



UNITED STATES  
ENVIRONMENTAL PROTECTION AGENCY  
REGION III

STATEMENT OF BASIS

**PECO Energy Company  
Penrose Avenue Facility**

Penrose & Lanier Ave,  
Philadelphia, PA 19145

EPA ID # PAD 987279890

Prepared by  
RCRA Corrective Action Branch 2  
Land, Chemicals, and Redevelopment Division  
September 2021

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## List of Acronyms

AR	Administrative Record
COC	Constituent of Concern
EPA	Environmental Protection Agency
GPRA	Government Performance and Results Act
MCL	Maximum Contaminant Level
MSC	Medium Specific Concentration
PADEP	Pennsylvania Department of Environmental Protection
RCRA	Resource Conservation and Recovery Act
RSL	Regional Screening Level
SB	Statement of Basis

## Section 1: Introduction

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The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for the PECO Energy Company (PECO)-Penrose Avenue Facility located in Philadelphia, Pennsylvania (hereinafter referred to as the Facility). EPA's proposed remedy for the Facility consists of compliance with and maintenance of land use restrictions to be implemented through institutional controls. This SB highlights key information relied upon by EPA in proposing its remedy for the Facility.

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 and operators of certain facilities subject to RCRA 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 thirty (30)-day public comment period on this SB. EPA may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a final remedy for the Facility in a Final Decision and Response to Comments (Final Decision) after the public comment period has ended.

Information on the Corrective Action program as well as a fact sheet for the Facility can be found by navigating to <https://www.epa.gov/hwcorrectiveactionsites/contact-information-corrective-action-hazardous-waste-clean-ups-delaware>.

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, below, for information on how you may review the AR.

## Section 2: Facility Background

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### 2.1 Introduction

The Facility is a 7.8-acre property at Penrose and Lanier Avenues in the City of Philadelphia. The area is heavily industrialized and is dominated by refinery and oil handling operations. The Facility is bound by a service road to the west, railroad tracks to the south, Penrose Avenue to the north, and Camden Iron, a recycling company, to the east. Approximately 200 yards south of the Facility, opposite the railroad tracks, is the Schuylkill River. The Facility location map is included as Figure 1.

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Ownership history prior to 1946 is unknown. Between February 20, 1946 and March 25, 1975, a portion of the Facility was operated by the Penn Central Railroad. On March 25, 1975, the Atlantic Richfield Company acquired this portion of the Facility property. The Atlantic Richfield Company acquired the remainder of the Facility property on February 12, 1976 from Gulf Corporation. At approximately the same time, in 1976, PECO purchased all 7.8-acres of the from the Atlantic Richfield Company.

PECO originally purchased the Facility property for a PECO substation if future electrical demands in the area were to increase. To date, PECO has not constructed a substation at the Facility. Currently, PECO is using the Facility property for a roadbed and excavation material sorting area. Previously, in November 1989, PECO leased the Facility property to Colonial Salvage and Scrap Company (Colonial) for use as a disposal/storage area for construction debris, demolition debris, scrap metal, roll-offs, and truck trailers. On May 5, 1990, EPA conducted an inspection of a portion of the Facility in response to illegal dumping reported by the Philadelphia Fire Department. Actions and investigations performed as a result of this inspection are discussed in further detail in Section 3, below.

## **Section 3: Summary of Environmental Investigations**

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### **3.1 Environmental Investigations and Remediation**

On May 5, 1990 EPA was informed of the presence of drums stored in two roll-off containers in an unsecured lot on the Facility along Penrose Avenue. The drums were originally found by the Philadelphia Fire Department and were noted to be in poor condition. Many were reportedly leaking. EPA discovered 50 to 60 drums which were determined to contain waste solvents, waste paints, waste oils, and polychlorinated biphenyls (PCBs).

On May 11, 1990 EPA unilaterally issued an Administrative Order pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. §§ 9601 et seq. (Administrative Order), to PECO which required PECO to conduct certain removal actions at the Facility. On January 31, 1992, upon satisfactory completion of the work by PECO as required by the Administrative Order, EPA issued a letter to PECO closing the Administrative Order.

#### **Soils**

Pursuant to the Administrative Order, PECO conducted a soils investigation and removal action. During the first stage of field work accomplished between May and September 1990, PECO restaged, sampled, analyzed, classified, and transported off-site for disposal a total of 99 containers. A 24-hour security guard was posted at the Facility, and the Facility was enclosed with barricades for security. Of the 99 containers, 44 drums were classified as nonhazardous, 40 were hazardous, two contained PCBs, and 13 were empty drums. Samples of waste from the

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drums confirmed the presence of several hazardous substances including lead, PCBs, semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs) such as 1,1,1-trichloroethane, chloroform, 1,1-dichloroethane, and 1,1-dichloroethene.

PECO also performed a geophysical survey of the subsurface, which looked for buried metal materials and drums. Test pits were excavated and sampled in anomaly areas. Scrap metal material and empty drums were found. Sampling of the 16 test pits showed contaminants were below EPA's Regional Screening Levels (RSLs) and within EPA's acceptable risk range of  $1 \times 10^{-4}$  and  $1 \times 10^{-6}$ .

On August 9 and 10, 1990, PECO collected a total of 40 soil samples from 20 soil borings. Shallow samples were collected between 0 and 0.5 feet and analyzed for Target Compound List (TCL) Metals, TCL Base Neutrals, PCBs, and TCL Pesticides. Deeper samples were collected from depths below visible contamination. All deep samples were collected from within the first 5 feet due to auger refusal (i.e., the soil sampler could not penetrate the soil any deeper due to soil conditions). These deeper samples were analyzed for TCL VOCs. Ten samples were identified as possibly being contaminated with a petroleum like substance and were analyzed for Total Petroleum Hydrocarbons (TPH). The results indicated TPH levels were below screening levels and further investigation was not warranted.

The soil investigation area was divided into three distinct areas. Area I was the former secure container storage area. A total of 24 soil samples from 12 borings were collected from this area. Area II was an area along the chain link fence previously used to stage containers. Five borings were installed in this area and a total of ten samples were collected. Area III was the low-lying area. The remaining six samples were collected from three borings beneath the former location of three empty 55-gallon containers.

Table 1 below provides the sampling results of the 40 shallow and deep soil samples described above. Table 1 compares the sample results to Non-Residential Direct Contact Soil Medium-Specific Concentrations (MSCs) to assess the environmental conditions. These MSCs are within EPA's acceptable risk range of  $1 \times 10^{-4}$  and  $1 \times 10^{-6}$ .

**Table 1: Soil Investigations Sampling Results as Compared to MSCs**

Area	Depth	Parameter	PADEP Act 2 MSCs in parts per million (ppm)	Concentration Range (ppm)
Area I	0.0-0.5 feet	Aluminum	190,000	7,000 – 10,000
		Arsenic	53	8.4 – 14.0
		Barium	8,200	120 – 240
		Beryllium	320	0.210 – 0.750
		Cadmium	38	1.0 – 6.7
		Calcium		1,900 – 53,000
		Chromium	190	26 – <b>380</b>

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Area	Depth	Parameter	PADEP Act 2 MSCs in parts per million (ppm)	Concentration Range (ppm)
		Copper	36,000	43 – 84
		Cobalt	22	9.2 – 11.0
		Iron	190,000	14,000 – 60,000
		Lead	450	110 – 310
		Magnesium		370 – 5,300
		Mercury	10	0.24 – 2.8
		Nickel	650	18 – 33
		Potassium		890 – 2,000
		Selenium	26	Not Detected – <b>880</b>
		Sodium		200 – 410
		Vanadium	14,000	20 – 200
		Zinc	12,000	210 – 430
		Methylene Chloride	0.5	4.0 B – 100 B
		Acetone	1,000	Not Detected – 29 B
		1,1,1-Trichloroethane	20	Not Detected – 4.0 J
		Total Base Neutrals		15.34 – 109.33
	4.0-4.5 feet	TPHC		41 – 1,300

Area	Depth	Parameter	PADEP Act 2 MSCs (ppm)	Concentration Range (ppm)
Area II	0.0-0.5 feet	Aluminum	190,000	5,500 – 6,800
		Arsenic	53	6.3 – 9.8
		Barium	8,200	68 – 140
		Beryllium	320	0.24 – 0.8
		Cadmium	38	0.79 – 1.4
		Calcium		1,600 – 14,000
		Chromium	190	16 – 100
		Copper	36,000	39 – 51
		Cobalt	22	7.1 – 16.0
		Iron	190,000	11,000 – 20,000
		Lead	450	120 – 160
		Magnesium		1,300 – 3,800
		Mercury	10	0.12 – 0.51
		Nickel	650	16 – 20
		Potassium		520 – 720
		Selenium	26	0.65 – 1.8
		Sodium		190 – 220
		Vanadium	14,000	13 – 59
		Zinc	12,000	160 – 250
		Methylene Chloride	0.5	2 B – 79 B
		Acetone	1,000	Not Detected – 14 B

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Area	Depth	Parameter	PADEP Act 2 MSCs (ppm)	Concentration Range (ppm)
		Total Base Neutrals		8.06 – 42.86
	4.0-4.5 feet	TPHC		Not Detected - 360
Area III	0.0-0.5 feet	Aluminum	190,000	3,100 – 3,700
		Arsenic	53	7.8 – 10.0
		Barium	8,200	57 – 120
		Beryllium	320	0.24 – 0.33
		Cadmium	38	Not Detected – 1.1
		Calcium		1,000 – 1,300
		Chromium	190	16 – 31
		Copper	36,000	40 – 48
		Cobalt	22	3.7 – 4.9
		Iron	190,000	11,000 – 17,000
		Lead	450	160 – 200
		Magnesium		570 – 920
		Mercury	10	0.23 – 0.34
		Nickel	650	18 – 26
		Potassium		230 – 360
		Selenium	26	0.73 – 1.3
		Sodium		150 – 200
		Vanadium	14,000	13 – 28
		Zinc	12,000	160 – 160
		Methylene Chloride	0.5	16 B – 21 B
		Acetone	1,000	17 B – 25 B
		2-Butanone		Not Detected – 6 J
		Total Base Neutrals		15.34 – 109.33

B – Analyte was detected in laboratory blank.

J – Analyte detected below quantification limit. Reported value is estimated.

**Bold – Exceedance of PADEP Act 2 MSCs for Non-Residential Direct Contact in Soil.**

### Risk Assessment

On October 8, 1991, PECO submitted an Assessment of Potential Risk for the Facility. The risk assessment identified that the investigations had resulted in removal of all drums and debris from the surface soils. Also, it identified that the soil sampling methodology at the Facility was biased as samples were collected from the most heavily contaminated areas (as evidenced by staining), which more fully characterized the risk.

The constituents of concern (COCs) for the Facility, as identified by the drum sampling and soil sampling, include VOCs and metals, including chromium, cadmium, mercury, vanadium, zinc, and beryllium. Of these COCs, only chromium and selenium are above MSCs, as identified in Table 1. The highest chromium level was 380 ppm and its respective MSC is 190 ppm. Selenium at its highest level was 880 ppm and its MSC is 26 ppm. These are

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relatively immobile contaminants, which EPA has determined will not impact groundwater and migrate from the Facility. The risk assessment assumed the Facility's future use would be as an industrial property. The risk analysis was approved December 16, 1991 and concluded that with industrial use of the property, the potential risks to human health and the environment were within acceptable limits.

### **Groundwater**

As explained above, only chromium and selenium exceed MSCs for soils based on surface and subsurface soil sampling. These metal contaminants are relatively immobile, and EPA has determined these contaminants would not have reached groundwater or leave the Facility due to groundwater flow.

There are no groundwater wells on the Facility to directly measure the groundwater quality beneath the Facility. However, adjacent to the Site is the Former Sunoco Point Breeze facility, currently named the Philadelphia Energy Solutions Refinery and Marketing facility (PES Refinery). At the PES Refinery, a groundwater monitoring well network that nearly surrounds the PECO Facility is in place to monitor a groundwater plume at the PES Refinery. The PES Refinery system monitors groundwater that migrates from the PES Refinery to under the Facility as well as groundwater that migrates from the Facility to under the PES Refinery. Data from this monitoring system show that groundwater migrating toward the Facility and groundwater leaving the Facility does not have contaminants exceeding drinking water standards also known as 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. Groundwater entering and leaving the Facility is under continued monitoring by the PES Refinery to ensure MCLs continue to be met. All data and figures related to the groundwater wells adjacent to PECO may be found on a publicly available webpage at: <https://phillyrefinerycleanup.info>.

### **3.2 Environmental Indicators**

Under the Government Performance and Results Act (GPRA), EPA has set national goals to address RCRA corrective action facilities. Under GPRA, EPA evaluates two key environmental clean-up indicators for each Facility: (1) Current Human Exposures Under Control, and (2) Migration of Contaminated Groundwater Under Control. The Facility met both indicators on March 31, 2020.

## **Section 4: Corrective Action Objectives**

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

### **1. Soils**

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EPA has determined that Direct Contact MSCs for Non-Residential Soil are protective of human health and the environment provided that the Facility is not used for residential purposes. There are two contaminants in Facility soil, chromium and selenium, which are above their respective MSCs. A Risk Assessment determined that with the intended industrial use of the Facility property, the potential risks to possible receptors were within acceptable limits. Therefore, EPA's Corrective Action Objective for soils at the Facility is to prevent unacceptable exposure to the hazardous constituents remaining in soils above MSCs for non-residential use.

## **2. Groundwater**

EPA's Corrective Action Objectives for Facility groundwater is to restore the groundwater to drinking water standards, otherwise known as MCLs. Groundwater beneath the Facility currently meets MCLs.

## **Section 5: Proposed Remedy**

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### **1. Soils**

Source areas of soil contamination have been removed; however, because some contaminants remain in Facility soils at levels which create unacceptable risk for residential use, EPA's proposed remedy requires the compliance with, and maintenance of, the following use restriction:

A. The Facility shall be restricted to commercial and/or industrial purposes and shall not be used for residential purposes unless it is demonstrated to EPA that such use will not pose a threat to human health or the environment or adversely affect or interfere with the selected remedy and EPA provides prior written approval for such use.

### **2. Groundwater**

Groundwater beneath the Facility currently meets MCLs, therefore, EPA's proposed remedy for groundwater is corrective action complete without controls. However, because the adjacent PES Refinery has a contaminant plume which has the potential to migrate onto the Facility, EPA has determined that there is a potentially future compete pathway to groundwater beneath the Facility. Therefore, if, based on data from the PES Refinery groundwater monitoring well system, EPA determines that additional maintenance and monitoring activities, institutional controls, or other corrective actions are necessary at the Facility to protect human health or the environment, EPA has the authority to require and enforce such additional corrective actions through an enforceable mechanism which may include an order or environmental covenant, provided any necessary public participation requirements are met. Currently, groundwater at the Facility meets MCLs, however, EPA anticipates that the current Facility owner PECO, in an abundance of caution, will record an environmental covenant on the Facility property that prohibits the use of groundwater.

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## Section 6: Evaluation of Proposed Remedy

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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 decision 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 for the Facility protects human health and the environment by eliminating, reducing, or controlling potential unacceptable risk through the implementation and maintenance of land use restrictions. Under EPA's proposed remedy, there is no unacceptable risk associated with groundwater because MCLs have been met. Additionally, there would be no unacceptable risk associated with soil as long as the use restrictions to prevent residential use are maintained. Soil sampling only showed exceedances of Direct Contact Non-residential MSCs for selenium and chromium. The risk assessment shows that at these levels these constituents are not of concern if the Facility use remains non-residential. Therefore, EPA is proposing to restrict land use to commercial or industrial purposes at the Facility.
2) Achieve media cleanup objectives	<p>The corrective action objective for soils is to prevent unacceptable exposure to hazardous constituents remaining in soil above MSCs for non-residential use. The proposed remedy meets this objective through the previous soil removal in 1990 under CERCLA oversight and the implementation and maintenance of land use restrictions.</p> <p>The corrective action objective for groundwater has been met as there are no exceedances of MCLs.</p>
3) Remediating the Source of Releases	<p>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, and the Facility has met this objective.</p> <p>The source of contaminants, including drums and heavily contaminated soils, have been removed from the soil at the</p>

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	Facility through the removal action described in Section 3, and remaining metals are considered immobile, thereby, eliminating, to the extent practicable, further releases of hazardous constituents from on-site soils.
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Balancing Criteria	Evaluation
4) Long-term effectiveness	The Facility's use is expected to remain non-residential. Therefore, the proposed long-term effectiveness of the remedy for the Facility will be maintained by the implementation of use restrictions.
5) Reduction of toxicity, mobility, or volume of the Hazardous Constituents	The reduction of toxicity, mobility and volume of hazardous constituents was accomplished by the removal of drums and contaminated soils.
6) Short-term effectiveness	EPA's proposed remedy does not involve any activities, such as construction or excavation that would pose short-term risks to workers, residents, and the environment. EPA anticipates that the land use restrictions will be fully implemented shortly after the issuance of the Final Decision.
7) Implementability	EPA's proposed remedy is readily implementable. EPA proposes to implement the use restrictions through an enforceable mechanism such as an environmental covenant, permit, or order.
8) Cost	EPA's proposed remedy is cost effective. The costs associated with this proposed remedy have already been incurred and the remaining costs are minimal.
9) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision.
10) State/Support Agency Acceptance	PADEP has reviewed and concurred with the proposed remedy for the Facility.

Overall, based on the information currently available, the proposed remedy provides the best balance of tradeoffs with respect to the evaluation criteria.

## Section 7: Financial Assurance

EPA has evaluated whether financial assurance for corrective action is necessary to implement EPA's proposed remedy at the Facility. Because EPA's proposed remedy does not require any further engineering actions to remediate soil, groundwater, or indoor air

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contamination at this time and because the costs of implementing institutional controls at the Facility will be minimal, EPA is proposing that no financial assurance be required.

## **Section 8: Public Participation**

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Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last thirty (30) calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail or electronic mail to Linda Matyskiela at the contact information listed below.

A public meeting will be held upon request. Requests for a public meeting should be submitted to Linda Matyskiela in writing at the contact information listed below. A meeting will not be scheduled unless one is requested.

The AR contains all the information considered by EPA for the proposed remedy at this Facility. The AR is available at the following location:

U.S. EPA Region III  
1650 Arch Street  
Philadelphia, PA 19103  
Contact: Linda Matyskiela (3LD20)  
Phone: (215) 814-3420  
Email: [Matyskiela.Linda@epa.gov](mailto:Matyskiela.Linda@epa.gov)

### **Attachments:**

Attachment A: Index to Administrative Record

Figure 1: Map of Facility

Date: \_\_\_\_\_

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

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## **Attachment A: Index to Administrative Record**

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**May 8, 1990** Philadelphia Electric Company, Penrose Avenue Site, Administrative Order for Removal Response Activities, Docket No. III-90-30-DC

**November 5, 1990** Philadelphia Electric Company Phase I Unknown Drum Disposal and Site Characterization Report

**February 25, 1991** Federal On-Scene Coordinator's Report for Penrose Avenue Drum Site

**April 22, 1991** Philadelphia Electric Company Phase II Report Site Characterization and Remediation Project

**October 8, 1991** Assessment of Potential Risk for the Penrose Avenue Site

**January 31, 1992** EPA Letter regarding Close-out of Penrose Avenue Site UAO

**October 2003** Final Environmental Indicator Inspection Report for PECO Energy Co. Penrose Ave. Site

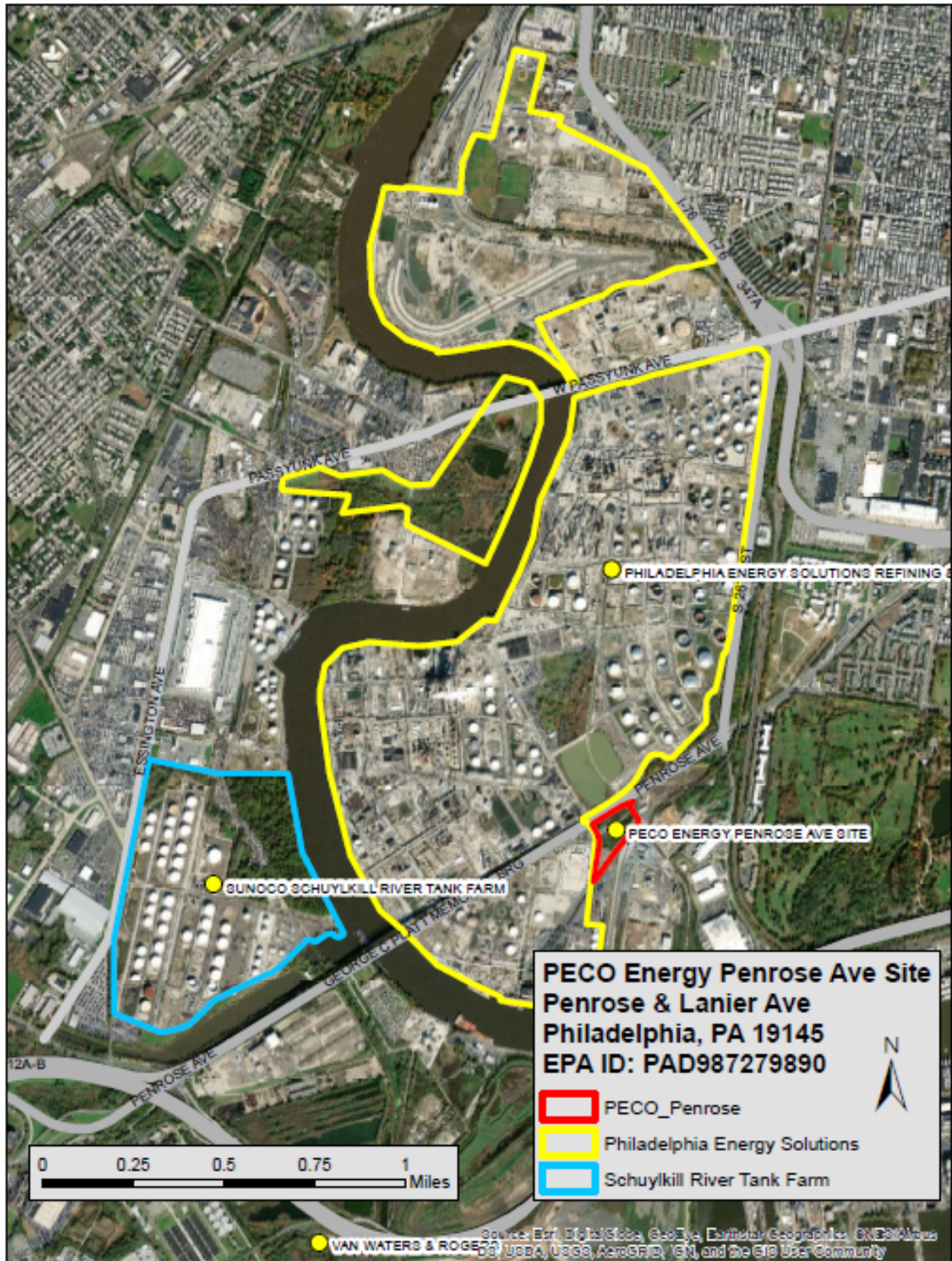
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**Figure 1: Map of Facility**



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