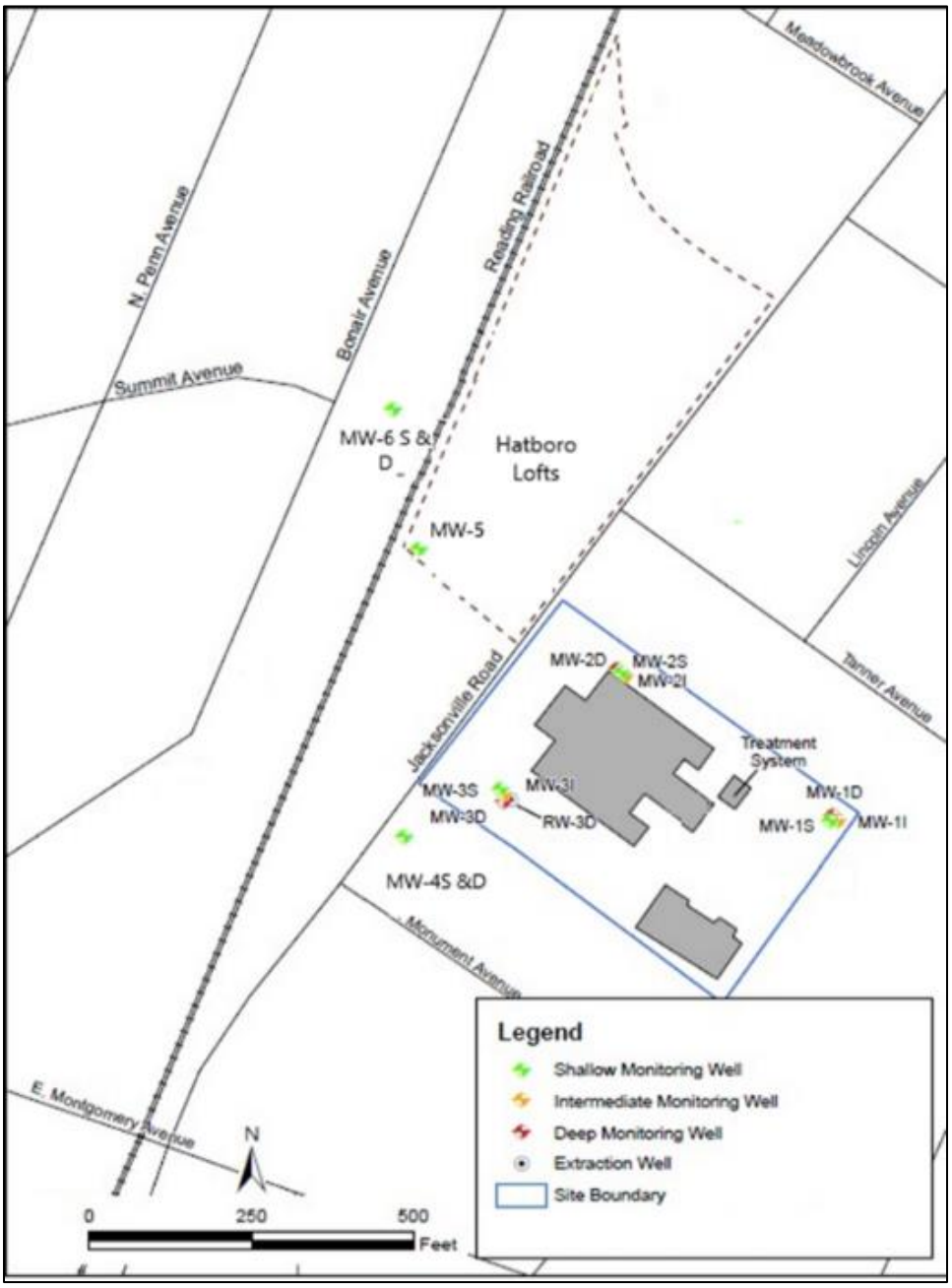
(Q) indicates the average of multiple results from multiple analisis, or the average of the averages of dual column analysis method.

Values in red are at or above MCLs/Cleanup goals.

Table # 13: PFAS sampling event (2019) results.

Sampling Point		PFBS	PFHpA	PFHxS	PFNA	PFOS	PFOA	MPFHxA	MPFDA
MW-01	Shallow	U	U	U	U	15.2	11.6	38.4	32.4
	Intermediate	U	U	U	U	11.9	U	35.5	32.5
	Deep	U	U	U	U	U	U	38.6	32.3
MW-02	Shallow	U	U	U	U	U	U	34	25.6
	Intermediate	U	U	U	U	10.3	U	34.1	30.5
	Deep	U	U	U	U	U	U	36.8	34.1
MW-03	Shallow	4.42	5.63	5.34	U	32	17	35.9	31
	Intermediate	U	U	U	U	U	U	36.6	31.1
	Deep	U	U	U	U	U	U	37.5	35.4
MW-04	Shallow	U	U	U	U	19.2	13	34.4	34.2
	Deep	U	U	U	U	11.3	12.2	35.7	32.5
MW-05	Shallow	U	U	U	U	18.5	14.7	40.1	37
MW-06	Shallow	10.6	U	U	U	26	14.7	36.1	32.7
	Deep	U	U	12.9	U	42.5	16.9	35.7	34.1
Effluent	U	U	U	U	U	U	14.5	12.8	36.6	32.9
Influent	U	U	U	U	U	U	10.2	11.5	37.7	34.6

Note: All concentrations are in parts per trillion.
U value represents below quantitation limits.
Sampling Method 537/R3QA242/243
Quantitation Limit varied from 2.68 ppt to 10 ppt.



PFAS sampling locationions.

APPENDIX D: CIC INTERVIEW FORMS

INTERVIEW DOCUMENTATION FORM

The following is a list of individuals interviewed for this five-year review. See the attached contact record(s) for a detailed summary of the interviews.

Name	Title/Position	Organization	Date
Jackie Newcomb	Customer Service Representative	CL Rivet	06/18/2024
Diane C. Hegele	Borough Manager	Borough of Hatboro	07/30/2024

INTERVIEW RECORD

Site Name: Raymark Superfund Site		**EPA ID No.:**	
Subject: Five-year review community interview		**Time: 1:30pm**	**Date: 06/18/2024**
Type: ☐ Telephone ☐ Visit ☐ Other TEAMS **Location of Visit:** online		☐ Incoming ☐ Outgoing	
Contact Made By:			
Name: Renata Thakurdyal	**Title: Community Involvement Coordinator**	**Organization: EPA Region 3**	
Individual Contacted:			
Name: Jackie Newcomb	**Title: Customer Service Representative**	**Organization: CL Rivet Company**	
Telephone No: 215 672 1113 Fax No: **E-Mail Address: jackien@clrivet.com**		**Street Address: 220 Jacksonville Road City, State, Zip: Hatboro, PA 19040**	

Summary Of Conversation

The CL Rivet company currently operates on the original area of the Superfund Site. The groundwater treatment system is located on their property. There has been a great relationship with the RPM and no issues detected with monitoring samples that have been taken over the past 5 years.

The company would like to use the space where the cap is currently located (for parking) but have no solid plans to pursue that. They are aware that PADEP and EPA approval is required before any construction happens on or near the cap.

CL Rivet Company mows the area of the cap and keeps it as neat as possible. There have been no incidents of vandalism or trespassing, the area of fenced off and goes unnoticed.

INTERVIEW RECORD			
Site Name: Raymark Superfund Site		**EPA ID No.:**	
Subject: Five-year community interview		**Time: 10:00am**	**Date: 07/30/2024**
Type: ☐ Telephone ☐ ☐ Other TEAMS **Location of Visit:** Visit online		☐ Incoming ☐ Outgoing	
Contact Made By:			
Name: Renata Thakurdyal	**Title: Community Involvement Coordinator**	**Organization: EPA Region 3**	
Individual Contacted:			
Name: Diane C. Hegele	**Title: Borough Manager**	**Organization: Borough of Hatboro**	
Telephone No: 215 443 9100 Fax No: **E-Mail Address: dhegele@myhatboro.org**		**Street Address: 414 S. York Road City, State, Zip: Hatboro, PA 19040**	

Summary Of Conversation

The Borough Manager of Hatboro reported that she has been familiar with the site for 20+ years and has been working with the RPM for about as long as that- it is a great working relationship, along with the previous CIC, and there are no issues with communication.

There have been very few complaints from the community over the years because of EPA's transparency and presence at public meetings.

She noted that CL Rivet Company would be going before the zoning board in Hatboro in August to discuss a use variance for another business that will use a portion of their property.