



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

FINAL DECISION AND RESPONSE TO COMMENTS

FORMER PHILADELPHIA COKE COMPANY, INC.
PHILADELPHIA, PENNSYLVANIA
EPA ID# PAD000427906

I. PURPOSE

The United States Environmental Protection Agency (EPA) is issuing this Final Decision and Response to Comments (FDRTC) selecting the Final Remedy for soil and groundwater contamination (Final Remedy) at the Former Philadelphia Coke Company, Inc. Facility (Facility) located in Philadelphia, Pennsylvania. EPA is issuing this FDRTC under the authority of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, and the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. Sections 6901, et seq. (RCRA).

II. PUBLIC COMMENT PERIOD

On August 10, 2023, EPA proposed a remedy of capping soil contamination, installing vapor mitigation systems in buildings where necessary, implementing activity and use limitations for land and groundwater, and implementing a post-remedial care plan. Consistent with public participation provisions under the RCRA, EPA requested comments from the public on the proposed remedy as described in the SB. The commencement of a thirty (30)-day public comment period was announced in the *Metro* newspaper and on the EPA Region III website. Additionally, EPA hosted a virtual public meeting on August 21, 2023 due to known community interest regarding environmental cleanup actions at the Facility. The public comment period ended on September 9, 2023.

EPA received two comments from Arcadis of New York, Inc. on the proposed remedy during the public comment period. See attachment A. The comments and EPA's responses are provided in Section IV, below.

EPA has determined that the public comments do not substantially change, or cause reason to change, the proposed remedy in the SB and therefore, the Final Remedy is unchanged from the proposed remedy. The SB is incorporated by reference into this FDRTC as Attachment B.

III. FINAL REMEDY

EPA has determined that corrective measures are necessary at the Facility to address residual contamination in soil and groundwater. EPA's Final Remedy for Facility consists of the following components:

1. For groundwater: prohibit groundwater use as described in the Activity and Use Limitation (AUL) section below;
2. For soils: cap soils with contaminants exceeding the EPA direct contact RSLs for industrial use with a combination of buildings, paving, and clean soil and restrict use of the Facility property as described in the AUL section below; and

3. For indoor air: require new enclosed structures to be constructed with a vapor intrusion control system in compliance with Post Remediation Care Plan, the design of which shall be approved in advance by EPA, unless it is demonstrated to EPA that vapor intrusion does not pose a threat to human health and EPA provides prior written approval that no vapor intrusion control system is needed.

Activity and Use Limitations (AULs)

EPA has determined that the following AULs are necessary to protect the integrity of the Final Remedy:

1. The Facility property shall not be used for residential purposes unless it is demonstrated to EPA and PADEP that such use will not pose a threat to human health and/or the environment, or adversely affect or interfere with the Final Remedy, and EPA and PADEP provide written approval for such use;
2. The groundwater at the Facility shall not be used for any purpose other than to conduct operation, maintenance, and monitoring activities required by EPA or PADEP, unless it is demonstrated to EPA and PADEP, that such use will not pose a threat to human health and/or the environment;
3. No new wells will be installed on the Facility property unless it is demonstrated to EPA and PADEP that such wells are necessary to implement the Final Remedy and written approval is provided to install such wells; and
4. All earth moving activities, including excavation, drilling and construction activities, in the areas at the Facility where any contaminants remain in soils above EPA Region III's Screening Levels for Industrial Soils or in groundwater above their applicable maximum contaminant levels (MCLs) codified at 40 C.F.R. Part 141 and promulgated pursuant to the Safe Drinking Water Act, 42 U.S.C. §§ 300f, et seq. or EPA Region III's Tap Water RSLs, shall be conducted in accordance with the EPA-approved Post Remediation Care Plan, Health and Safety Plan, and Soil Management Plan.

EPA's preferred instrument to implement the AULs and ensure that the current and any future landowners comply with the restrictions is an Environmental Covenant prepared under Pennsylvania's Uniform Environmental Covenants Act, 27 Pa. C.S. §§ 6501 et seq. (UECA). These restrictions may also be implemented via a permit or order.

IV. RESPONSE TO COMMENTS

EPA received two comments on the proposed remedy during the public comment period. Below are the comments and EPA's responses.

Comment 1 - Summary of Environmental History: Report page 10, PDF page 12, first full paragraph, third sentence states, "*Facility soils at the former orange team room/maintenance room, former drum storage area and adjacent alleyway, old effluent application area, and debris deposition area meet EPA direct contact RSLs for industrial use.*" This sentence does not appear to relate to the Site. We are not aware of a "former orange team room/maintenance room", "alleyway", or "effluent application area" formerly at the Site.

EPA's response to Comment 1 – EPA agrees that the references to former orange team room/maintenance room, alleyway, and effluent application area are not related to areas identified at the Former Philadelphia Coke Company, Inc. Facility. The Final Remedy hereby incorporates this change by deleting the third sentence in the first full paragraph on page 10 of the SB. The list of areas of concern at the Facility are identified in Section 3.2 Early Environmental Activities and identified as Solid Waste Management Units and Hazardous Waste Management Units.

Comment 2 - Corrective Action Objectives: Report page 14, PDF page 16, Section 4, Subsection 2, first bullet indicates that one of the corrective action objectives for soil at the Site is: "*Prevent exposures to soil where contaminant concentrations create an unacceptable risk under residential and non-residential use scenarios.*" The word residential in the sentence above does not apply because the site cleanup is for nonresidential use and the Environmental Covenant will restrict land use to non-residential only. The first Activity and Use Limitation presented in Section 5 of the Statement of Basis confirms that the property shall not be used for residential purposes unless certain conditions are met (e.g., demonstration that residential use poses no threat to human health or the environment).

EPA's response to Comment 2 – EPA disagrees that the word residential does not apply. EPA's review of the soil data indicates exceedances of both residential and non-residential standards. This section, Corrective Action Objectives, describes EPA's conservative objectives to protect human health and the environment by preventing exposures under any potential land use scenario. Arcadis aptly notes that an Environmental Covenant will restrict land use to non-residential. However, that Activity and Use Limitation presented in Section 5 does not confirm the property shall not be used for residential purposes as it has not yet been established. Once the Environmental Covenant is recorded, EPA will consider the objective of prevention of residential exposures to have been met. EPA has determined that no change to the Statement of Basis is necessary relating to this comment.

Final Decision and Response to Comments

V. DECLARATION

Based on the Administrative Record compiled for the Corrective Action at the Former Philadelphia Coke Company, Inc. Facility, EPA has determined that the Final Remedy selected in this Final Decision and Response to Comments is protective of human health and the environment.

DANA
AUNKST Digitally signed
by DANA AUNKST
Date: 2023.09.19
07:45:03 -04'00'

Dana Aunkst, Director
Land, Chemicals & Redevelopment Division
U.S EPA Region III

Date

Attachment A

Mr. Kevin Bilash
US Environmental Protection Agency Region III
Land, Chemicals & Redevelopment Division 3LD20
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Date: September 7, 2023

Our Ref: 3004026

Subject: Former Philadelphia Coke Co. Facility
EPA ID# PAD000427906
4501 Richmond Street
Philadelphia, Philadelphia County, Pennsylvania

Dear Mr. Bilash,

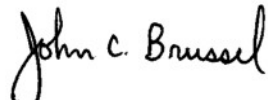
On behalf of Philadelphia Coke Co., Inc. (PCC), this letter presents comments on the United States Environmental Protection Agency (EPA) Statement of Basis dated August 2023 for the former PCC facility located in Philadelphia, Pennsylvania (the Site). These comments are being submitted in accordance with Section 8 of the Statement of Basis within the 30-day public comment period that runs from August 10, 2023 to September 11, 2023. Our comments are as follows:

- **Comment #1 – Summary of Environmental History:** Report page 10, PDF page 12, first full paragraph, third sentence states, “*Facility soils at the former orange team room/maintenance room, former drum storage area and adjacent alleyway, old effluent application area, and debris deposition area meet EPA direct contact RSLs for industrial use.*” This sentence does not appear to relate to the Site. We are not aware of a “former orange team room/maintenance room”, “alleyway”, or “effluent application area” formerly at the Site.
- **Comment #2 – Corrective Action Objectives:** Report page 14, PDF page 16, Section 4, Subsection 2, first bullet indicates that one of the corrective action objectives for soil at the Site is: “*Prevent exposures to soil where contaminant concentrations create an unacceptable risk under residential and non-residential use scenarios.*” The word residential in the sentence above does not apply because the site cleanup is for non-residential use and the Environmental Covenant will restrict land use to non-residential only. The first Activity and Use Limitation presented in Section 5 of the Statement of Basis confirms that the property shall not be used for residential purposes unless certain conditions are met (e.g., demonstration that residential use poses no threat to human health or the environment).

We appreciate the opportunity to comment on the Statement of Basis. Please do not hesitate to contact Brian Stearns of National Grid at 315.461.7892 or me at 315.671.9441 if you have any questions or require additional information.

Mr. Kevin Bilash
US Environmental Protection Agency Region III
September 7, 2023

Sincerely,
Arcadis of New York, Inc.



John C. Brussel
Certified Project Manager

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CC: Sarah Pantelidou, PG, PADEP
Brian M. Stearns, National Grid
Mike Guerin, National Grid
Jim Marshall, Bridge Industrial

Attachment B



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

FORMER PHILADELPHIA COKE COMPANY INC.
PHILADELPHIA, PENNSYLVANIA
EPA ID# PAD000427906

Prepared by:
Land, Chemicals and Redevelopment Division
August 2023

Table of Contents

Section 1: Introduction	1
Section 2: Facility Background	1
Section 3: Summary of Environmental History	2
Section 3.1: RCRA Permitting History	2
Section 3.2: Early Environmental Activities	2
Section 3.3: Recent Environmental Investigations.....	5
Section 3.4: EPA Assessment	7
Section 4: Corrective Action Objectives	13
Section 5: Proposed Remedy	14
Section 6: Evaluation of Proposed Remedy.....	16
Section 7: Financial Assurance	19
Section 8: Public Participation	19
Index to Administrative Record	20

Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for the former Philadelphia Coke Company Incorporated (PCCI) facility located at 4501 Richmond Street, Philadelphia, Pennsylvania 19137 (Facility). The Facility location is shown in Figure 1. EPA's proposed remedy for the Facility consists of capping soil contamination, installing vapor mitigation systems in buildings where necessary, implementing activity and use limitations for land and groundwater, and implementing a post-remedial care plan. This SB highlights key information relied upon by EPA in proposing this remedy.

The Facility is subject to EPA's Corrective Action Program under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, and the Hazardous and Solid Waste Amendments (HSWA) of 1984, 42 U.S.C. §§ 6901 et seq. (Corrective Action Program). The Corrective Action Program is designed to ensure that owners or operators of facilities subject to RCRA's corrective action requirements have investigated and cleaned up any releases of hazardous waste and hazardous constituents that have occurred at or from their properties. The Commonwealth of Pennsylvania (Commonwealth) is not authorized for the Corrective Action Program under Section 3006 of RCRA. Therefore, EPA retains primary authority in the Commonwealth for the Corrective Action Program.

EPA is providing a 30-day public comment period on this SB and may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final decision for the Facility in a Final Decision and Response to Comments (FDRTC) after the comment period has ended. The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which EPA's proposed remedy is based. See Section 8, Public Participation, for information on how to review the AR.

Section 2: Facility Background

The Facility is located at 4501 Richmond Street, Philadelphia, Pennsylvania, on a flat, 63-acre industrial site in the "Bridesburg Section" of Philadelphia (Figure 1 - Facility Location Map). The Facility is bordered by Richmond, Orthodox, and Buckius Streets, as well as the Delaware River.

PCCI operated the Facility as a gas manufacturing and coke production facility from January 1929 until its permanent closing on May 12, 1982. The Facility had various operations including coke storage, coal storage, coke oven batteries, tar decanters, gas holders, a boiler house, a machine shop, and other structures as well as fuel blending operations. All of the former structures have been demolished to ground level.

The Facility was owned by the Koppers Company (Koppers), which held the controlling interest in a joint venture with Eastern Enterprises. In 1950, Eastern Enterprises split from Koppers. PCCI was a division of Eastern Associated Coal Corporation, a subsidiary of Eastern Enterprises. In November 2000, KeySpan Corporation acquired Eastern Enterprises. Subsequently, in February 2007, National Grid USA purchased KeySpan Corporation. The Facility was sold to BP Bridesburg, LLC on March 30, 2022, and is being redeveloped in conjunction with PCCI’s cleanup plan.

Section 3: Summary of Environmental History

3.1 RCRA Permitting History

On August 13, 1980, EPA received a Notification of Hazardous Waste Activity and on October 9, 1980, EPA issued a Facility identification No. PAD000427906. PCCI submitted the Part A Hazardous Waste Permit Application on November 18, 1980. On July 24, 1981, EPA confirmed the Facility’s Interim Status. On August 31, 1984, EPA requested submittal of the Part B Hazardous Waste Permit Application. PCCI responded on September 18, 1984, that a Part B Hazardous Waste Permit Application was inapplicable, as the Facility was inoperable and permanently closed.

3.2 Early Environmental Activities

On October 22, 1982, PCCI notified the Pennsylvania Department of Environmental Protection (PADEP) that the Facility had terminated manufacturing operations on May 12, 1982, and that a consultant was retained to remove hazardous wastes. PCCI notified PADEP that this initial activity included removal of tar decanters, other production equipment, and cleaning of open pits. The total amount of tar waste material shipped to an offsite landfill was indicated to be 4,481.40 tons. PCCI notified PADEP on December 28, 1982, that the removal of hazardous waste was complete.

In June 1983, PCCI submitted a Closure Plan (1983 Closure Plan) for the Facility. The 1983 Closure Plan identified the following Solid Waste Management Units (SWMUs) and Hazardous Waste Management Units (HWMUs) including estimated quantities of waste to be disposed:

Area (RCRA Waste Code if applicable)	SWMU	HWMU	Waste Type/ Remaining Quantity
Tar Storage Tanks (K087)		X	decanter sludge – 650 cubic yards (cy)
Waste Liquor Pit (K087)		X	ammonia sludges and tar sludge – 275 cy

Statement of Basis

Area (RCRA Waste Code if applicable)	SWMU	HWMU	Waste Type/ Remaining Quantity
Trash Pile	X		cleanup tar waste, coal fines, other debris – 2,000 cy
Tar Plains (K087)		X	decanter tar waste – 2,200 cy
Clean Oxide	X		unused iron oxide – 2,000 cy
Wood Trays/Debris	X		wood – 300 cy
Tar Decanters and Lagoon (K087)		X	tar decanter waste – 1,800 cy
Iron Oxide Boxes and Pile (D003)		X	spent iron oxide – 2,700 cy
Process Piping	X		asbestos-containing insulation -100 to 150 cy

The 1983 Closure Plan indicated that during closure, all remaining hazardous waste was removed. On December 13, 1983, PADEP accepted the 1983 Closure Plan with the provision of assessing possible groundwater contamination via monitoring wells and a sampling plan.

Between March 1985 and October 1986, six onsite shallow groundwater monitoring wells W-1 through W-6 (now identified as MW-1 through MW-6) and one deep groundwater monitoring well MW-2D were installed as detailed in the July 16, 1985 *Hydrogeological Assessment* and January 29, 1987 *Hydrogeologic and Soils Investigation* reports. These wells were installed in the center of the Facility downgradient from the RCRA soil removal areas. On May 6, 1993, PCCI submitted a Groundwater Monitoring Plan to PADEP identifying a long-term monitoring plan including semi-annual and annual groundwater sampling. Groundwater was sampled on a quarterly basis for 14 years, from April 1985 through November 1998. Groundwater analytical results from the sampling events generally indicated the presence of the volatile organic compounds (VOCs) benzene, toluene, ethylbenzene, and semi-volatile organic compounds (SVOCs). In addition, trichloroethene (TCE), 1,1-dichloroethane, and cis-1,2-dichloroethene were periodically detected at elevated levels onsite. During the final year of groundwater monitoring (1998), benzene and naphthalene remained at concentrations greater than the then-current the federal Maximum Contaminant Levels (MCLs) of 5 and 20 micrograms per liter (µg/L), respectively, notably in one centrally located monitoring well. In a July 26, 1999 letter, PADEP approved the termination of RCRA groundwater monitoring based on significantly decreased concentrations from 1985 to 1998 as well as localized, delineated, stable and/or continuous decreasing trends.

As there was no confirmatory sampling during the closure/removal activities performed per the 1983 Closure Plan, PADEP and EPA requested additional investigations to determine the effectiveness of the clean-up activities. The previously mentioned January 29, 1987

Statement of Basis

Hydrogeologic and Soils Investigation report concluded that contaminated soils were present in the subsurface and additional site remediation was warranted. On February 15, 1988, PCCI submitted a *Soil Contamination Assessment* report to estimate the volume of contaminated soil that must be handled to complete closure.

Continued closure activities consisting of excavation and offsite disposal of the five HWMUs was initiated on July 12, 1988, and completed by December 30, 1988. PCCI removed a total of 9,370 tons of hazardous waste from the Facility. Following closure completion of the HWMUs, the SWMUs were closed between 1988 and 1992. Approximately 29,400 tons of the coal tar-contaminated soils were removed and disposed as residual waste at the G.R.O.W.S. landfill facility between February 19 and July 24, 1992. Additionally, approximately 439,800 gallons of contaminated groundwater in excavation areas was transported offsite for treatment. On December 1, 1992, PCCI submitted an Engineer's and Owner's Certification of Closure for the HWMUs. In all closure areas, the results of post-closure sampling indicated that the cleanup criteria of 50 ppm established by EPA and PADEP had been achieved.

A sixth HWMU was identified during excavation activities in September 1992. Approximately 20 cubic yards of soil containing benzene were removed from a former seal pot for offsite incineration. On December 3, 1993, PCCI sent PADEP a Certification of Closure document for the seal pot that noted closure activities were completed on October 19, 1993.

On December 28, 1994, a Professional Engineer Certification of Closure was signed for the Facility stating that closure has been performed in full and complete accordance with the closure plan approved by PADEP on December 13, 1983.

As a result of oily residue observed on surface soils, PCCI submitted a *Tank Farm Area Restoration Conceptual Design Report* in May 1990. This was a 2.5-acre area located near the southeast edge of the Facility. Approximately 20 cubic yards of weathered fuel oil contaminated soils at the ground surface was disposed off-site. Test pits revealed a thin layer of floating oil (separate phase liquid [SPL]) present at the top of the saturated zone. PCCI implemented an in-situ bioremediation process in 1992 where groundwater was withdrawn from the shallow contaminated zone, treated to remove free product and re-dispersed into the shallow zone with nutrient and oxygen supplementation. Bioremediation ceased in 1993 when total petroleum hydrocarbons (TPH) concentrations were less than 300 ppm, the PADEP cleanup level at that time.

In summary, PCCI decommissioned the Facility, structures were dismantled, and various cleanup, closure and groundwater monitoring and soil sampling activities took place between 1982 and 1993. PCCI transported 39,000 tons of contaminated soil and operational related wastes and approximately 439,800 gallons of groundwater offsite for disposal or treatment. These closure actions addressed source area contamination located at the HWMUs, SWMUs, and tank farm area. PCCI provided certified closure of the Facility in December 1994. PADEP terminated groundwater monitoring requirements in 1999.

Statement of Basis

3.3 Recent Environmental Investigations

As a result of the KeySpan Corporation acquisition of Eastern Enterprises (including subsidiary PCCI), additional voluntary remedial investigations were initiated at the Facility beginning in 2001. Subsequent remedial investigations were initiated voluntarily corresponding with the purchase of KeySpan Corporation by National Grid USA. The initial phases occurred from 2001 through 2006 and supplemental phases occurred in 2018 and 2019. The purposes of the investigations were to better define the nature and extent of impacts at the Facility and ultimately develop a cleanup plan. In total, the remedial investigation activities consisted of:

- Excavating 197 test pits to characterize surface and shallow subsurface soil. Soil samples from 145 test pits were collected for laboratory analysis.
- Installing 179 soil borings to characterize subsurface soils and Facility stratigraphy. Soil samples from 150 soil borings were collected for laboratory analysis.
- Installing, developing, and sampling 33 shallow groundwater monitoring wells and 13 deep groundwater monitoring wells to characterize groundwater quality and evaluate groundwater flow.
- Drilling 7 hydropunch borings for a preliminary evaluation of groundwater conditions where visual impacts were observed.
- Analyzing 540 soil samples and 112 groundwater samples for a combination of Target Compound List (TCL) VOCs, TCL SVOCs, Priority Pollutant (PP) metals, Target Analyte List (TAL) inorganics, cyanide, pesticides, and polychlorinated biphenyls (PCBs).
- Collecting 21 soil gas samples and one ambient air sample to evaluate the potential for soil VI in future building development.
- Performing sediment probing in the Delaware River and a visual reconnaissance of the shoreline to evaluate nearshore conditions.

In November 2018, PCCI submitted a Notice of Intent to Remediate to PADEP pursuant to Pennsylvania's Land Recycling and Environmental Remediation Standards Act (Act 2) while participating in the EPA/PADEP One Cleanup Program (OCP). During the public notification comment period, the City of Philadelphia requested public involvement, and a Public Involvement Plan (PIP) was developed.

PCCI submitted a Remedial Investigation Report and Cleanup Plan (RIRCP) to PADEP in July 2021 and a revised RIRCP in May 2022. The RIRs summarized the data collected on a sitewide basis including the SWMUs, HWMUs, and Tank Farm Area and compared contaminant concentrations against Pennsylvania's non-residential (NR) medium-specific concentration (MSC) Statewide Health Standards (SHSs).

- No VOCs were detected in surface soil at concentrations greater than the non-residential direct contact (NRDC) MSCs.
- Benzene was the only VOC detected in surface soil above the NR soil-to-groundwater MSC.

Statement of Basis

- Constituents of Concern (COCs) in surface soil exceeding NRDC MSCs are limited to the following SVOCs and metals: 2-Methylnaphthalene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene, Arsenic, and Lead.
- No VOCs or metals were identified in subsurface soil at concentrations exceeding NRDC MSCs.
- 1,1-Biphenyl, 2-methylnaphthalene, and naphthalene were the only SVOCs detected in subsurface soil at concentrations exceeding NRDC MSCs.
- No surface or subsurface samples exceed the NRDC or soil-to-groundwater MSCs for pesticides or PCBs.
- Soil containing viscous tar, oil-like material, and solidified tar was observed at isolated and limited locations at the Site. Visually impacted material was generally collocated with locations exhibiting SVOCs at concentrations greater than non-residential direct contact MSCs.
- VOCs were not detected above screening values for non-residential, sub-slab, soil gas samples. However, existing soil and groundwater results indicate the potential for VI in future buildings from Benzene, Methyl-tert-butyl-ether, Trichloroethene, Toluene, 1,1-Biphenyl, 2-Methylnaphthalene, and Naphthalene.
- A comparison of soil and groundwater data to residential VI standards indicate there are no potential VI concerns for adjacent residential properties.
- No pesticides or PCBs were detected at concentrations greater than their applicable MSCs (residential or non-residential MSCs for used aquifers with TDS $\leq 2,500$ mg/L).
- COCs identified at least once in either shallow or deep groundwater include: Benzene, Methyl-tert-butyl-ether, Trichloroethene, Tetrachloroethene, 1,1-Biphenyl, 2,4-Dinitrotoluene, 2-Methylnaphthalene, Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(g,h,i)perylene, Benzo(k)fluoranthene, bis(2-Ethylhexyl)phthalate, Carbazole, Chrysene, Dibenz(a,h)anthracene, Dibenzofuran, Indeno(1,2,3-cd)pyrene, Naphthalene, Antimony, Arsenic, Manganese, Nickel, and Vanadium. The most detected COC on a frequency basis was Benzene at 8/103 samples. Most others were at a frequency of only 1-6/103 samples.

Groundwater fate and transport modeling was performed to evaluate the extent of constituent migration in groundwater in the absence of any remedial activities. Modeling results indicate that groundwater conditions at the Facility would not cause an exceedance of Delaware River Basin Commission (DRBC) Surface Water Criteria.

An Ecological Screening was performed to evaluate potential exposures of environmental receptors at the Facility. Results of the ES indicate potentially complete exposure pathways for ecological receptors exposed to COCs in surface soil to be addressed with controls proposed in the Cleanup Plan (CP).

Based on the RI results, site-related impacts are relatively limited to the center of the Facility and at isolated locations on the remainder of the Facility. These limited areas have been delineated.

Statement of Basis

Figure 2 depicts areas (identified as Area 1-4) where sampling density was highest during supplemental sampling activities to confirm delineation of impacts.

The CP summarized and assessed the current and future potential exposure pathways. A selection of remedial alternatives was reviewed in the CP including institutional controls, containment, treatment, and removal and disposal. An evaluation of these remedial alternatives was performed in accordance with Section 304(j) of Act 2. The CP proposed that potentially complete future exposure pathways will be mitigated using engineering and/or institutional controls for constituents in soil and groundwater that did not meet the NRMSC SHSs, as described above. Engineering controls (ECs) proposed in the CP include:

1. Covering impacted soils with asphalt/concrete pavement, building structures, and/or a minimum 2-foot thick, clean soil cover to prevent direct contact exposure and/or to mitigate potential migration of constituents from soil-to-groundwater. The soil cap will cover areas where constituent concentrations in soil exceed the non-residential direct-contact standards and the soil-to-groundwater MSCs.

2. Employing VI mitigation measures for future buildings constructed onsite if and where needed. Additional soil gas characterization and/or a cumulative risk assessment may demonstrate that mitigation measures are not needed.

The proposed institutional control (IC) is a recorded and enforceable environmental covenant that: (1) prohibits use of groundwater at the Site; (2) restricts the Site to non-residential use; and (3) a Post Remediation Care Plan (PRCP) that stipulates inspection, periodic maintenance/repair activities, reporting requirements for engineering controls, and includes a Soil Management Plan (SMP) assures that integrity of the remedial measures is maintained; construction workers are protected; and soil is properly managed and disposed of.

The CP was designed so that the ECs and ICs may be implemented in conjunction with redevelopment activities. Accordingly, a Health and Safety Plan (HASP) was prepared to protect on-site workers from potential exposures during redevelopment activities. PADEP approved the RIRCP on September 20, 2022.

3.4 EPA Assessment

As discussed in Section 3.2, EPA and PADEP coordinated removal of wastes during Facility decommissioning. EPA's Corrective Action Program (CAP) has been coordinating cleanup efforts with PADEP since PCCI's acceptance into the OCP in 2019. Under the OCP, PADEP was the lead agency and EPA reviewed all reports submitted under Act 2 to determine whether the investigations, remedial actions, and final closure determinations satisfied RCRA CAP requirements. The areas identified in the RIRCP encompass the HWMUs and SWMUs identified in the 1983 Closure Plan developed for the RCRA Interim Status waste management areas. See Figure 3 for the former SWMU and HWMU locations.

Groundwater

Groundwater sampling results submitted historically during the RCRA closure activities and in the Act 2 reports were compared to PADEP NRMSC SHSs. EPA determined that the PADEP NRMSC SHSs for individual contaminants of concern in the Facility groundwater are equivalent to EPA's MCLs and meet or are below EPA's Regional Screening Levels (RSLs) within the acceptable risk range of 10^{-4} to 10^{-6} for Corrective Action.

Shallow groundwater monitoring wells W-1 through W-6 (now identified as MW-1 through MW-6) and one deep groundwater monitoring well MW-2D were installed in the central portion of the Facility to monitor conditions downgradient from the RCRA soil removal areas. Long-term groundwater was sampled on a quarterly basis for 14 years, from April 1985 through November 1998. During the final year of groundwater monitoring, benzene and naphthalene remained at concentrations greater than the EPA's MCLs in one centrally located monitoring well. In a July 26, 1999 letter, PADEP approved the termination of RCRA groundwater monitoring based on significantly decreased concentrations from 1985 to 1998 as well as localized, delineated, stable and/or continuous decreasing trends.

An additional 33 shallow groundwater monitoring wells and 13 deep groundwater monitoring wells were installed as part of the recent environmental investigations to characterize groundwater quality. Groundwater monitoring data from the RCRA sampling timeframe through the recent investigation sampling that occurred in 2005-2006 and 2018-2019 verified and exhibited significant decreases in concentrations. The most recent sampling data indicate that only shallow groundwater is negligibly impacted by former operations. Groundwater impacts were generally not observed in Facility boundary wells downgradient from impacted areas indicating that the limited residual groundwater impacts in the shallow groundwater zone are not migrating offsite. The groundwater analytical results indicate the presence of stable, residual impacts at limited defined locations within the boundaries of the Facility.

Based on observations of soil borings, there are three hydrogeological units above weathered metamorphic schist bedrock: a layer of man-made fill material, a confining unit of silt and clay material, and a sand and gravel unit. Within the layer of fill, the following groundwater COCs have been identified:

COC	EPA MCL or RSL (ug/L)	Maximum concentration (ug/L)	Well ID/General Facility Area
VOCs			
Benzene	5	686	MW-111/Area 4
Methyl-tert-butyl-ether	20	20.7	MW-107/Fuel Blending
Trichloroethylene	5	6.1	MW-5/Area 3

Statement of Basis

SVOCs			
1,1-Biphenyl	0.83	20.7	MW-111/Area 4
2-Methylnaphthalene	36	97.8	MW-111/Area 4
Benz(a)anthracene	0.03	3.6	MW-111/Area 4
Benzo(a)pyrene	0.2	2.6	MW-111/Area 4
Benzo(b)fluoranthene	0.25	2.9	MW-111/Area 4
Indeno(1,2,3-cd)pyrene	0.25	1.4	MW-111/Area 4
Dibenzofuran	7.9	64	MW-111/Area 4
Naphthalene	0.12	973	MW-111/Area 4
Metals			
Arsenic	10	21	PCMW-08S/Area 1
Manganese	50	5570	MW-112/Area 4

All exceedances are located in the shallow groundwater table within the man-made fill material at the Facility. Only Benzene, Naphthalene, and Manganese exceed 100 times the referenced cleanup or screening level. Benzene and Naphthalene were only found in one centrally located well, MW-111. Both downgradient wells, MW-112 and MW-113, were non-detect representing MW-111 as a single isolated area collocated with a residual soil impact.

Manganese is known to be naturally occurring at elevated concentrations in the Philadelphia area. Since the 1950s, use of the groundwater for drinking purposes was discontinued in the vicinity of the Facility due to the naturally elevated concentrations of metals including manganese. Groundwater is not currently used as a source of drinking water in the Bridesburg section of Philadelphia based on Philadelphia Water Department Records and according to a well search of the Pennsylvania Groundwater Information System. EPA has determined that the shallow groundwater is not suitable as a drinking water source due to this being a heavily industrialized area, naturally occurring metals, and extremely shallow groundwater table (1-9 ft below ground surface) located in man-made fill material. Therefore, EPA has determined that the maximum beneficial reuse of shallow groundwater at the Facility is as a recharge source to the Delaware River.

As a surface water recharge source, groundwater quality at the perimeter of the Facility was evaluated against ambient surface water quality criteria. Groundwater fate and transport modeling was performed to evaluate the extent of constituent migration in groundwater in the absence of any remedial activities. Modeling results indicate that groundwater conditions at the Facility would not cause an exceedance of Delaware River Basin Commission (DRBC) Surface Water Quality Criteria (SWQC).

The silt and clay confining unit has been confirmed to be contiguous and competent. EPA has determined that deep groundwater represents a potentially usable aquifer system (only if widescale regional actions were ever to be taken to address heavy industrial and natural metal degradation of groundwater) and the most beneficial use is to supply drinking water. Sampling data has shown that EPA's MCL or EPA's RSL acceptable risk range of 10^{-4} to 10^{-6} for

Statement of Basis

Corrective Action have been achieved throughout the Facility deep groundwater. Therefore, Facility related activities have been shown to not have impacted deep groundwater.

Soil

Soil sampling results submitted in the Act 2 reports were compared to PADEP NRMSC SHSs. For the contaminants of concern identified, EPA determined that PADEP direct contact soil standards meet or are below EPA’s Regional Screening Levels (RSLs) and are within the acceptable risk range of 10⁻⁴ to 10⁻⁶ for Corrective Action. Facility soils at the former orange team room/maintenance room, former drum storage area and adjacent alleyway, old effluent application area, and debris deposition area meet EPA direct contact RSLs for industrial use. Based on observations of soil samples recovered from soil borings, there are three hydrogeological units above weathered metamorphic schist bedrock. Nearest to the ground surface is a layer of man-made fill materials that generally meets the description of historic fill as defined in PADEP’s Management of Fill Policy. A confining unit of silt and clay material underlies the fill materials and underneath that confining unit is a sand and gravel unit.

Within the surface soil layer (defined as between 0-2 feet below ground surface (bgs)), the following COCs have been identified in exceedance of EPA direct contact RSLs for industrial use:

COC	EPA RSL (mg/kg)	Maximum concentration (mg/kg)	Sample location (sample depth – ft)	General Facility Area
SVOCs				
Benz(a)anthracene	21	1800	PCTP-66 (0.5)	Area 3
Benzo(a)pyrene	73	1300	PCTP-66 (0.5)	Area 3
Benzo(b)fluoranthene	21	1600	PCTP-66 (0.5)	Area 3
Benzo(k)fluoranthene	210	690	PCTP-66 (0.5)	Area 3
Dibenz(a,h)anthracene	2.1	270	PCTP-66 (0.5)	Area 3
Indeno(1,2,3-cd)pyrene	21	750	PCTP-66 (0.5)	Area 3
Dibenzofuran	1200	1600	PCTP-66 (0.5)	Area 3
Naphthalene	8.6	6000	PCTP-66 (0.5)	Area 3
Metals				
Arsenic	3	170	PSSTP-30A (1-2)	Fuel Blending
Lead	800	14,000	PCSB-36 (0.5)	Fuel Blending
PCBs				
Aroclor 1248	0.94	1.7	PCSB-56 (0.5)	Fuel Blending
Aroclor 1254	0.97	7.9	PCTP-73 (0.5)	Coke Storage

EPA soil RSLs were developed primarily as screening values to be used during the early stages of a site evaluation when information about subsurface conditions may be limited. A

Statement of Basis

conservative assumption that can be made is that soil contamination during the early stages of a site evaluation when information about subsurface conditions may be limited. A conservative assumption that can be made is that soil contamination extends from the surface to the water table (maximum possible depth of unsaturated zone). Where contamination is thought, or known, to exist below the water table, RSLs do not apply and further investigation is generally necessary. Therefore, EPA also compared samples submitted in the RIR that were considered unsaturated soil (greater than 2 ft bgs to the top of water table). The following COCs have been identified in exceedance of EPA direct contact RSLs for industrial use in this unsaturated zone:

COC	EPA RSL (mg/kg)	Maximum concentration (mg/kg)	Sample location (sample depth – ft)	General Facility Area
SVOCs				
1,1-Biphenyl	200	331	S-106 (2-4)	Area 2
2-Methylnaphthalene	3000	5500	PCTP-12 (3)	Area 2
Benz(a)anthracene	21	2800	PCTP-12 (3)	Area 2
Benzo(a)pyrene	73	1800	PCTP-12 (3)	Area 2
Benzo(b)fluoranthene	21	2000	PCTP-12 (3)	Area 2
Benzo(k)fluoranthene	210	730	PCTP-12 (3)	Area 2
Dibenz(a,h)anthracene	2.1	210	PCTP-12 (3)	Area 2
Dibenzofuran	1200	3700	PCTP-12 (3)	Area 2
Indeno(1,2,3-cd)pyrene	21	620	PCTP-12 (3)	Area 2
Naphthalene	8.6	29000	PCTP-12 (3)	Area 2
Metals				
Arsenic	3	170	S-105 (2-4)	Area 2
Lead	800	9600	TP-44 (4)	Fuel Blending
PCBs				
Aroclor 1242	0.95	1.2	PSSTP-8B (6-7)	Tar Plain
Aroclor 1254	0.97	1.5	PSSTP-8B (5-6)	Tar Plain
Aroclor 1260	0.99	13	PSSTP-1B (6-7)	Coke Storage

Based on these results, several PAHs, metals, and PCBs were detected in surface soil at concentrations exceeding the EPA direct contact RSLs for industrial use. De minimis amounts of soil containing viscous tar, oil-like material, and solidified tar was also observed at isolated and limited locations during RIR sampling activities. This visually impacted material was generally collocated with locations exhibiting SVOCs at concentrations greater than EPA direct contact RSLs for industrial use.

Due to the potential health effects from exposure to lead, further evaluating concentrations beyond the EPA RSL risk range of 10^{-4} to 10^{-6} for Corrective Action was necessary. Lead concentrations were evaluated using EPA's *Adult Lead Methodology* (ALM) to quantify potential risks and hazards associated with lead exposure. Parameter values used in the ALM were based on EPA's latest recommended default values. A mean lead concentration of 905

Statement of Basis

mg/kg was calculated and presents a 5.3% probability of a Target lead blood level of 5 micrograms/deciliter ($\mu\text{g}/\text{dL}$) and a 0.3% probability of a target lead level of 10 $\mu\text{g}/\text{dL}$. Therefore, there is a low probability of unacceptable lead blood level concentrations occurring during Facility work.

A separate evaluation of the applicability of the Toxic Substances Control Act (TSCA) PCB regulations to PCBs identified in soil was submitted to EPA on May 12, 2021. EPA determined that PCBs identified in soil samples, except in the southeast corner (Historic Tar Plains/Fill Area), are related to pre-April 1978 releases and are therefore not regulated under TSCA. PCCI submitted to EPA a December 1, 2021 Self-Implementing Cleanup Notification for PCB Remediation Waste for material in the Historic Tar Plains/Fill Area. The cleanup activities proposed will provide conditions that are protective of human health for high occupancy use. The objectives with respect to the remediation of PCB-impacted soil are, to the extent practicable, to: (1) prevent ingestion/direct contact with impacted surface and subsurface soil; (2) prevent the migration of PCBs that would result in exceedances of the 0.5 part per billion (ppb) EPA unrestricted cleanup level for water; and (3) prevent impacted soil migration to surface water. The primary cleanup activities covered under this notification include: (1) installing engineered caps(s) above the remaining soil that contains PCBs at concentrations greater than 1 ppm in the Historic Tar Plains/Fill Area; and (2) establishing ICs in the form of an environmental covenant with deed restrictions/notifications to establish certain limitations and protocols for future site operations based on potential impacts that will remain at the completion of the cleanup activities. Figure 4 shows the location where the PCB Self-Implementing Cleanup activities apply. PCB impacts outside of the Historic Tar Plains/Fill Area will be addressed in accordance with the OCP Cleanup Plan.

An Ecological Screening (ES) was performed and submitted with the RIRCP to evaluate potential exposures of environmental receptors at the Facility. The ES followed EPA interim final guidance on *Ecological Risk Assessment Guidance for Superfund: Process for Designing and Conducting Ecological Risk Assessments* (EPA 1997). Results of the ES indicate potentially complete exposure pathways for ecological receptors exposed via direct contact, ingestion, and food-web transfer to COCs in surface soil.

In summary for soil, EPA has determined that residual impacts exist exceeding RSLs and requires a corrective measure to address future potential exposure risk at the Facility.

Indoor Air

Due to a shallow water table (less than 5 feet bgs), soil gas results collected during the RIR are inadequate according to EPA's *OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway From Subsurface Vapor Sources To Indoor Air* (VI Guidance). Therefore, groundwater results were used to compare to EPA's screening values for determining if there is a concern for indoor air exceedances. PADEP VI Guidance allows for comparison to soil concentrations to evaluate potential impacts. To be conservative, EPA supports using the RIR VI conclusions based on soil as a semi-quantitative additional line of evidence to evaluate the potential for indoor air exceedances.

Statement of Basis

The 2019 groundwater monitoring results indicate that only groundwater levels identified in the previously identified impacted well (MW-111) have concentrations that could potentially result in vapor intrusion pathway concerns per the EPA VI Guidance. Concentrations in MW-111 were evaluated by EPA utilizing the Vapor Intrusion Screening Level (VISL) Calculator. The VI risk from groundwater to indoor air is within EPA's RSL acceptable risk range of 10^{-4} to 10^{-6} for Corrective Action. However, coupled with the conclusions of the RIR using PAEP VI Guidance that residual soil impacts could potentially result in vapor intrusion concerns, EPA has determined that residual contamination in soil and groundwater exists that has the potential to cause indoor air concentrations to exceed EPA RSLs at a 10^{-4} risk and requires a corrective measure to address this risk at the Facility.

To assess offsite vapor intrusion, EPA evaluated the groundwater wells on the Facility property that are located nearest to offsite residential properties. The most recent March 2018 sample for TCE indicates a concentration that currently exceeds the MCL in the one shallow groundwater well (MW-5) at 6.1 ug/L. The distance of well MW-5 from residential properties is approximately 125 feet, exceeding the default acceptable buffer distance in EPA's VI Guidance. To be conservative, EPA utilized the VISL Calculator to determine whether TCE concentrations in MW-5 could cause an unacceptable indoor air concentration and risk. Results of the screening validate indoor air results are within EPA's acceptable risk range for Corrective Action. As an additional line of evidence to support no risk exists, concentrations in well MW-4 located diagonally closer to residential properties was evaluated. There were no detected concentrations of TCE in MW-4. Therefore, EPA has determined that off-site vapor intrusion into indoor air is not a concern.

Section 4: Corrective Action Objectives

EPA's Corrective Action Objectives for the specific environmental media at the Facility are the following:

1. Groundwater

EPA expects final remedies to return groundwater to its maximum beneficial use within a timeframe that is reasonable given the particular circumstances of the project. For projects at facilities where aquifers are either currently used for water supply or have the potential to be used for water supply, EPA will use the MCLs promulgated pursuant to Section 42 U.S.C. § 300f et seq. of the Safe Drinking Water Act and codified at 40 CFR Part 141.

The deep groundwater aquifer at this Facility had already attained MCLs. Some contaminants in the shallow aquifer remain over MCLs. However, as stated above, EPA has determined that shallow groundwater in the vicinity of the Facility is not usable as drinking water and its maximum beneficial use is recharge flow to the Delaware River. Therefore, EPA is proposing that the cleanup standards for groundwater are the levels established by the SWQC to protect the

Statement of Basis

Delaware River from groundwater discharging from the Facility. Modeling shows that shallow groundwater meets the SWQC.

Therefore, EPA's Corrective Action Objectives for groundwater are:

- Prevent recharge flow from shallow aquifer to the Delaware River at levels above acceptable DRBC SWQC levels.
- Control human exposure to the hazardous constituents remaining in the groundwater above their MCLs by requiring compliance with and maintenance of groundwater use restrictions at the Facility.
- Prohibit the use of groundwater for any purpose to protect the integrity of the Final Remedy.

2. Soil

Given that current and reasonably anticipated future use of Facility is non-residential and that Facility SWMU soils remain above EPA's residential and industrial RSLs, EPA's Corrective Action Objectives for soil are:

- Prevent exposures to soil where contaminant concentrations create an unacceptable risk under residential and non-residential use scenarios.
- Control industrial and construction worker exposures to soil where contaminant concentrations remain above EPA's industrial RSLs.
- Prevent ecological receptor impacts identified in the ES.

3. Indoor air

Given that current and reasonably anticipated future use of Facility is non-residential and that contaminants remain in Facility soil and groundwater at concentrations that could cause indoor air contaminant concentrations to exceed EPA's RSLs, EPA's Corrective Action Objective for indoor air is:

- Prevent human exposure to unacceptable vapor intrusion risk as a result of estimated soil-to-indoor air or groundwater-to-indoor air concentrations that could exceed EPA's RSLs.

Section 5: Proposed Remedy

EPA has determined that corrective measures are necessary at the Facility to address residual contamination in soil and groundwater. EPA's proposed remedy for the Facility consists of the following components to address identified risks:

Statement of Basis

1. For groundwater: prohibit groundwater use as described in the Activity and Use Limitation (AUL) section below;
2. For soils: cap soils with contaminants exceeding the EPA direct contact RSLs for industrial use with a combination of buildings, paving, and clean soil and restrict use of the Facility property as described in the AUL section below; and
3. For indoor air: require new enclosed structures to be constructed with a vapor intrusion control system in compliance with Post Remediation Care Plan, the design of which shall be approved in advance by EPA, unless it is demonstrated to EPA that vapor intrusion does not pose a threat to human health and EPA provides prior written approval that no vapor intrusion control system is needed.

Activity and Use Limitations (AULs)

EPA has determined that AULs are necessary to supplement the measures described above and to protect the integrity of the proposed remedy. EPA's proposed AULs for the Facility consists of the following:

1. The Facility property shall not be used for residential purposes unless it is demonstrated to EPA and PADEP that such use will not pose a threat to human health and/or the environment, or adversely affect or interfere with the Final Remedy, and EPA and PADEP provide written approval for such use;
2. The groundwater at the Facility shall not be used for any purpose other than to conduct operation, maintenance, and monitoring activities required by EPA or PADEP, unless it is demonstrated to EPA and PADEP, that such use will not pose a threat to human health and/or the environment;
3. No new wells will be installed on the Facility property unless it is demonstrated to EPA and PADEP that such wells are necessary to implement the Final Remedy and written approval is provided to install such wells;
4. All earth moving activities, including excavation, drilling and construction activities, in the areas at the Facility where any contaminants remain in soils above EPA Region III's Screening Levels for Industrial Soils or in groundwater above their MCLs or EPA Region III's Tap Water RSLs, shall be conducted in accordance with the EPA-approved Post Remediation Care Plan, Health and Safety Plan, and Soil Management Plan; and

EPA's preferred instrument to implement the AULs and ensure that the current and any future landowners comply with the restrictions is an Environmental Covenant prepared under Pennsylvania's Uniform Environmental Covenants Act, 27 Pa. C.S. § 6501 et seq. (UECA). These restrictions may also be implemented via a permit or order.

Section 6: Evaluation of Proposed Remedy

This section provides a description of the criteria EPA used to evaluate the proposed remedy consistent with EPA guidance. The criteria are applied in two phases. In the first phase, EPA evaluates three threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	EPA’s proposed remedy protects human health and the environment by eliminating, reducing, or controlling potential unacceptable risks. Specifically, the proposed remedy protects human health and the environment from potentially complete exposure pathways for contaminants through the installation of building and soil caps, and vapor mitigation systems and the adherence to proposed land and groundwater use restrictions to be established under an Environmental Covenant at the Facility pursuant to Pennsylvania’s UECA or via a permit or order.
2) Achieve media cleanup objectives	The remedy proposed in this SB is based on the current and future anticipated land use at the Facility as non-residential. The shallow groundwater is not a current and cannot be a potential drinking water source due to the shallow water table, man-made fill, and elevated natural metals. Shallow groundwater meets the SWQC. Deep aquifer groundwater meets MCLs. Therefore, EPA’s proposed remedy meets the media cleanup objectives based on assumptions regarding current and reasonably anticipated resource uses.
3) Remediating the Source of Releases	In all proposed remedies, EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment. The Facility has met this objective. The sources have been excavated and remediated to the maximum extent practicable. The Facility ceased operations in 1982 and poses no future threat of new releases.

A selection of remedial alternatives was reviewed in the RIRCP including institutional controls, containment, treatment, and removal and disposal. An evaluation of these remedial alternatives was performed in accordance with Section 304(j) of Act 2 which includes the following criteria: Long-term Risks and Effectiveness; Reduction of Toxicity, Mobility or Volume; Short-Term Risks and Effectiveness; Implementability; Cost; and Incremental Health and Economic Benefits. As can be seen in the following table, these were evaluated and are in alignment with EPA’s Balancing Criteria.

Balancing Criteria	Evaluation
4) Long-term effectiveness	<p>The current and reasonably anticipated use of the Facility is non-residential use. In addition, groundwater is not to be used at the Facility for drinking water or any other purpose as no downgradient users of off-site groundwater exist. Installation of building and soil caps and vapor mitigation systems along with long-term post remedial care requirements will ensure long-term effectiveness. The FEMA National Flood Hazard tool was evaluated to determine potential climate change vulnerabilities to the proposed remedy in the long-term. Portions of the Site are estimated to be impacted by potential flood hazards as well as sea level rise per NOAA flood exposure mapping software. The proposed caps will increase surface elevation, prevent infiltration and thus a migration of residual impacts, and assist in raising ground surface which will limit potential flood limit impacts. The proposed groundwater use restriction will continue to protect potential receptors to the shallow groundwater effects of sea level rise which potentially could affect groundwater levels. Therefore, the long-term effectiveness of the remedy for the Facility will be maintained by the implemented land and groundwater use controls and is effective against climate change vulnerability.</p>
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	<p>The reduction of mobility and volume of hazardous constituents has been achieved to the maximum extent practicable as demonstrated by the early remedial activities that removed the bulk of the contaminant sources. In addition, data from the soil and groundwater monitoring exhibit limited residual contaminant concentrations that have continued to decrease over time and are not migrating.</p>

Statement of Basis

6) Short-term effectiveness	EPA’s proposed remedy involves activities such as construction of caps during redevelopment, which could pose short-term risks to workers, residents, and the environment. Therefore, a Soil Management Plan and Health and Safety Plan have been developed to be protective in the short-term.
7) Implementability	EPA’s proposed remedy is readily implementable. EPA’s proposed remedy consists of remedial work already completed, proposed installation of building and soil caps and vapor mitigation systems, and land/groundwater use restrictions. EPA does not anticipate any regulatory constraints in the implementation of its proposed remedy.
8) Cost	The costs associated with the remaining proposed remedial measures include cap maintenance and an Environmental Covenant are minimal (estimated cost of less than \$10,000 per year). This is due to the completion of the cap installation and currently necessary vapor mitigation systems as part of the ongoing redevelopment activities. Therefore, EPA’s proposed remedy is cost effective.
9) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, which will be detailed in the FDRTC.
10) State/Support Agency Acceptance	PADEP is not authorized for Corrective Action but was the lead oversight agency for the investigation and cleanup plan at this Facility under Act 2 with input from EPA under the OCP. PADEP has reviewed and approved the Cleanup Plan. EPA expects State acceptance of the proposed remedy.

Overall, based on the information currently available, the proposed remedy meets the threshold criteria and provides balance of the evaluation criteria.

Section 7: Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement the proposed remedy at the Facility. EPA's proposed remedy requires engineering controls to address residual contamination installed as part of the redevelopment activities. The costs for long-term maintenance of the engineering controls and implementation of institutional controls at the Facility including an environmental covenant and post-remedial care plan will be minimal (expected to be less than \$10,000 annually). Therefore, EPA is proposing that no financial assurance is required.

Section 8: Public Participation

To inform the public during the Act 2 process under the OCP with EPA, a PIP was prepared that defined procedures for community engagement and communication of findings from ongoing remediation. The PIP established the framework for educating interested parties about past and ongoing environmental remediation efforts and enabled communication between the public, PCC, the site developers, PADEP, EPA, Philadelphia Department of Public Health, and other Philadelphia Departments and elected officials. The PIP:

- Provided public access to project documents at convenient locations.
- Designated a central point of contact to address questions from the community.
- Identified a location for public hearings and meetings near the Facility.

The PIP is available at the Frankford Library and online at <http://www.4501richmondstreet.com/>.

Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last 30 calendar days from the date the notice is published in a local newspaper. A virtual public meeting informing the public about EPA's proposed remedy and opportunity for comment will be held on August 21, 2023. Comments may be submitted during the public meeting or by mail, e-mail, or phone to Mr. Kevin Bilash at the address listed below.

The AR contains all the information considered by EPA for the proposed decision at this Facility. The AR is available for review at the Frankford Library or by contacting Mr. Kevin Bilash:

Contact: Mr. Kevin Bilash (3LD12)
Four Penn Center
1600 JFK Boulevard
Philadelphia, PA 19103
Phone: (215) 814-2796
Email: bilash.kevin@epa.gov

Statement of Basis

EPA's review of available information indicates that the proposed remedy is protective of human health and the environment and addresses releases of hazardous waste or hazardous constituents at and from the Facility.

Date: _____

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Dana Aunkst, Director
Land, Chemicals, and Redevelopment Division
US EPA, Region III

Figure 1 – Facility location
Figure 2 – Soil impact areas
Figure 3 – SWMU/HWMU locations
Figure 4 – PCB Self-Implementing Cleanup location

Index to Administrative Record

Environmental Indicator Inspection Report, Michael J. Baker Jr., Inc., January 2012

Public Involvement Plan, June 2021

Remedial Investigation Report and Cleanup Plan, Arcadis, July 2021

Remedial Investigation Report/Cleanup Plan Fact Sheet, August 2021

Self-Implementing PCB Notification, Arcadis, December 2021

EPA Approval of Self-Implementing PCB Notification, January 2022

Remedial Investigation Report and Cleanup Plan Revision 1, Arcadis, May 2022

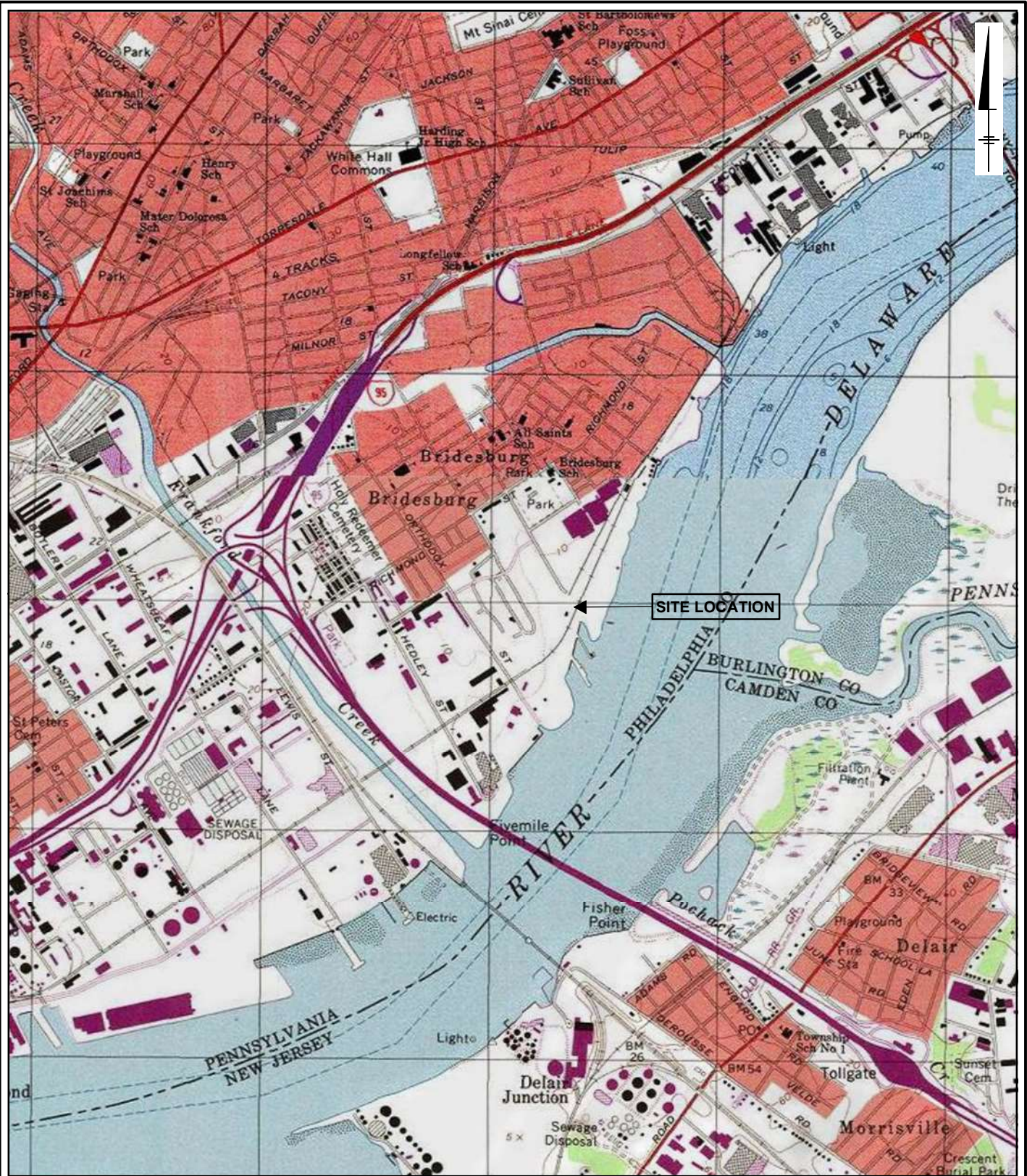
Remedial Investigation Report/Cleanup and Human Health Risk Assessment Submittal Fact Sheet, June 2022

Remedial Investigation Report and Cleanup Plan Approval, PADEP, September 2022

Statement of Basis

FIGURES

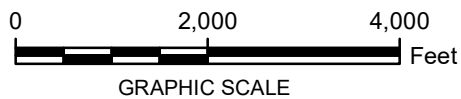




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NOTE:

1. USGS TOPOGRAPHIC MAP PROVIDED BY ESRI.

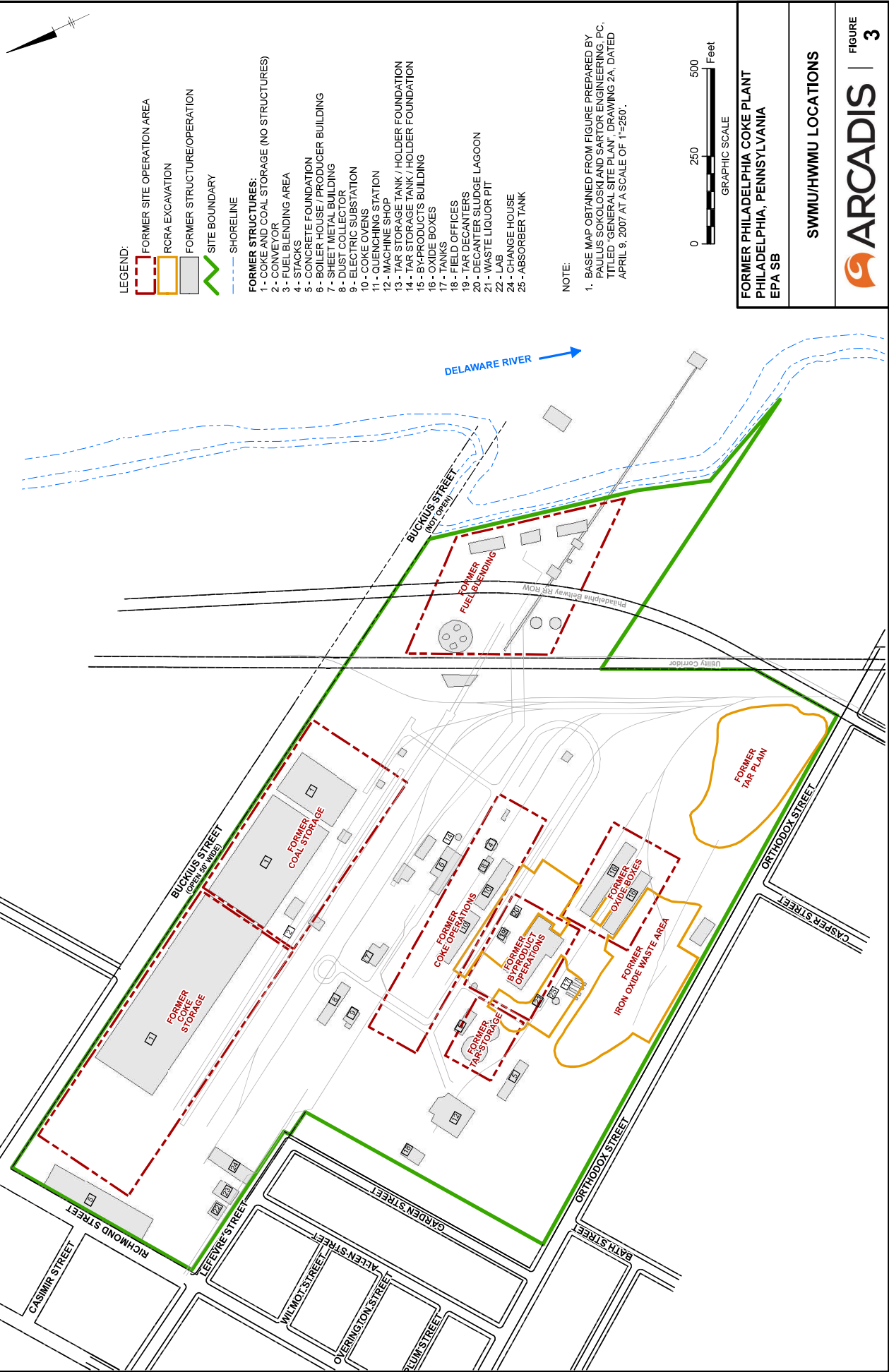


FORMER PHILADELPHIA COKE PLANT
 PHILADELPHIA, PENNSYLVANIA
 EPA SB

FACILITY LOCATION MAP



FIGURE
1



- LEGEND:**
- FORMER SITE OPERATION AREA
 - RCRA EXCAVATION
 - FORMER STRUCTURE/OPERATION
 - SITE BOUNDARY
 - SHORELINE

- FORMER STRUCTURES:**
- 1- COKE AND COAL STORAGE (NO STRUCTURES)
 - 2- CONVEYOR
 - 3- FUEL BLENDING AREA
 - 4- STACKS
 - 5- CONCRETE FOUNDATION
 - 6- BOILER HOUSE / PRODUCER BUILDING
 - 7- SHEET METAL BUILDING
 - 8- DUST COLLECTOR
 - 9- ELECTRIC SUBSTATION
 - 10- COKE OVENS
 - 11- QUENCHING STATION
 - 12- MACHINE SHOP
 - 13- TAR STORAGE TANK / HOLDER FOUNDATION
 - 14- TAR STORAGE TANK / HOLDER FOUNDATION
 - 15- BY-PRODUCTS BUILDING
 - 16- OXIDE BOXES
 - 17- TANKS
 - 18- FIELD OFFICES
 - 19- TAR DECANTERS
 - 20- DECANTER SLUDGE LAGOON
 - 21- WASTE LIQUOR PIT
 - 22- LAB
 - 24- CHANGE HOUSE
 - 25- ABSORBER TANK

NOTE:

1. BASE MAP OBTAINED FROM FIGURE PREPARED BY PAULUS SOKOLOSKI AND SARTOR ENGINEERING, P.C. TITLED "GENERAL SITE PLAN", DRAWING 2A, DATED APRIL 9, 2007 AT A SCALE OF 1"=250'.

