

FINAL

# Semi-Annual Remediation Status Report February 2024 to August 2024

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Former Philadelphia Energy Solutions Refinery  
3144 West Passyunk Avenue, Philadelphia, PA

*Prepared for*

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# Contents

Acronyms and Abbreviations .....	iii
1 Introduction.....	1
2 Historical Releases.....	2
2.1 136 Naphtha Release.....	2
2.2 No. 3 Separator Release .....	3
2.3 UDEX Release.....	4
2.4 Release East of Former Tank PB 253 .....	5
3 Releases During Decommissioning and Demolition.....	6
3.1 860 Unit Cooling Tower and Hartranft Street Release .....	6
3.2 PB 881 Dike Roadway Release.....	7
3.3 No. 4 Separator Release .....	7
3.4 ROW-3 Release on June 22, 2023 Area .....	8
4 Releases Identified during AST Closure.....	9
5 Closing .....	10

## Figures

- 1 Post-2012 Release Areas Pursuing Act 2 Closure
- 2 Tank Groups

## Attachments

- A Table 1 - 3 Separator LNAPL Gauging Data



## Acronyms and Abbreviations

Act 2	<i>Land Recycling and Environmental Remediation Standards Act</i>
Act 32	<i>Storage Tank and Spill Prevention Act</i>
AST	aboveground storage tanks
BDH	Bellwether District Holdings, LLC
bgs	below ground surface
COPC	chemicals of potential concern
CO&A	Consent Order and Agreement
EDB	1,2-dibromoethane
EMC	Environmental Maintenance Company
ICE	internal combustion engine
In	inch
the Facility	Former Philadelphia Energy Solutions Refinery, 3144 West Passyunk Avenue, Philadelphia, Pennsylvania
ft	foot or feet
LNAPL	light non-aqueous phase liquid
MDL	method detection limit
MSC	Medium Specific Concentrations
NIR	Notice of Intent to Remediate
NorthStar	NorthStar Contracting Group, Inc.
PADEP	Pennsylvania Department of Environmental Protection
PES	Philadelphia Energy Solutions
ROW-3	Right-of-Way-3
SHS	Statewide Health Standard
SSS	Site-Specific Standard
Stantec	Stantec Consulting Services, Inc.
Status Report	<i>Semi-Annual Remediation Status Report</i>
SVE	soil vapor extraction
Terraphase	Terraphase Engineering Inc.



# 1 Introduction

On behalf of Bellwether District Holdings, LLC (BDH), formerly known as Philadelphia Energy Solutions Refining and Marketing LLC, Terraphase Engineering Inc. (Terraphase) has prepared this *Semi-Annual Remediation Status Report* (Status Report) to document the progress of activities being completed by BDH to characterize and remediate certain areas of the Former Philadelphia Energy Solutions Refinery (former PES; the Facility). The Facility, which is undergoing demolition, earthwork, and redevelopment activities, is located at 3144 West Passyunk Avenue, Philadelphia, Pennsylvania.

The releases discussed in this *Status Report* do not include those which are associated with “Pre-Existing Contamination” as defined in the 2012 Consent Order and Agreement (CO&A)<sup>1</sup> among the Pennsylvania Department of Environmental Protection (PADEP), Evergreen<sup>2</sup>, and BDH, which are being addressed by Evergreen. In accordance with the CO&A, BDH has assumed responsibility for releases of hazardous or regulated substances from the Facility which have been identified to have occurred after September 8, 2012. The releases discussed herein are:

1. Historical releases that BDH plans to close under the *Land Recycling and Environmental Remediation Standards Act* (Act 2) Program.
  - a) A 2019 release of light naphtha from an aboveground line near 136 process unit at the former refinery (136 Naphtha Release);
  - b) A 2013 release from a process sewer near the No. 3 Separator at the former refinery (No. 3 Separator Release);
  - c) A 2018 release from the UDEX feed line at the former refinery (UDEX Feed Release); and
  - d) A 2016 release east of former tank PB 253 (Release East of Former Tank PB 253).
2. More recent releases which occurred during decommissioning and demolition of the former refinery.
  - a) A 2021 release from overhead piping near the 860 Unit Cooling Tower and Hartranft Street (860 Unit and Hartranft Street Release);
  - b) A 2021 release from piping along the Dike Roadway near PB 881 (PB 881 Dike Roadway Release);
  - c) A 2022 overflow release from the No. 4 Separator due to a check valve failure and backflow from Tank 1136 to the No. 4A Separator (No. 4 Separator Release); and

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<sup>1</sup> August 14, 2012 CO&A as amended June 26, 2020 and referred to as the “Buyer-Seller Agreement”.

<sup>2</sup> Evergreen Resources Management Operations, a series of Evergreen Resources Group, LLC, is managing the legacy remedial work for Philadelphia Refinery Operations, a series of Evergreen Resources Group, LLC (“Evergreen”) and Sunoco (R&M), LLC. For clarity, Sunoco, Inc. n/k/a ETC Sunoco Holdings LLC, Sunoco, Inc. (R&M) n/k/a Sunoco (R&M), LLC and Evergreen shall be referred to collectively as “Evergreen” in this Report.



- d) A 2023 release from subsurface pipe within Right-of-Way-3 (ROW-3) approximately 0.45 miles south of Frontage Road (ROW-3 Release on June 22, 2023 Area).
3. Potential releases identified during the decommissioning and closure of aboveground storage tanks (ASTs) which are being completed in accordance with the *Storage Tank and Spill Prevention Act* (Act 32) and 25 PA Code §245 (Subchapter D).

BDH plans to remediate the releases identified above in accordance with applicable portions of Act 2, 25 PA Code §250, Act 32, and Subchapter D. The location of these release areas is shown on Figure 1. The status of the characterization and remediation of each release area is discussed and summarized below.

This is the sixth *Status Report*. It discusses remedial activities completed during the period from February 1, 2024 through August 1, 2024. The next semi-annual *Status Report* will cover activities completed from August 1, 2024 through February 1, 2025.

## 2 Historical Releases

This section summarizes the status of historical releases that BDH plans to close under the Act 2 Program.

### 2.1 136 Naphtha Release

On February 22, 2019, approximately 53,000 gallons of petroleum-product, identified as light naphtha, was released to the ground surface from defects in above-ground piping associated with former Process Unit 137, near the location of the former Unit 136. The petroleum-product was observed by Stantec Consulting Services, Inc. (Stantec) while on-site performing routine monitoring. The response actions included the removal of water and product from a nearby storm sewer and culvert and from test pits installed along the compromised product line via a vacuum truck. The removed water/product mixture was stored in a waste oil tank and then treated via the on-site wastewater treatment system. The defective section of product line was replaced with new above-ground piping.

In March 2019, Stantec collected 20 soil samples in the vicinity of the release to determine the extent of the impacted area. Samples from the area outside and surrounding the release were collected based on visual observation of the extent of the impacts. The samples were analyzed for the unleaded gasoline parameters (“unleaded gasoline short list”) listed in Table III-5 Short List of Petroleum Products from the PADEP’s (2021) *Land Recycling Program Technical Guidance Manual*.

Between November 25 and December 12, 2019, BDH conducted an excavation of the soil impacted by the release. The excavation of surface soils was completed beneath approximately 130 feet of product piping that runs north to south, and then toward the storm sewer catch basin located approximately 50 feet to the east. The excavation was guided by visual observations of soil impacts and excavation depths ranged from approximately 2 to 6 feet below ground surface (ft bgs). Approximately 377 tons of soil were excavated and transported offsite for disposal at Clean Earth of New Castle, Delaware.



Post-excavation soil sampling<sup>3</sup> conducted by Stantec involved the collection of twelve samples from the excavation base and sidewalls. Samples were analyzed for unleaded gasoline short list parameters. The post-excavation soil sample results identified no chemicals at concentrations greater than the applicable PADEP Statewide Health Standards (SHS) Medium Specific Concentrations (MSCs).

A Notice of Intent to Remediate (NIR) was submitted in June 2021 to address the soil-related impacts associated with the release under the non-residential SHS. Langan Engineering and Environmental Services, Inc. subsequently submitted a *Combined Remedial Investigation Report/Final Report* to PADEP on June 29, 2021, to document the remediation of the release area. PADEP identified technical deficiencies in the report in a letter dated August 26, 2021.

BDH is working to address the technical deficiencies identified by PADEP, including the collection of additional attainment samples in May 2024. BDH is currently reviewing the May 2024 analytical results to determine if additional remediation is needed.

## 2.2 No. 3 Separator Release

The No. 3 Separator Remediation System was a 10-well total fluids recovery system installed by Evergreen in 2012 to address light non-aqueous phase liquid (LNAPL) from a prior release in the area of the property along the Schuylkill River near the No. 3 oil-water separator. In 2013, BDH assumed primary responsibility for the No. 3 Separator Remediation System due to petroleum releases from a process sewer system, which connected the 137 Unit to the No. 4 Separator.

BDH continued to operate and monitor the recovery system until October 2021 when it was shut down due to the termination of the compressed air supply from the Facility as part of decommissioning. The compressed air had been used to power the pneumatic pumps for the system. Increases in LNAPL thicknesses were periodically observed in the monitoring and recovery wells associated with the system between 2013 and October 2021. These occasions of increased thickness are likely associated with leaks from the adjacent process sewer. Increased LNAPL thickness/product recovery also coincided with the decommissioning of the 137-process unit during the spring and summer of 2021. Since the completion of decommissioning activities on August 16, 2021, the process sewer has been cleaned to remove residual oil.

After the shutdown of the plant air in October 2021, skimmer pumps have been used to remove measurable LNAPL from the monitoring and recovery wells associated with the No. 3 Separator Remediation System. Stantec (on behalf of BDH) previously conducted bi-weekly LNAPL gauging of the monitoring and recovery wells. Stantec's LNAPL gauging data is presented in Attachment A. LNAPL levels have been generally stable in the monitoring and recovery wells in this area since December 2021 with the exception of monitoring well C-169. The LNAPL level in C-169 increased in March and April 2022, and fluctuated in May and June 2022. When the measurable LNAPL thickness reaches 1 foot, a skimmer pump is used to remove the LNAPL from C-169. The LNAPL level in C-169 last exceeded 1 foot in September 2022; this increase in LNAPL coincided with the end of demolition of the 137 Process Unit.

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<sup>3</sup> Sample locations were chosen using a systematic random approach.



LNAPL levels have not exceeded 1 foot in C-169 since September 2022; however, the skimmer pump was utilized to remove free product in January 2023 when the LNAPL level reached 0.7 feet. The skimmer pump was also utilized in August 2023 while a contractor was in the area, despite the LNAPL level being 0.1 feet at that time. As of January 2023, Stantec has reduced the gauging scope to routine gauging of recovery well C-169. LNAPL levels did not exceed 0.02 feet in C-169 in the period from February 2024 to July 2024; however, the skimmer pump was utilized on three occasions during this time period to remove the thin LNAPL accumulation.

A NIR was submitted in March 2022 to address the soil and groundwater-related impacts associated with the release under the non-residential SHS. BDH is continuing to conduct active monitoring associated with this release.

## 2.3 UDEX Release

In the summer of 2018, Stantec (on behalf of Evergreen) performed a routine annual well gauging event across the Facility. During their review and analysis of the data, Stantec identified LNAPL in two monitoring wells where LNAPL had not been previously identified (i.e., S-414 and S-283) and an increased LNAPL thickness in an additional well (i.e., S-382). In July 2018, Stantec (on behalf of Evergreen) collected samples of the LNAPL from the wells for analysis and fingerprint comparison to known products and refinery intermediates. The laboratory indicated that the LNAPL was a refinery intermediate called reformat. The laboratory also provided a basic interpretation indicating that the LNAPL collected from the two wells (that previously did not contain LNAPL) was a light petroleum distillate of unknown weathering degree. The LNAPL collected from the well with increased LNAPL thickness was chemically similar to the other samples, but also contained smaller amount of extremely weathered middle petroleum distillate. Based upon the results, it is believed that comingled LNAPL plumes are present in this area.

In late July 2018, BDH identified a leak from an underground portion of a product line that conveyed reformat (a feed for the UDEX unit). The line was emptied, isolated, bypassed and replaced with a new aboveground line constructed in the same location as the underground line. BDH has retained Stantec to characterize and remediate the release area. Multiple rounds of subsurface investigation have been conducted to characterize the nature and extent of the release. Additionally, over 96,000 gallons of free product was recovered from the subsurface by skimmer pumps operated at three recovery wells between September 2018 and November 2021, and over 24,000 gallons of free product was converted to vapor, extracted, and combusted during a pilot test of soil vapor extraction (SVE) technology between April 2021 and January 2022. A Full-Scale SVE Design Technical Memo was prepared by Stantec in February 2022 and was included in the August 2022 Status Report. The full-scale SVE system began operation in May 2022. The full scale SVE system initially used two internal combustion engine units, the Model V4 supplied by Remediation Services International, which consists of two 460 cubic inch V8 engines each. A third unit consisting of two single-engine Model V3 units plumbed together began operation on August 17, 2022. As of July 26, 2024, a total of 266,017 gallons of LNAPL were recovered/destroyed since UDEX release remediation activities began in 2018. A NIR was submitted in March 2022 to address the soil and groundwater-related impacts associated with the release under the non-residential SHS.



## 2.4 Release East of Former Tank PB 253

In July 2016, PES personnel discovered product-soaked soil at the ground surface just outside of the emergency containment berm for AST PB 253. As part of immediate response actions, the area around the product-soaked soil was excavated and removed. In addition, an underground product line which ran north-south along the access road adjacent to this area was suspected by PES personnel to have leaked as well. This north-south pipe was unearthed and repaired. It is unknown how much product was released from the pipeline or for how long before remedial actions were initiated.

In December 2021, BDH conducted Site Assessment sampling in the vicinity of PB 253 in support of efforts to close ASTs in Tank Group 05 in accordance with the Storage Tank and Spill Prevention Act (Act 32) and Title 25 Pennsylvania Code (25 Pa. Code) Chapter 245 (Subchapter D). This sampling identified benzene and naphthalene in soil at concentrations greater than the non-residential MSC in samples collected east of PB 253. While there was no obvious evidence of a release to the environment from the tank, since the nature and extent of these constituents in soil had not yet been defined, a potential release from PB 253 was reported<sup>4</sup> to the PADEP on January 3, 2022. In response, PADEP assigned the potential release to Incident No. 57203.

Subsequent Site Characterization sampling to define the nature and extent of constituent concentrations in soil in the area, data evaluation, and a review of historical documentation led to the determination that the presence of these constituents in soil was not the result of a release from the PB 253 system. Results of the investigation demonstrated that the extent of release-related contamination (predominantly benzene) associated with the 2016 release is limited to soil and proximal to where the product-soaked soil and the north-south underground pipeline were identified. As discussed on a conference call with PADEP on February 9, 2024, and memorialized in the *Tank Group 05 Subsurface Investigation Report* (March 2024), BDH informed the Department that it was withdrawing the release notification for PB 253, and that the soil contamination identified east of PB 253 would be further investigated and managed as necessary by BDH as a separate matter under Act 2. In its May 23, 2024 correspondence, PADEP indicated that the March 2024 report demonstrated that the contamination associated with the 57203 incident was the result of a release outside the regulated storage tank containment area, thus administratively closing incident No. 57203.

A NIR for the release east of former tank PB 253 was submitted to PADEP on March 5, 2024 (eFacts 874428). A copy of the NIR was also submitted to the local municipality (City of Philadelphia) and a legal notification was published in the *Philadelphia Inquirer*. BDH is currently preparing a Remedial Investigation Report and Cleanup Plan for the release area east of former tank PB 253.

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<sup>4</sup> The notification indicated that unknown amounts of petroleum-related substances were potentially released in Tank Group 05 from PB 253.





## 3 Releases During Decommissioning and Demolition

Below is a summary of the status of releases that have occurred during the decommissioning and demolition of the former refinery.

### 3.1 860 Unit Cooling Tower and Hartranft Street Release

On October 11, 2021, a petroleum release occurred during the removal of overhead pipelines within the pipe rack located near the 860 Unit Cooling Tower and Hartranft Street. The pipeline that caused the release was an out-of-service line used to remove water from two ASTs (PB 840 and PB 843) in the area. Both ASTs were formerly used to store crude oil. The total area of the release was approximately 910 square feet, and 480 ft<sup>2</sup> of this area is an asphalt roadway. NorthStar Contracting Group, Inc. (NorthStar) conducted immediate cleanup actions relating to the residual liquids remaining on the low-permeability asphalt. Soil located beneath this asphalt is not expected to have been impacted by the release. The remaining 430 ft<sup>2</sup> of the release occurred on soil adjacent to the asphalt.

NorthStar proceeded to conduct a limited soil excavation in the unpaved areas impacted by the release. Surficial soil up to 1 ft in depth was removed using an excavator and screened for signs of impact. Impacted soil was identified using a photoionization detector, olfactory evidence, and visual staining as indicators. Approximately 12 to 14 cubic yards of soil were removed and deposited in a roll-off container. On January 6, 2022, the excavated soil was transported to the Pure Soil Technologies facility in Jackson, New Jersey for disposal.

Following soil excavation, post-excavation soil sampling activities were conducted by NorthStar. Concentrations of the targeted constituents were either not detected above laboratory reporting limits or were detected at concentrations below the non-residential SHS MSCs.

A NIR was submitted in March 2022 to address the soil-related impacts associated with the release under the non-residential SHS. Shortly thereafter, BDH submitted a Final Report in March 2022. On May 20, 2022, PADEP issued a *Letter of Technical Deficiency* for the report that identified five technical deficiencies. On July 19, 2022, BDH addressed these deficiencies and submitted a *Response to Letter of Technical Deficiency* to the PADEP, along with a revised version of the Final Report. PADEP issued a disapproval letter for the Final Report on September 15, 2022.

During May/June 2023, BDH completed additional field activities to 1) define the limits of the prior excavation areas using geophysical methods and 2) perform soil sampling from borings installed along the limits of the defined excavation. In October 2023, BDH returned to the site to conduct additional sampling to demonstrate attainment of the SHS. BDH submitted the Final Report to PADEP on March 1, 2024, and the PADEP issued its Statewide Health Standard Final Report Approval on April 26, 2024. As such, details regarding this release will be removed from future Status Reports, unless PADEP objects and would like to continue tracking the BDH closed Act 2 cases.



## 3.2 PB 881 Dike Roadway Release

On November 16, 2021, a petroleum/water mixture was released during the removal of overhead pipelines within the pipe rack located along the dike roadway west of the PB 881 tank containment dike. NorthStar was demolishing the tank infrastructure in the area at the time of the release. The pipeline that caused the releases was associated with ASTs that were formerly used to store crude oil. The releases to ground surface occurred in three distinct areas (“Areas 1, 2, and 3”), which were reported to be approximately 640, 300, and 160 ft<sup>2</sup>, respectively. NorthStar conducted a prompt interim response, including a product recovery and an excavation of obviously contaminated soil, immediately following discovery of the releases. Approximately 95 tons of soil excavated during this response effort were disposed off-site.

Following the excavation, BDH developed and implemented a sampling plan to demonstrate attainment of the PADEP SHS and/or Site-Specific Standard (SSS) under Act 2. Sampling locations were selected at random via PADEP’s Systematic Random Sampling Workbook. The initial sampling results indicated that additional remediation was needed in one of the three impacted areas (Area 2). NorthStar conducted additional excavations in Area 2 in May and November 2022 and removed approximately 128 tons of additional soil from the area. The results from attainment sampling after completion of the additional excavation indicate that no additional remediation is warranted. The soil sample results have demonstrated attainment of the SHS in each area.

A NIR was submitted to PADEP on June 20, 2023 (eFacts 856437). A copy of the NIR was also submitted to the local municipality (City of Philadelphia) and a legal notification was published in the *Philadelphia Inquirer*. The NIR indicated that soil will be remediated to the SSS. As such, the City of Philadelphia was notified of a 30-day public comment period. In response, the City requested a Public Involvement Plan. Although the NIR indicated that BDH intended to remediate soil to attain the SSS, further evaluation after the submission of this NIR indicated that the attainment soil sample data set demonstrates attainment of the SHS. Notwithstanding, BDH held a public information session for this release on February 12, 2024. The outcome of the public meeting was included in the Final Report, which BDH submitted to PADEP on March 1, 2024. PADEP issued its Statewide Health Standard Final Report Approval on April 30, 2024. As such, details regarding this release will be removed from future Status Reports, unless PADEP objects and would like to continue tracking the BDH closed Act 2 cases.

## 3.3 No. 4 Separator Release

On October 8, 2022, a release from the No. 4 Separator occurred as a result of an overflow from the unit due to a check valve failure and backflow from Tank 1136 to the No. 4A Separator. Based upon the information provided by NorthStar, the oil and water level rose over a portion of the Separator’s wall and then flowed along the overland grade of the adjacent roadway and eventually reached the bulkhead along the Schuylkill River. Oil and water then migrated through gaps in the sheet pile bulkheads and entered the Schuylkill River. Oil and water also entered the on-site sewer system and overflowed at several sewer box and sewer inlet locations along the bulkhead. The release area was approximately 6,700 ft<sup>2</sup> and approximately 10,900 gallons of fluids were estimated to have been discharged.



NorthStar notified PADEP and the National Response Corporation of the release on October 8, 2022 and conducted a prompt interim response, including the deployment of containment booms and sweeps on the Schuylkill River, application of approximately 25 bags of oil dry material, isolation and removal of oil contaminated debris, removal of the contaminated debris between the sheet pile walls, and vacuuming of oil and water from around the exterior of the sewer boxes that overflowed. Approximately 106 tons of surficial soil (between 6 and 12 inches [in] bgs) was excavated and transported off-site for disposal.

Between February and March 2023, BDH conducted initial soil sampling activities in and around the release to characterize the nature and extent of chemicals of potential concern (COPC) in soil in the area of the No. 4 Separator as a result of the release. The targeted constituents were detected at concentrations below the non-residential SHS MSCs at all locations except SEP4-SB19. In September 2023, BDH developed and implemented a sampling plan to demonstrate attainment of the PADEP SHS and/or SSS under Act 2. Sampling locations were selected at random via PADEP's Systematic Random Sampling Workbook. The results from attainment sampling indicate that no additional remediation is warranted. The soil sample results have demonstrated attainment of the SHS.

A NIR was submitted to PADEP on March 12, 2024 (eFacts 874442). A copy of the NIR was also submitted to the local municipality (City of Philadelphia) and a legal notification was published in the *Philadelphia Inquirer*. The NIR indicated that soil will be remediated to the SHS. BDH subsequently submitted a Final Report to PADEP on April 8, 2024 to document the remediation of the release area. On June 4, 2024, PADEP issued a *Letter of Technical Deficiency* for the report that identified one technical deficiency. Based on conversations with PADEP, BDH has performed limited additional sampling in the area of the No. 4 separator release. BDH submitted a *Response to PADEP Comments on the Final Report* to PADEP on July 19, 2024. BDH is awaiting a response from PADEP.

### 3.4 ROW-3 Release on June 22, 2023 Area

On June 22, 2023, a petroleum/water mix was released during demolition activities and removal of a subsurface pipe within ROW-3, approximately 0.45 miles south of Frontage Road. Environmental Maintenance Company (EMC) conducted immediate response actions which included the removal of pooled liquids via vacuum truck and placing oil absorbent pads in the area. EMC identified a 4-inch oval shaped hole on the underside of the pipe as the origin of the release. Approximately 40-50 gallons of fluids were estimated to have been released. The liquids removed from the release area were contained in frac tanks on site. Between June and July 2023, impacted soil identified by visual observations and field screening was excavated down to a maximum depth of 7 ft bgs. Approximately 165 cubic yards of soil were removed and transported off-site for disposal.

In July 2023, BDH developed and implemented a sampling plan to demonstrate attainment of the PADEP SHS and/or SSS under Act 2. Sampling locations were selected at random via PADEP's Systematic Random Sampling Workbook. Concentrations of the targeted constituents were detected at concentrations below the non-residential SHS MSCs. While 1,2-dibromoethane (EDB) was not detected in soil, 10 out of 14 samples exhibited method detection limits (MDL) greater than the non-residential SHS MSCs by USEPA Method 8260D. The attainment sampling locations were re-sampled in August 2023 to analyze EDB by USEPA Method 8011. All EDB concentrations found during the August 2023 soil



sampling event were below the non-residential SHS MSCs. The results from attainment sampling indicate that no additional remediation is warranted.

A NIR was submitted to PADEP on April 10, 2024 (eFacts875427). A copy of the NIR was also submitted to the local municipality (City of Philadelphia) and a legal notification was published in the *Philadelphia Inquirer*. The NIR indicated that soil will be remediated to the SHS. BDH is currently preparing a Combined Remedial Investigation/Final Report.

## 4 Releases Identified during AST Closure

Removal of the ASTs and associated infrastructure began in December 2020. In accordance with Terraphase's (2021) *Aboveground Storage Tank Closure Work Plan*, which was approved by the PADEP on April 23, 2021, site assessment sampling was initiated in May 2021 for tanks that had been adequately decommissioned and demolished to facilitate sampling. Bi-weekly status summary reports and monthly teleconference calls have occurred since early May 2021 to document for PADEP the work performed as part of the AST closure effort. In addition, BDH and PADEP participate in monthly status calls to discuss any issues related to the AST closure effort.

As detailed in the *Aboveground Storage Tank Closure Work Plan*, the work is progressing in a phased approach and instead of submitting individual site assessment results, closure reports, and closure forms for individual tanks, the Site Assessment and Site Characterization results for tank groupings will be documented in Tank Group Closure reports. The property has been divided into nine Tank Groups<sup>5</sup> (Figure 2). To date, demolition has been performed in all nine tank groups (Tank Groups 01 through 09). Additional details relating to AST closure progress are available in Terraphase's *Bi-Weekly Status Summary Reports*, and updates to the AST closure program are in each semi-annual Status Report. *Site Characterization Reports* have been submitted for Tank Groups 01, 02, 03, 04, 06, and 07. BDH has received feedback from PADEP on the Site Characterization Reports and will address these comments in future submissions. A revised *Tank Group 02 Site Characterization Report* was submitted on July 22, 2024.

A *Tank Group 05 Closure Report Addendum* was submitted on September 21, 2023, indicating that the exceedances of MSCs identified during Site Assessment sampling were not related to a release from the regulated storage tank systems. This release, located east of former AST PB 253, will be closed under Act 2 and is discussed in Section 1. In response to a request from PADEP for additional information regarding subsurface soil conditions associated with Incident No. 57203 (and other historical release areas) in the vicinity of PB 253, a *Tank Group 05 Subsurface Investigation Report* was submitted to PADEP on March 26, 2024. PADEP issued its Closure Report Approval for Tank Group 05 on May 23, 2024.

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<sup>5</sup> As of December 2022, aboveground storage tanks GP R 250 and GP R 251 have been re-assigned to Tank Group 07A due to inaccessibility for Site Assessment sampling and was evaluated separately from Tank Group 07. In March 2023, Tank Group 09, located in the southern portion of the Girard Point Refinery, was added to the AST closure scope of work.



Soil and groundwater Site Assessment sampling was completed in Tank Group 07A, and there was no indication of a release to the environment from the tanks. A *Tank Group 07A Closure Report* was submitted to PADEP on February 20, 2024. PADEP has requested that this report is included in the submittal in the forthcoming Site Characterization Report for Tank Group 07.

BDH completed Site Assessment sampling in Tank Groups 08 and 09 during this reporting period. Based on the findings of the site characterizations, releases in each tank group will be addressed through Corrective Action under Act 2 or Act 32.

## 5 Closing

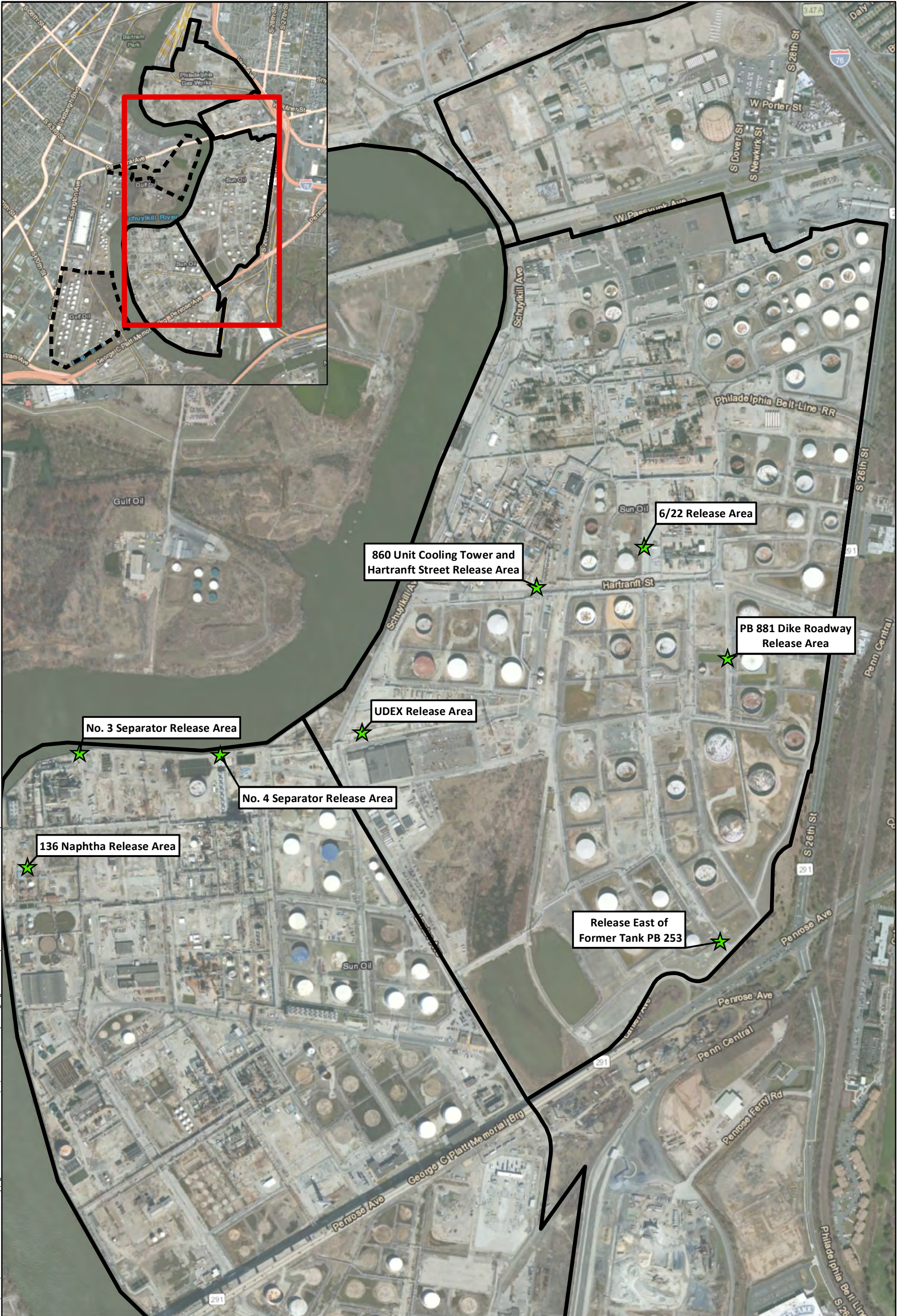
Should you have any questions, please contact Amy Piccone ([apiccone@hilcoglobal.com](mailto:apiccone@hilcoglobal.com)) and Julianna Connolly ([jconnolly@hilcoglobal.com](mailto:jconnolly@hilcoglobal.com)) at HRP Group.



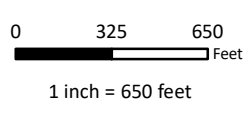
# Figures

- 1 Post-2012 Release Areas Pursuing Act 2 Closure
- 2 Tank Groups





File: N:\GIS\Prj\044\_001\_PESRM-PES\WXDS\Seml Annual Status Summary\Figure 1 - Release Areas.mxd, 7/17/2024. Created by: M. Ingling. Coordinate System: NAD 1983 2011 StatePlane Pennsylvania South FIPS 3702 FT US



Notes: Aerial imagery source Maxar 10/19/2019

**SAFETY FIRST**

CLIENT:	Bellwether District Holdings, LLC
PROJECT:	August 2024 Semi-Annual Status Summary
PROJECT NUMBER:	P044.001.008

**Post-2012 Release Areas Pursuing Act 2 Closure**

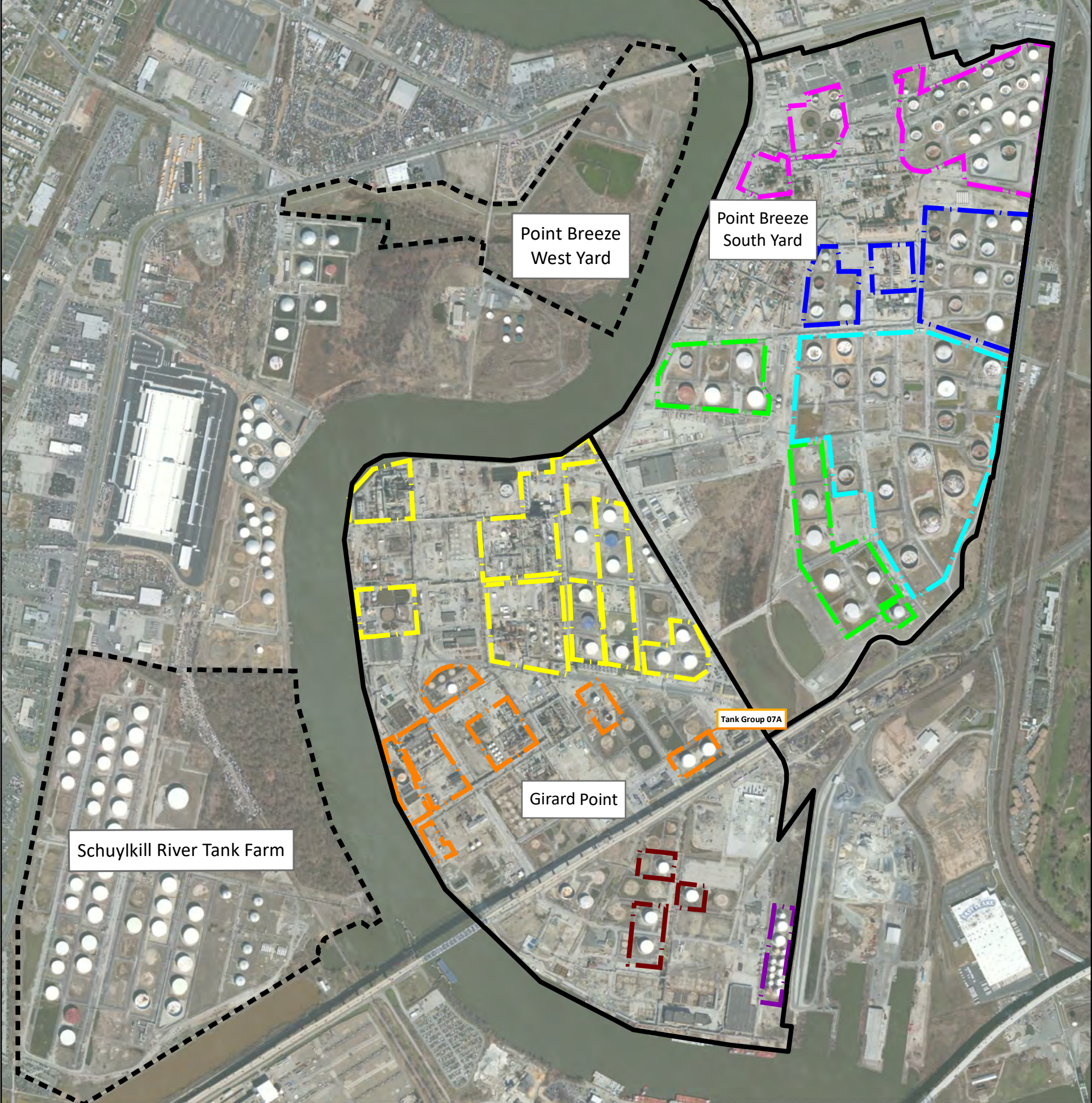
**Figure 1**

**Legend**

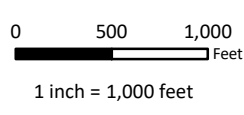
- Subject to AST Closure Plan
- - - Not Subject to AST Closure Plan
- ☐ Tank Group 01 Boundary
- ☐ Tank Group 02 Boundary
- ☐ Tank Group 03 Boundary
- ☐ Tank Group 04 Boundary
- ☐ Tank Group 05 Boundary
- ☐ Tank Group 06 Boundary
- ☐ Tank Group 07 Boundary
- ☐ Tank Group 08 Boundary
- ☐ Tank Group 09 Boundary

**Note:**

- As of December 2022, aboveground storage tanks GP R 250 and GP R 251 have been re-assigned to Tank Group 07A due to inaccessibility for Site Assessment sampling and will be evaluated separately from Tank Group 07.



File: N:\GIS\Prj\P044\_001\_PESRM-PES\WXDS\Seml Annual Status Summary\Figure 2 - Tank Groups.mxd 7/3/2024 Created by: M.Ingling Coordinate System: NAD 1983 StatePlane Pennsylvania South FIPS 3702 Feet



Notes: Aerial imagery source Maxar 10/19/2019

 	CLIENT: Bellwether District Holdings, LLC	<b>Tank Groups</b>  <b>Figure 2</b>
	PROJECT: August 2024 Semi-Annual Status Summary	
	PROJECT NUMBER: P044.001.008	



# Attachment A

## Table 1 - 3 Separator LNAPL Gauging Data



**Table 1**

## 3 Separator LNAPL Gauging Data

Well ID	Gauging Date	LNAPL Thickness (feet)	Notes
C-169	2/5/2024	0.01	
C-169	2/15/2024	0.01	Ran skimmer pump
C-169	2/21/2024	0.01	
C-169	2/28/2024	0.01	
C-169	3/5/2024	--	No access due to area flooding
C-169	3/20/2024	0.01	
C-169	3/29/2024	0.01	
C-169	4/3/2024	--	No access due to area flooding
C-169	4/9/2024	0.00	
C-169	4/26/2024	0.01	
C-169	4/30/2024	0.01	Ran skimmer pump
C-169	5/10/2024	0.01	
C-169	5/20/2024	0.01	
C-169	5/31/2024	0.02	
C-169	6/5/2024	0.01	
C-169	6/12/2024	0.01	
C-169	6/20/2024	0.01	
C-169	6/26/2024	0.01	Ran skimmer pump
C-169	7/3/2024	0.00	
C-169	7/10/2024	0.01	
C-169	7/16/2024	0.01	
C-169	7/24/2024	0.00	

**Notes**

LNAPL - light non-aqueous phase liquid

LNAPL thickness is in feet and was measured with an optical interface probe (OIP) to the nearest one hundredth of a foot

C-169 - northing 2202266.914, easting 2680430.61