UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

AUG 15 2017

SUBJECT: Request for Funding for a Time-Critical Removal Action at the Bonair Avenue Vapor Intrusion Investigation Site
Hatboro, Montgomery County, Pennsylvania
Site ID # A35J

FROM: Kelley Chase, On-Scene Coordinator K.C
Eastern Removal Response Section (3HS31)

THRU: Gerald Heston, Chief GH
Eastern Removal Response Section (3HS31)

Bonnie Gross, Associate Director BG
Office of Preparedness and Response (3HS30)

TO: Karen Melvin, Director
Hazardous Site Cleanup Division (3HS00)

I. PURPOSE

The purpose of this Action Memorandum is to request funding and document approval to initiate a Time-Critical Fund-Lead Removal Action under Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended (CERCLA), at the Bonair Avenue Vapor Intrusion Investigation Site (Site or Bonair Avenue Site) located in Hatboro, Montgomery County, Pennsylvania.

Groundwater in the area has historically been contaminated with trichloroethylene (TCE) and other volatile organic compounds (VOCs) due to the nearby Raymark Superfund Site, Hatboro, Pennsylvania (Raymark Site) and other potential sources in the surrounding area. TCE vapors appear to be migrating from the underlying groundwater through soil and fractured bedrock and accumulating under the basement slabs of certain residential structures. TCE has been detected in the indoor air of several homes and sampling results indicate vapor intrusion (VI) is occurring. VI is the term used to describe the migration of chemical vapors from subsurface contaminated soils and/or groundwater into the indoor air spaces of overlying buildings through openings in the building foundation. Common sources of VI include petroleum products, dry-cleaning solvents, and other industrial solvents and degreasers.

A Removal Site Evaluation (RSE) conducted by the On-Scene Coordinator (OSC) pursuant to Section 300.410 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.410, revealed TCE in the sub-slab vapor and indoor air of a few residential structures at the Site. TCE was reported in residential indoor air above 2 micrograms per cubic meter ($\mu g/m^3$), which is the health-based residential indoor air concentration where the Hazard Quotient (HQ) = 1. TCE has also been measured in the sub-slab vapor of residential structures at the Site at concentrations that are approximately three orders of magnitude (1000 times) higher than the actionable levels for indoor air.

While the reported levels of TCE in the living spaces of the homes do not present an immediate public health threat, the results indicate that the sub-slabs are being impacted, that a pathway to the interior of the homes exists, and that VI is occurring. In accordance with EPA Region 3 guidance, sub-slab concentrations in the order of 1000 times health-based indoor air contaminant concentrations constitute an unacceptable threat to human health and, therefore, may warrant a Removal Action. Under such circumstances, if conditions were to change, TCE in indoor air could increase to levels that may present a health concern to the occupants of the homes. Based upon information obtained from the RSE, and upon consideration of the factors in Section 300.415(b)(2) of the NCP, the OSC has determined that a Removal Action, pursuant to Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), is appropriate and necessary to mitigate threats posed by the TCE contamination at the Site.

A Removal Action Project Ceiling of $180,000, of which $120,000 are from the Regional Removal Allowance, is necessary to initiate a Removal Action to address the threats identified in this Action Memorandum. The planned action is expected to include mitigation of VI of at least two residential structures, which include a total of three separate residences (one single-family home and one twin with two residences). Assessment activities will continue in an effort to determine the source and extent of TCE contamination. Additional residential structures and/or commercial properties (up to a total of ten) may be included in the response action, based on the results of future sampling as assessment activities proceed. Should additional structures be determined to require mitigation, vapor-abatement systems, such as sub-slab depressurization systems and/or other appropriate measures (i.e., sealing cracks in basements, sealing sump pumps, etc.) will be designed and installed pursuant to this Removal Action. The criteria for considering additional structures for mitigation are discussed in paragraph V.A.3. Future investigations and response actions will depend on the willingness of property owners to grant access.

II. BACKGROUND AND SITE CONDITIONS

A. Site Description

The information contained in this Section II derives from the documents identified in subparagraph A.4.a. below, as well as from other records comprising the Administrative Record for this Removal Action, as well as that for the Remedial Action at the Raymark Site.

The Raymark Site includes a 7-acre facility located at 220 Jacksonville Road in Hatboro (approximately 500 feet east/southeast of Bonair Avenue) and the areal extent of a groundwater plume where TCE and other VOCs have been released. Metal-fabrication operations, including rivet manufacturing and electroplating, began at the Raymark Site in 1948. Historically, solvents containing TCE were used in the manufacturing process to clean and degrease metal parts. Over a period of several decades, TCE reportedly leaked or spilled in areas where it was used and/or stored at the former Raymark facility.

1. Physical Location

The Bonair Avenue Site and the properties targeted for mitigation under this Action Memorandum are generally located on or near Bonair Avenue in a densely populated, mixed residential, commercial and industrial area of Hatboro, Montgomery County, Pennsylvania.

Several CERCLA National Priorities List (NPL) sites at which VOC-contamination has been documented, including the Raymark Superfund Site (approximately 500 feet east/southeast), the Fischer & Porter Company Superfund Site (approximately 1.25 miles northeast), and the Former Naval Air Warfare Center (approximately 3 miles northeast), are located in the vicinity of the Site. See Figure 1.

2. History

In March 2016, EPA's Removal Program initiated a RSE to evaluate the potential for VI at several residential properties located in Hatboro, Pennsylvania. The homes were initially sampled in 2013 as part of investigations by EPA's Remedial Program at the Raymark Site and found to have elevated levels of TCE in sub-slab vapor.

Beginning in 1979, EPA conducted investigations and cleanup activities to address contamination associated with the Raymark Site. Cleanup activities have included the pumping and treatment of groundwater extraction wells and several public water supply wells. Cleanup also included the construction and operation of a soil-vapor extraction system and the capping of contaminated soils. The Pennsylvania Department of Environmental Protection (PADEP) is currently responsible for ongoing operation and maintenance of a groundwater extraction and treatment system. PADEP also maintains the cap that was placed over contaminated soils.

The third Five-Year Review for the Raymark Site, issued by EPA in 2008 in accordance with Section 121(c) of CERCLA, indicated that VI was a potential concern. Groundwater sampling, conducted in 2011, further suggested that the potential may exist for VI to occur in nearby residential properties. EPA subsequently began an investigation of residential areas adjacent to and downgradient of the former Raymark facility. In 2013, thirteen homes were tested for VI. Several of the homes showed evidence of actual or potential VI. The chemicals detected included TCE and other VOCs found at the Raymark Site. The highest concentrations of VOCs were found in sub-slab vapor of several properties located on Bonair Avenue. While the results suggested VI may be occurring in some of the homes, the reported indoor air levels resulting from VI did not present an immediate health risk to occupants.

The fourth Five-Year Review Report for the Raymark Site, issued by EPA in 2014, indicated that VI was a potential future threat to human health and recommended further investigation. Specifically, the report recommended the re-sampling of certain residences to confirm previous results and an expansion of the sampling to other residences located near Bonair Avenue. The report also indicated that additional groundwater monitoring wells should be installed to evaluate the extent of contamination in shallow groundwater.

In accordance with the five-year review recommendations, EPA conducted groundwater investigations in the area. In 2015, EPA's Remedial Program installed and sampled eight new groundwater monitoring wells in areas downgradient of the former Raymark facility. Five of the wells were completed as a nested pair, each having a shallow well and a deeper well. Two existing monitoring wells, located on Bonair Avenue were also sampled. A summary of the groundwater sampling results for TCE is discussed below.

TCE was detected in 15 of 16 wells at concentrations ranging from 1.1 micrograms per liter (µg/L) to 170 µg/L. TCE was detected at concentrations that exceed the maximum contaminant level (MCL) established for public drinking water supplies of 5 µg/L in nine wells, and at concentrations that exceed the site-specific groundwater vapor intrusion screening level of 2 µg/L in ten wells. The deeper wells consistently contained higher concentrations of TCE. The only shallow wells with measured concentrations that exceed the screening level were MW-4S and MW-R2. Only MW-4S exceeded the MCL. TCE was detected at 4.6 µg/L in MW-R2, located downgradient of the former Raymark facility on Bonair Avenue. TCE was detected at 44 µg/L in MW-4S, located adjacent to the former Raymark facility. Given the relatively low concentration of TCE (4.6 µg/L) detected in MW-R2, it is possible that the elevated TCE in sub-slab vapor at the Bonair Avenue residences may be the result of another nearby source. See Figure 2.

3. Site Characteristics

The Site is in a densely populated mixed-use area. Contaminated groundwater is present in the area and underlies residential, commercial and industrial properties. As discussed above, a contaminated groundwater plume, consisting of TCE and other VOCs, has resulted from contamination at the nearby the Raymark Site. There may be other sources of contamination in the surrounding area.

4. Removal Site Evaluation (RSE)

In March 2016, based upon review of available information and at the request of EPA's Remedial Program, the OSC initiated an RSE in accordance with Section 300.410 of the NCP. The OSC reviewed existing data from the Raymark Site investigations and met with EPA's Remedial Program to discuss the planned investigation.

Based on previous sampling results, five homes on Bonair Avenue in Hatboro, Pennsylvania were targeted for re-sampling. Access was granted to sample three of the five homes. Sampling conducted in April 2016 identified VOCs in the samples collected from the sub-slab vapor, indoor air and ambient (outside) air. VOCs, including TCE, were detected in sub-slab vapor and indoor air at all three homes. TCE levels were elevated in the sub-slab vapor of all three homes. However, the sampling did not identify TCE or other VOCs at levels in indoor or ambient air that present a health concern to adult or children occupants. In general, the results were lower than those reported by EPA's Remedial Program in 2013.

Efforts were made to expand sampling to other homes on Bonair Avenue and to homes on North Penn Street, to the west of Bonair Avenue. The OSC requested access to sample an additional fourteen homes. Access was granted to sample five homes. Sampling conducted in February 2017 identified VOCs, including TCE, in the sub-slab vapor and indoor air of all five homes. TCE levels were elevated in the sub-slab vapor of two of the five homes. TCE found in the basement air of one of the two homes exceeded 2 $\mu g/m^3$ and an HQ = 1. The sampling did not identify TCE or other VOCs at concentrations in the indoor air living spaces or in the ambient air that present an immediate health concern to adult or children occupants of the residences sampled.

As part of the ongoing assessment, EPA plans to expand sampling to other homes in the area to determine whether VI is occurring, and if so, whether any of the chemicals detected present a potential health risk to the occupants. While, thus far, the focus has been to test homes, EPA will continue to evaluate the groundwater data collected as part of the investigation of the Raymark Site and conduct

additional investigations to attempt to confirm the source(s) of the TCE in sub-slab vapors of the residences.

a. Review of Available Documents

The EPA OSC considered several documents as part of the RSE. Among the documents are:

1) Fourth Five-Year Review Report, Raymark Superfund Site, Montgomery County, Pennsylvania, 9/24/14; 2) Vapor Intrusion Assessment, Raymark Superfund Site, Hatboro, Pennsylvania, prepared by HydroGeoLogic, Inc. (HGL), 5/13; 3) Memorandum Report to Mr. Jose Redmond, U.S. EPA, from HGL, re: 2015 Monitoring Well Installation and Sampling, Raymark Superfund Site, Hatboro, Pennsylvania, 6/13/16; 4) Interim Final Report: Vapor Intrusion Framework, prepared by U.S. EPA, Region 3, Hazardous Site Cleanup Division, 6/09; 5) OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air, prepared by OSWER, 6/15; and 6) Memorandum to Ms. Karen Melvin, U.S. EPA, from Ms. Dawn Ioven and Mr. Martin Gehlhaus, U.S. EPA, re: EPA Region 3 Hazardous Site Cleanup Division Technical Support Branch Recommendations to Risk Assessors and Risk Managers to Address Inhalation Exposures of Trichloroethylene Due to Vapor Intrusion, 3/29/16.

b. Summary of Sampling and Analysis

The validated analytical results and additional sampling details for properties sampled as part of the RSE are discussed in the following documents, which are included in the Administrative Record for this removal action:

- Memorandum Report to Mr. Michael Hoppe, U.S. EPA, from Lockheed Martin, re: Trip Report – Work Assignment #SER00290, Bonair Avenue Vapor Intrusion Site, Hatboro, PA, 6/1/16; and

- Memorandum Report to Mr. Michael Hoppe, U.S. EPA, from Lockheed Martin, re: Trip Report – Work Assignment #SER00290, Bonair Avenue Vapor Intrusion Site, Hatboro, PA, 5/2/17.

The following is a summary of the analytical results and findings based on sampling of residential properties conducted during the RSE:

- VOCs, including 1,2-Dichloroethane, 1,4-Dichlorobenzene, Benzene, Carbon tetrachloride, Chloroform, Dichlorodifluoromethane, Ethylbenzene, Tetrachloroethene, and Trichloroethene, have been detected in sub-slab vapor and indoor air of residential properties.

- Based upon review of the sampling results, TCE is the primary contaminant presenting a health threat via the VI pathway at the residential properties sampled. TCE is the driver for conducting the Removal Action.

- TCE was reported in the sub-slab vapor of all eight homes sampled. TCE levels in sub-slab vapor vary considerably from home to home. Sub-slab concentrations ranged from 1.3 $\mu g/m^3$ to 2100 $\mu g/m^3$. This may be attributable to the fact that groundwater flow in

the area is primarily through fractured bedrock. Fractures in the underlying bedrock have the potential to create preferential pathways, which could contribute to the buildup of vapors under certain homes, but not others.

- TCE concentrations in the sub-slab vapor have been reported at levels approximately 1000 times the health-based level of 2 $\mu g/m^3$ and an HQ = 1 for residential indoor air: 2100 $\mu g/m^3$ (Property 3) and 1900 $\mu g/m^3$ (Property 20). Additionally, TCE in basement indoor air has been measured at 2.3 $\mu g/m^3$ (Property 20) slightly above the level where the HQ = 1. TCE levels in the samples collected from air on the first-floor living space of the same home (Property 20) did not exceed an HQ = 1.

- Based on the reported levels, the indoor air in the living spaces of the homes sampled to date does not present an immediate public health concern. However, the results indicate that the sub-slabs are being impacted by TCE and that pathways to the interiors exist. Elevated levels of TCE in the sub-slab may present a future risk to occupants should conditions change.

c. Quantities and Types of Hazardous Substances

The Site is characterized by elevated levels of chlorinated VOCs, including TCE, in the groundwater, sub-slab vapor and indoor air. TCE is a hazardous substance under Section 101(14) of CERCLA since it is listed at 40 CFR 302.4. Sampling activities at the Site also identified other hazardous substances including: 1,2-Dichloroethane, 1,4-Dichlorobenzene, Benzene, Carbon tetrachloride, Chloroform, Dichlorodifluoromethane, Ethylbenzene, and Tetrachloroethylene.

According to the Agency for Toxic Substances and Disease Registry (ATSDR), the two major uses of TCE are as a solvent to remove grease from metal parts and as a chemical that is used to make other chemicals, especially the refrigerant, HFC-134a. TCE has also been used as an extraction solvent for greases, oils, fats, waxes, and tars; by the textile processing industry to scour cotton, wool, and other fabrics; in dry cleaning operations; and as a component of adhesives, lubricants, paints, varnishes, paint strippers, pesticides, and cold metal cleaners.

Investigations at the Raymark Site have found TCE in groundwater monitoring wells at concentrations that exceed the MCL established for public drinking water supplies of 5 $\mu g/L$. Recent sampling found TCE in 15 of 16 wells installed in the residential neighborhood at concentrations ranging from 1.1 to 170 $\mu g/L$.

Sampling conducted as part of the RSE at Property 3 found TCE at a maximum concentration of: 2100 $\mu g/m^3$ in the sub-slab vapor; 0.42 $\mu g/m^3$ in the indoor air sample collected from the basement; and 0.17 $\mu g/m^3$ from the sample collected from the first floor living space. TCE concentrations in the attached twin (Property 4), were reported at a maximum of 880 $\mu g/m^3$ in the sub-slab, 0.66 $\mu g/m^3$ in the basement; and 0.23 $\mu g/m^3$ in the first floor. Sampling of Property 20 found TCE at a maximum concentration of 1900 $\mu g/m^3$ in sub-slab vapor; 2.3 $\mu g/m^3$ in the basement indoor air sample; and 0.22 $\mu g/m^3$ from the sample collected from the first floor living space. The results indicate that VI is occurring at the properties sampled and the potential for additional VI at other properties is a concern.

According to the EPA Fact Sheet on TCE, any high (acute) concentrations of TCE vapors can irritate the respiratory system and skin and induce central nervous system effects such as light-headedness, drowsiness, and headaches. Repeated (chronic) or prolonged exposure to TCE has been associated with

effects in the liver, kidneys, immune system, and central nervous system. EPA has concerns for effects in the developing fetus from both acute and chronic exposure. TCE is carcinogenic to people through all routes of exposure, which include inhalation, dermal (skin), and ingestion.

For non-carcinogenic chemicals, i.e., those that may have non-cancer health effects, screening levels for Removal Actions are typically compared to a hazard quotient or HQ = 3. The HQ is the ratio of the reasonable maximum exposure (chronic daily dose averaged over a lifetime) to a reference dose which is the concentration of the chemical where health effects are not expected. If the HQ is more than 1 there is a potential for concern. The HQ = 3 concentration for TCE in residential indoor air is 6 $\mu g/m^3$; whereas the HQ of 1 corresponds to a general indoor air TCE concentration of 2 $\mu g/m^3$. However, due to the potential developmental effects (e.g., fetal cardiac malformations) from inhalation of TCE in residential air, the EPA Region 3 VI Workgroup recommends using the indoor air concentrations resulting in an HQ of 1 as a benchmark for consideration of early or interim response actions. In the case of the Bonair Avenue Vapor Intrusion Investigation Site, an action to mitigate actual or potential threats from TCE exposure in indoor air is recommended, as the residential HQ exceeds 1. In addition, per EPA, Region 3 guidance, sub-slab TCE concentrations in the order of 1000 times the health-based indoor air actionable levels constitute an unacceptable threat to human health.

B. Other Actions to Date

EPA's Remedial Program conducts periodic reviews to assure a remedy remains protective and is conducting ongoing groundwater investigations in the area. EPA's Remedial Program is also conducting VI testing at residential properties located adjacent to the former Raymark facility and is planning to evaluate commercial businesses currently operating at the former Raymark facility.

C. National Priorities List Status

The Bonair Avenue Site is not listed on the NPL, nor has it been proposed for NPL listing. The nearby Raymark Site is listed on the NPL. The OSC will continue to coordinate efforts with EPA's Remedial Program. Removal Actions proposed herein are not expected to impede any future Remedial Actions, should they occur at either the Bonair Avenue Vapor Intrusion Investigation Site or the Raymark Site.

D. State and Local Authorities' Role

As discussed above, PADEP is responsible for ongoing O&M at the Raymark Site. The OSC will continue to coordinate with PADEP and Hatboro officials concerning activities associated with this Removal Action, including implementation of any necessary post-removal site controls (PRSCs). PRSCs are expected to include long-term operation and maintenance of any vapor-abatement systems installed at the Bonair Avenue Site, as well as periodic testing to assure the systems are functioning and that the Removal Action continues to be protective of human health. If EPA determines that the Bonair Avenue contamination is from the Raymark Site, then any PRSC would be incorporated into that ongoing O&M.

No other State or local authorities have indicated the availability of resources to conduct the Removal Action.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT

Section 300.415 of the NCP lists the factors to be considered in determining the appropriateness of a Removal Action. Paragraphs (b)(2)(i) and (b)(2)(vii) of Section 300.415 directly apply as follows to the conditions at the Site:

§ 300.415 (b)(2)(i) "Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants"

The Site is characterized by elevated levels of chlorinated VOCs, including TCE, in the groundwater, sub-slab vapor and indoor air. TCE concentrations in nearby groundwater monitoring wells, installed as part of the investigation of the Raymark Site, currently exceed the MCL of 5 µg/L.

Elevated levels of hazardous substances, mainly TCE, have been detected in sub-slab vapor and indoor air in residential structures at the Site. TCE concentrations in the sub-slab vapor of residential structures at the Site have been measured at levels approximately three orders of magnitude higher than the actionable level for indoor air. The elevated levels of TCE in the sub-slab vapor of the homes presents a potential public health threat. TCE has also been detected in the indoor air of the homes, and VI is occurring. TCE levels in a sample collected from the basement indoor air of one home exceeded an HQ = 1. TCE levels in the first floor living space were reported at concentrations where the HQ < 1. Should structural or environmental conditions change, TCE in indoor air may increase to levels that present a health concern. The potential also exists for impacts to other nearby residences. Sampling of nearby residences and commercial properties is planned for the next heating season (pending consent to enter by property owners).

The most recent review of toxicological data published by the EPA in September 2011, showed fetal cardiac malformations, decreased immune system function and kidney impacts were present in animals exposed to TCE in laboratory studies. The National Toxicology Program has determined that TCE is "reasonably anticipated to be a human carcinogen," and the International Agency for Research on Cancer (IARC) has determined that trichloroethylene is "probably carcinogenic to humans."

§ 300.415 (b)(2)(vii) "The availability of other appropriate federal or state response mechanisms to respond to the release"

Currently, there are no other actions planned or being taken by any federal, State, or local agency to address VI at the Site. The OSC will continue to coordinate with EPA's Remedial Program and the Commonwealth of Pennsylvania.

IV. ENDANGERMENT DETERMINATION

Actual and/or potential releases of TCE, a hazardous substance, at the Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

V. PROPOSED ACTIONS AND COSTS

A. Proposed Actions

2. Prevent unauthorized access to the equipment needed for performance of the work activities described below.

3. Continue RSE activities, including groundwater, soil gas, and/or indoor air sampling of nearby residential and commercial structures to evaluate whether VI is a potential concern.

4. Design and install up to ten vapor-abatement mitigation systems in residential structures and commercial properties at the Site where results from the RSE show indoor air TCE concentrations exceeding 2 $\mu g/m^3$ and an HQ =1 for residences, or 8 $\mu g/m^3$ and an HQ = 1 for commercial properties, or where sub-slab concentrations of TCE are approximately three orders of magnitude higher than the actionable levels for indoor air.

5. Conduct indoor air sample analyses, pressure field measurements, and/or other appropriate measurements soon after installation of mitigation systems to ensure they are working effectively.

6. Conduct performance monitoring during the first year of operation, including at least one round of indoor air sampling during the heating season, to confirm the efficacy of the mitigation systems.

7. Identify, stage, transport and dispose of off-site in accordance with Section 121(d)(3) of CERCLA and Section 300.440 of the NCP any hazardous waste generated during performance of this work.

8. Arrange for the implementation of post-removal site controls (PRSCs) with any potentially responsible parties, PADEP, local authorities, EPA's Remedial Program, and/or property owners. PRSC activities shall include long-term operation and maintenance of the systems and periodic testing to assure the systems are functioning and that the Removal Action continues to be protective of human health.

B. Contribution to Remedial Performance

The Bonair Avenue Vapor Intrusion Investigation Site, the subject of this Removal Action, is not listed on the NPL provided for by Section 105(a)(8)(B) of CERCLA, 42 U.S.C. § 9605(a)(8)(B). The Site has not been proposed for NPL listing. The nearby Raymark Site is listed on the NPL. EPA has not made a final determination whether the sub-slab contamination at the Site is directly related to the Raymark Site. The OSC will continue to coordinate efforts with EPA's Remedial Program. The Removal Action proposed herein is not expected to impede any future Remedial Actions at either site, should they occur.

C. Compliance with ARARs

In accordance with Section 300.415(j) of the NCP, 40 C.F.R. § 300.415(j), the proposed Removal Action will comply with applicable or relevant and appropriate requirements (ARARs), to the extent practicable considering the exigencies of the situation. EPA has communicated with PADEP concerning the identification of any State ARARs or other advisories, criteria, or guidance to be considered (TBC) for the releases at the Site.

D. Project Schedule

EPA anticipates the mitigation systems will be installed prior to the 2017/2018 heating season (pending consent to enter by property owners). Additional testing will be conducted, as needed.

E. Estimated Costs

The proposed distribution of funding is as follows:

Extramural Costs	Total
Regional Removal Allowance Costs: (ERRS contractors and subcontractors)	$120,000
Other Extramural Costs Not Funded from the Regional Allowance: (START Contractor, ERT/SERAS)	$30,000
Extramural Cost Contingency (20%)	$30,000
TOTAL REMOVAL ACTION PROJECT CEILING	$180,000

VII. EXPECTED CHANGE IN SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Inaction or delay in activity at the Site may result in an increase in TCE levels in indoor air and the exposure of families to TCE vapors at levels that may present a health concern.

VIII. OUTSTANDING POLICY ISSUES

There are no known outstanding policy issues associated with the Site.

IX. ENFORCEMENT

The OSC will work with the EPA Superfund Office of Enforcement, as needed, to identify potential responsible parties as site investigations proceed. Ongoing response actions at the Raymark Site will be Fund-lead. See attached Enforcement Confidential Addendum.

X. COSTS

The total EPA costs for this Removal Action, as described in procedures outlined in OSWER 9630.0-42, and based on full cost accounting practices that will be eligible for cost recovery are estimated as follows:

Direct Extramural Costs	$180,000
Direct Intramural Costs	$ 20,000
Total, Direct Costs	$200,000

Indirect Costs (89.42% x Direct Costs)	$178,840
Estimated EPA Costs for a Removal Action	$378,840

X. RECOMMENDATION

This Action Memorandum decision document represents the selected Time-Critical Fund-Lead Removal Action for the Bonair Vapor Intrusion Investigation Site in Hatboro, Pennsylvania, developed in accordance with CERCLA, as amended, and not inconsistent with the NCP. This decision is based on the Administrative Record for the Site.

Conditions meet the NCP Section 300.415(b)(2) factors for a removal, and I recommend your approval of the Removal Action. The total project ceiling will be $180,000. Of this, an estimated $120,000, comes from the Regional Removal Allowance.

Pursuant to Section 113(k) of CERCLA, 42 U.S.C. 9613(k), and EPA delegation No. 14-22, I hereby establish the documents identified in Attachment B hereto as the Administrative Record supporting the issuance of the Action Memorandum.

Action by Approving Official:

I have reviewed the above-stated facts and based upon those facts and the information compiled in the documents described above, I hereby determine that the release or threatened release of hazardous substances at Site presents or may present an imminent and substantial endangerment to the public health or welfare or to the environment. I concur with the Removal Action as outlined in the Action Memorandum.

APPROVED: _____ **DATE:** AUG 15 2017

Karen Melvin, Director
Hazardous Site Cleanup Division
EPA Region 3

Attachments:

A. Enforcement Confidential Memo
B. Administrative Record documents

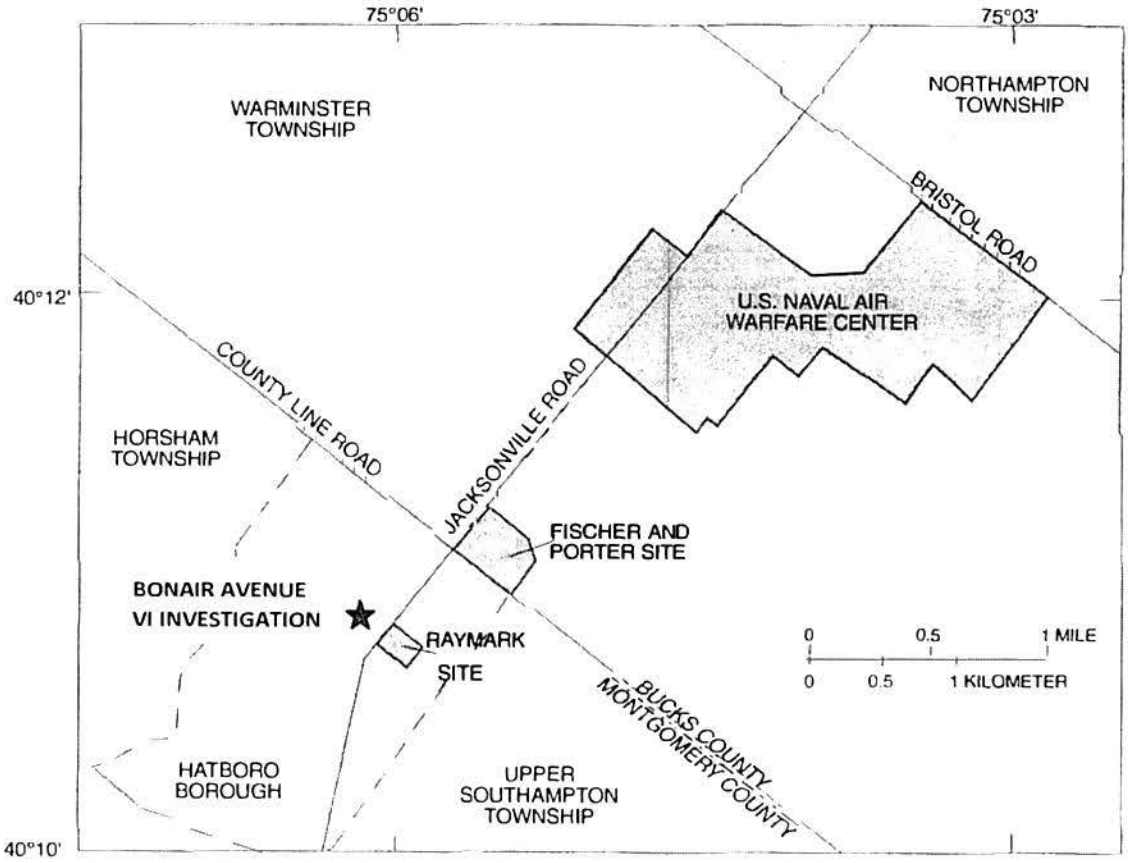
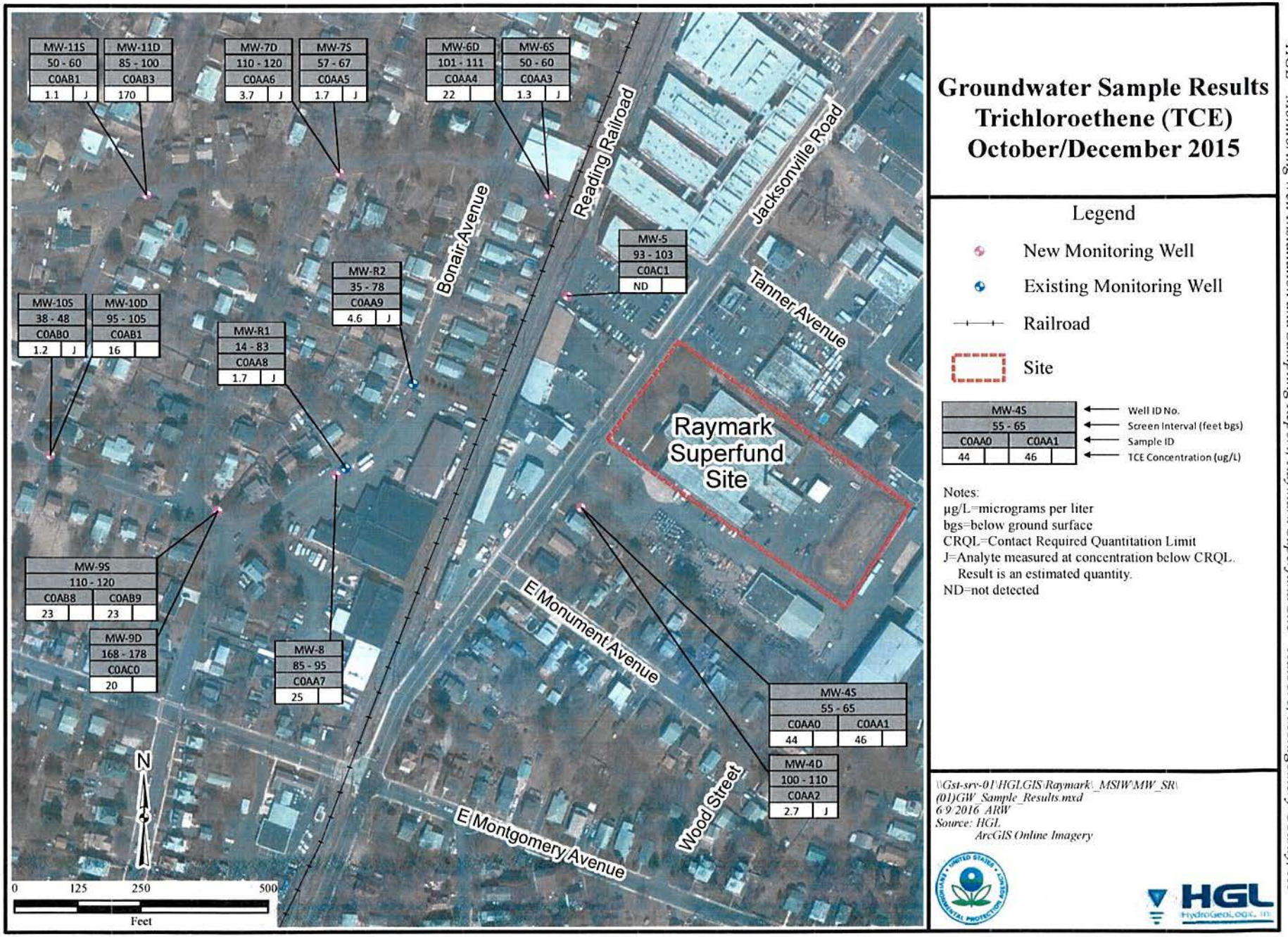


Figure 1. Approximate locations of the Bonair Avenue Vapor Intrusion (VI) Investigation and National Priorities List (Superfund) Sites in Hatboro Borough and Warminster Township, Pennsylvania.



Groundwater Sample Results Trichloroethene (TCE) October/December 2015

Legend

- New Monitoring Well
- Existing Monitoring Well
- Railroad
- Site

MW-4S	
55 - 65	
C0AA0	C0AA1
44	46

- Well ID No.
- Screen Interval (feet bgs)
- Sample ID
- TCE Concentration (ug/L)

Notes:
µg/L=micrograms per liter
bgs=below ground surface
CRQL=Contact Required Quantitation Limit
J=Analyte measured at concentration below CRQL. Result is an estimated quantity.
ND=not detected

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6/9/2016 ARW
Source: HGL, ArcGIS Online Imagery

HGL

HGL—Monitoring Well Installation and Sampling Report, Raymark Superfund Site—Hatboro, Montgomery County, PA

Figure 2. Raymark Superfund Site - Monitoring Well TCE Sample Results (October / December 2015)