

# **ENVIRONMENTAL SCREENING REPORT**

**CENTERBRIDGE FACILITY  
SOPUS SITE #97611740  
TWENTY-ONE PARCELS  
NEW HOPE, PENNSYLVANIA**

*Prepared for*

Shell Oil Products US  
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Attention: [REDACTED]

October 2014

**URS**

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## Acronyms and Abbreviations

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|            |  |
|------------|--|
| amsl       | above mean sea level   |
| AST        | aboveground storage tank   |
| CERCLA     | Comprehensive Environmental Response, Compensation, and Liability Act  |
| CERCLIS    | Comprehensive Environmental Response, Compensation, and Liability Information System                                     |
| CERC-NFRAP | Comprehensive Environmental Response, Compensation and Liability Information System – No Further Remedial Action Planned |
| CREC       | Controlled Recognized Environmental Condition  |
| EDR        | Environmental Data Resources, Inc.   |
| EPA        | U.S. Environmental Protection Agency   |
| FOLIA      | Freedom of Information Act   |
| HREC       | Historical Recognized Environmental Condition  |
| MCL        | Maximum Contaminant Level  |
| mg/kg      | milligrams per kilogram  |
| MSC        | Medium-Specific Concentration  |
| NPL        | National Priorities List   |
| NTC        | National Transit Company   |
| PADEP      | Pennsylvania Department of Environmental Protection  |
| PADER      | Pennsylvania Department of Environmental Resources   |
| REC        | Recognized Environmental Condition   |
| ROL        | Release of Liability   |
| SOPUS      | Shell Oil Products US  |
| SHS        | Statewide Health Standard  |
| SVOC       | Semi-volatile Organic Compound   |
| URS        | URS Corporation  |
| USGS       | United States Geological Survey  |
| UST        | underground storage tank   |
| VCP        | Voluntary Cleanup Program  |
| VOC        | Volatile Organic Compound  |

Shell Oil Products US (SOPUS) retained URS Corporation (URS) to conduct an Environmental Screening at the former Centerbridge Facility (SOPUS Site #97611740) located in Bucks County, Pennsylvania. The subject property consists of 21 parcels totaling approximately 130 acres that were previously owned by SOPUS or its subsidiaries, and are located near the intersection of Ely Road and River Road, west of the Delaware River. The Bucks County Assessor identifies the municipality as Solebury Township, Pennsylvania, and the mailing addresses as New Hope, Pennsylvania.

URS conducted reconnaissance at the subject property on May 15 and 16, 2014 and again on July 10, 2014. The addresses, associated Parcel Tax ID Numbers, and any observed development for each of the 21 parcels that make up the subject property are as follows:

- Ely Road (no address) (Parcel Tax ID Number [REDACTED]) is primarily a wooded property that is developed with one vacant wooden structure.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded property developed with a single-family residence, detached garage, landscaped areas, and a gravel driveway. An area of standing water associated with an adjacent *freshwater pond* wetland was observed on the southernmost portion of the parcel.
- [REDACTED] (Parcel Tax ID Number 4[REDACTED]) is a wooded property developed with a single-family residence, detached garage, landscaped areas, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, landscaped areas, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, detached garage, landscaped areas, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, detached garage, landscaped areas, farm buildings, fenced pasture, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, barn, pool house, fenced pastures, large landscaped areas, and a gravel driveway. The parcel is bordered to the northeast by the Delaware River and to the southwest by the Pennsylvania Canal.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, detached garage, landscaped areas, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, landscaped areas, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, detached garage, landscaped areas, and an asphalt driveway.

- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, landscaped areas, swimming pool, and an asphalt driveway.
- Ely Road (no address) (Parcel Tax ID Number [REDACTED]) is an undeveloped wooded parcel, zoned for residential use.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a wooded parcel developed with a single-family residence, landscaped areas, and an asphalt driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a landscaped property developed with a small residence, a larger older building, and a gravel driveway.
- River Road (no address) (Parcel Tax ID Number [REDACTED]) is primarily a landscaped property, zoned for commercial/retail use, developed with a barn (possibly a former public works building) and a gravel driveway.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a landscaped property developed with a single-family residence, separate garage, an older historic building, and an asphalt driveway.
- Ely Road (no address) (Parcel Tax ID Number [REDACTED]) is a Bucks County-owned undeveloped wooded property, zoned for use as conservancy, with a pond on the northern portion of the parcel.
- Ely Road (no address) (Parcel Tax ID Number [REDACTED]) is a Bucks County-owned undeveloped wooded property, zoned for use as conservancy, with a stream running through the southwestern portion of the parcel.
- [REDACTED] (Parcel Tax ID Number [REDACTED]) is a narrow landscaped property located between River Road and the Pennsylvania Canal, developed with a single-family residence, detached garage, garden building, gazebo, landscaped areas, vegetable garden, manmade frog pond, and a gravel driveway.
- River Road (no address) (Parcel Tax ID Number [REDACTED]) is a Bucks County-owned undeveloped wooded property with a hiking trail leading to the Delaware River, zoned for use as county government land and maintained as a county park. This parcel is bordered to the northeast by the Delaware River and to the southwest by the Pennsylvania Canal. A stream was observed running northwest to southeast along the western portion of the subject parcel.
- River Road (no address) (Parcel Tax ID Number [REDACTED]) is a Bucks County-owned undeveloped wooded property zoned for use as county government land.

Parcels with approved access were observed from the parcel itself; parcels without approved access were observed from adjoining parcels or from Ely and/or River Roads. URS did not enter any residential structures on any of the parcels, and did not access areas that were excessively steep or overgrown, due to safety considerations. In February 2013, URS also conducted a site reconnaissance with a potential buyer on Bucks County Parcels [REDACTED] and 4 [REDACTED] for a potential real estate purchase.

Based on a title search and review of historical information, each of the 21 subject property parcels was previously owned by petroleum companies, including Standard Oil Company, Humble Oil & Refining Company, and/or Tuscarora Oil Company, and/or rights to the properties were granted to Tuscarora Oil Company and/or Standard Oil Company for a period of time. This Site Assessment was conducted for parcels owned by SOPUS and/or their subsidiaries. These same parcels may have also been owned at some time by other petroleum companies listed above. The subject property parcels were owned by SOPUS and/or their subsidiaries, with the majority observed or documented to have infrastructure used for petroleum storage and conveyance since before 1900.

Historic aerial photographs were reviewed to evaluate historical uses of the subject property. In the 1938 and 1954 aerial photographs, evidence of earthen berms that historically supported multiple large aboveground storage tanks (ASTs) and smaller ASTs, as well as structures reportedly used as pump houses, pumping stations, and other petroleum storage and conveyance activities, are visible in the historic aerial photographs to the west of the intersection of River Road and Ely Road. Two burn pits and two underground pipelines are also visible east of the Pennsylvania Canal from the intersection of River Road and Ely Road. A limestone quarry is visible on the subject property, south of the intersection of River Road and Ely Road, in the 1938 and 1953 aerial photographs, after which it appears as wooded land. Based on aerial photographs, all ASTs were removed from the subject property by 1978. The majority of the subject property parcels were developed as residential properties by 1984, while the parcels currently owned by Bucks County remained wooded and undeveloped. Based on observations made during the site reconnaissance, several of the older buildings associated with the former oil operations still remain on the subject property. Several historic structures associated with petroleum storage and conveyance activities were observed during the site reconnaissance. No evidence of any current petroleum or fuel storage or conveyance is evident on the subject property.

The following Environmental Data Resources, Inc. (EDR) listing was identified within the subject property boundaries:

- Tuscarora Oil, identified at the intersection of River Road and Ely Road, is listed in the Comprehensive Environmental Response, Compensation and Liability Information System – No Further Remedial Action Planned (CERC-NFRAP) database. A release was discovered on the site on December 4, 1992, and a preliminary assessment was completed on April 6, 1993. The site was granted NFRAP status on April 6, 1993, and was not placed on the National Priorities List (NPL). During this assessment, samples of potable well water were taken under the direction of the U.S. Environmental Protection Agency (EPA). The well water samples taken during the EPA drinking water investigation did not indicate the presence of petroleum constituents.

The following EDR listings were identified outside the subject property boundaries:

- Kovalchick Salvage Co. at Bucks County Parcel [REDACTED] west of the intersection of Ely Road and River Road, is identified in the Pennsylvania Voluntary Cleanup Program (VCP) and Pennsylvania Act 2-DEED databases. The VCP program listing identifies multiple sites within the [REDACTED] property, all listed as “Completed Sites” with an approval date of October 27, 2009. The contaminants are listed as No. 2 Fuel Oil, and “other organics” in soil and groundwater, reported on June 1, 2006. Multiple subject

property parcels adjoin Kovalchick Salvage Co. property. The Kovalchick Salvage Co. received a Release of Liability (ROL), indicating that cleanup of the site was performed in accordance with the Pennsylvania Act 2 Land Recycling Program; therefore, the Kovalchick Salvage Co. is not likely to represent an environmental concern to the subject property at this time.

- [REDACTED] Residence ([REDACTED]), located topographically upgradient and approximately 1,000 feet southwest of the western portion of subject property, is identified in the PA Unregulated Tanks database for a No. 2 Fuel Oil tank. The site classification is listed as “Cleanup of Tanks using authorities other than Act 32,” and closure information was not provided. Due to the lack of closure information and likely hydrologically upgradient location relative to the subject property, the [REDACTED] Residence location presents an environmental concern to the subject property.

Based on the scope of activities conducted for this Environmental Screening, the following Recognized Environmental Conditions (RECs) were identified on the subject property:

- **RECs #1-3: Parcels** [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] *(On Subject Property)*: Unknown quantities and extent of the documented releases to the environment from former numerous large ASTs used for petroleum storage on and in the vicinity of the subject property.
- **REC #4: Parcel** [REDACTED] *(On Subject Property)*: The Tuscarora Oil property, identified at the intersection of River Road and Ely Road, is listed in the CERC-NFRAP database. The well water data collected during the CERCLA investigation did not indicate the presence of petroleum impact. The Tuscarora Oil CERC-NFRAP site was granted NFRAP status in 1993. However, petroleum constituents were still documented in the soil and groundwater between 1994 and 1996.
- **REC #5: Parcel** [REDACTED] *(On Subject Property)*: The structure and materials observed on Bucks County Parcel [REDACTED] that were likely used as part of the historical petroleum storage and conveyance operations.
- **REC #6: Parcel** [REDACTED] *(On Subject Property)*: A release of an unknown amount of gasoline product from the Tuscarora pipeline on the subject property, the documented subsurface impact, and the unknown portion not recovered.
- **REC #7: Parcel** [REDACTED] *(On Subject Property)*: Dark and rust-colored materials observed in the stream on the southwest portion of Bucks County Parcel [REDACTED]. In addition, a petroleum-like odor was noted on this parcel.
- **RECs #8-12: Parcels** [REDACTED] *(On Subject Property)*: Historical exceedances of constituents in soil (at Parcel [REDACTED] and groundwater (at Parcels [REDACTED] [REDACTED]) above applicable regulatory standards at the subject property.
- **REC #13: Parcel** [REDACTED] *(On Subject Property)*: The floating layer of petroleum product (i.e., NAPL) in groundwater obtained from Bucks County Parcel [REDACTED] represents a REC.

- **REC #14:** Parcel [REDACTED] (*On Subject Property*): A reported oil layer in well water obtained from Bucks County Parcel [REDACTED].
- **REC #15:** Parcel [REDACTED] (*On Subject Property*): The documented presence of oil seeps on Bucks County Parcel [REDACTED], former use of the property as a coal yard, and the potential that gas was detected in the onsite well.
- **REC #16:** West of Subject Property Parcels (*Off Subject Property*): The proximity of the 28 Tuscarora Oil Company ASTs to the subject property, single-walled AST construction, lack of adequate secondary containment, and lack of information regarding spill history.
- **REC #17:** Southwest of Subject Property Parcels (*Off Subject Property*): The [REDACTED] Residence listed on the PA Unregulated Tank Cases database for a No. 2 Fuel Oil tank is in a likely hydrologically upgradient location relative to the subject property.
- **REC #18:** Parcel [REDACTED] (*On Subject Property*): Steel pipes were observed penetrating the floor and the southwest wall of the large historic structure on Bucks County Parcel [REDACTED]. The presence of infrastructure likely used in historical petroleum storage and conveyance represents a REC.
- **REC #19:** Parcel [REDACTED] (*On Subject Property*): The presence of a UST at Bucks County Parcel [REDACTED] with no additional information represents a REC.
- **REC #20:** Parcel [REDACTED] (*On Subject Property*): The burn pits that were formerly located on Parcel [REDACTED] and used by Tuscarora Oil to burn off crude oil, gasoline, and water after a release from a gasoline pipeline in 1938 represents a REC.

The following Historical Recognized Environmental Condition (HREC) was identified:

- **HREC #1:** Parcel [REDACTED] (*Off Subject Property*): Petroleum impact is documented for the offsite Kovalchick Salvage Co. (Bucks County Parcel [REDACTED]), including No. 2 Fuel Oil and “other organics” into the soil and groundwater. The Kovalchick Salvage Co. received a ROL, indicating that cleanup of the site was performed in accordance with the Pennsylvania Act 2 Land Recycling Program.

The following environmental concerns were also identified during a review of past environmental investigations performed at the subject property parcels:

- Presented data, in some cases, do not show soil sample depths (i.e., WB-5 through WB-8, WB-9N, WB-9S, and WB-10).
- The locations on Parcel [REDACTED] of two soil samples (501 and 502) with exceedances above regulatory criteria are unknown.
- Based on site observations and review of existing documentation, it appears that some areas on the subject property have not been adequately characterized for potential releases.
- Tuscarora reportedly removed an unidentified pipeline and tankage in 1949; however, in August 1993, U.S. EPA discovered an abandoned underground pipeline on the Kovalchick parcel (Parcel [REDACTED]). There is a potential that other pipelines and



other petroleum storage and conveyance structures may still be present on the subject property parcels.

URS recommends that an environmental investigation be performed to characterize the nature and extent of released petroleum constituents identified at and in the vicinity of the subject property.

## **SECTION ONE: INTRODUCTION**

### **1.1 PURPOSE**

Shell Oil Products US (SOPUS) retained URS Corporation (URS) to conduct an Environmental Screening at the former Centerbridge Facility (SOPUS Site #97611740) located in Bucks County, Pennsylvania. The subject property consists of 21 parcels totaling approximately 130 acres that were previously owned by SOPUS or its subsidiaries, and which are located in the vicinity of the intersection of Ely and River Roads (subject property). The Bucks County Assessor identifies the municipality as Solebury Township, Pennsylvania, and the mailing addresses as New Hope, Pennsylvania. A site-specific report for each of the 21 parcels is included in Appendix A, attached to this report.

URS performed title searches to identify properties owned by SOPUS or its subsidiaries as part of the Environmental Screening. Through the title search task, a total of 21 parcels were identified as being previously owned by SOPUS or its subsidiaries. The objective of the Environmental Screening is to identify conditions that may indicate potential impact at the subject property that may be associated with a former crude oil pipeline and storage facility that was located on the subject property (known as SOPUS Site #97611740, “Centerbridge Facility”), which operated from 1897 until 1960.

For each of the 21 subject property parcels, URS conducted a review of potential property contamination issues by using standards of practice widely recognized by environmental professionals in the industry, and following the principles and guidelines of Phase I Environmental Site Assessment Process (ASTM Standard E 1527-13), when possible; however, it is understood that this investigation is not associated with any property transactions that would require full conformance with or adherence to the ASTM standard. Environmental concerns or issues are referred to in this report as a “Recognized Environmental Condition” in accordance with the ASTM Standard E 1527-13.

A Recognized Environmental Condition (REC) is defined as:

*“The presence or likely presence of any hazardous substances or petroleum products in, on or at a property due to any release to the environment, under conditions indicative of a release to the environment or under conditions that pose a material threat of a future release to the environment. De minimis conditions are not recognized environmental conditions.”*

A Controlled Recognized Environmental Condition (CREC) is defined as:

*“A recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (for example, as evidenced by the issuance of a no further action letter or equivalent, or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”*

A Historical Recognized Environmental Condition (HREC) is defined as:

*“A past release of any hazardous substance or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (for example, property use restrictions, activity and use limitations, institutional controls, or engineering controls).”*

While a CREC is always considered a REC, a HREC is not a REC unless the environmental professional determines that the HREC constitutes a REC based on available information.

## 1.2 DETAILED SCOPE-OF-SERVICES

URS performed the following tasks:

1. Performed title searches for properties owned by SOPUS or its subsidiaries to identify parcels appropriate for the Environmental Screening.
2. Contracted with Environmental Data Resources, Inc. (EDR) to conduct a regulatory database search of all available databases in the search radii described in ASTM E 1527-13. This included known underground storage tank (UST) facilities; landfills; hazardous waste generation, treatment, storage, and disposal facilities; and subsurface contamination in the surrounding area up to within 1 mile of the center of the subject property (or subject property boundaries).
3. Conducted inquiries in person, by telephone, or in writing to the appropriate local regulatory agencies for information regarding environmental permits, violations or incidents, and/or the status of enforcement actions at the subject property.
4. Researched subject property history by (a) reviewing a chronology of aerial photographs and topographic maps covering the subject property and adjoining properties available from EDR; and (b) reviewing historical city directories for the subject property and nearby properties available from EDR.
5. Reviewed primary, previous environmental documents prepared for the Centerbridge Facility and adjacent properties.
6. Conducted three separate visits of readily accessible exterior areas of the property to evaluate potential sources of contamination such as current hazardous materials storage or use; unusually stained soils, slabs, and pavements; drains, sumps, drums, tanks, and electrical transformers; stressed vegetation; and discarded hazardous materials containers.
7. Interviewed in person site occupants and/or representatives of the subject property, if available.
8. Prepared a site-specific Environmental Screening Report for each of the 21 parcels that comprise the subject property. Each site-specific report is included in Appendix A, attached to this report.
9. Evaluated the information collected and prepared this report summarizing our findings, opinions, and conclusions.

### 1.3 LIMITATIONS AND EXCEPTIONS

This report and the associated work have been provided in accordance with the principles and practices generally employed by the local environmental consulting profession. This Environmental Screening Report is not a regulatory compliance audit or an evaluation of the efficiency of the use of any hazardous materials at the subject property.

This Environmental Screening Report did not include the sampling of soil, water, or other media or any work related to compliance/permitting issues. Findings and opinions are based on information available from public sources on specific dates (historical photographs, maps and regulatory agency files, lists, and databases); this information is changing continually and is frequently incomplete. Unless URS has actual knowledge to the contrary, information provided to URS or obtained from interviews is assumed to be correct and complete. URS does not assume any liability for information that has been misrepresented to us or for items not visible, accessible, or present on the subject property during the time of the site reconnaissance.

Not finding indicators of hazardous materials does not necessarily mean that hazardous materials do not exist on the subject property. There is no investigation sufficiently adequate to preclude the presence of materials on the subject property, which presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants that may be present and considered to be acceptable at the time of this report preparation may become subject to different regulatory standards and require remediation in the future.

Where records indicate that prior remedial work or tank removals have occurred, there is the possibility that the work may not have been performed correctly or completely. Opinions and judgments expressed herein are based on URS' understanding and interpretation of current regulatory standards, and should not be construed as legal opinions.

The accuracy and completeness of this report may be limited by the following:

**Access Limitations** – URS did not access the interior of buildings on the subject property. URS did not access subject property parcels if permission was not granted by the property owner in advance. These parcels were instead observed from adjoining parcels and/or Ely or River Roads.

**Physical Obstructions to Observations** – URS did not access areas that were excessively steep or overgrown, due to safety considerations.

**Outstanding Information Requests** – None at this time.

**Historical Data Source Gap** – Although historical data was available dating back to the 1880s, several gaps in the historical record exceeded 5 years. URS used resources including historical photographs, maps, regulatory databases, and information requests and interviews of local agencies to fill these gaps. It is URS' opinion that no historical data gaps were encountered that would inhibit URS' ability to reach an opinion regarding the historical environmental condition of the subject property.

## **SECTION TWO: SITE DESCRIPTION**

### **2.1 LOCATION AND LEGAL DESCRIPTION**

The subject property consists of 21 parcels totaling approximately 130 acres located in the vicinity of the intersection of Ely and River Roads in New Hope/Solebury Township, Bucks County, Pennsylvania (subject property). A Site Location Map is included as Figure 1. A site-specific report for each of the 21 parcels is included in Appendix A, attached to this report. The addresses, associated Parcel Tax ID Numbers, and land uses for each of the 21 parcels that comprise the subject property are identified as follows:

- Ely Road (no address) (Parcel Tax ID Number [REDACTED]), classified as industrial land use;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number 4[REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- Ely Road (no address) (Parcel Tax ID Number [REDACTED]), an undeveloped property zoned for residential use;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- River Road (no address) (Parcel Tax ID Number [REDACTED]), zoned for commercial/retail use;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- Ely Road (no address) (Parcel Tax ID Number 4[REDACTED]), a Bucks County-owned undeveloped wooded property, zoned for use as conservancy;
- Ely Road (no address) (Parcel Tax ID Number [REDACTED]), a Bucks County-owned undeveloped wooded property, zoned for use as conservancy;
- [REDACTED] (Parcel Tax ID Number [REDACTED]), a residential property;
- River Road (no address) (Parcel Tax ID Number [REDACTED]), a Bucks County-owned undeveloped wooded property, zoned for use as county government land and maintained as a county park; and

- River Road (no address) (Parcel Tax ID Number [REDACTED]) a Bucks County-owned undeveloped wooded property, zoned for use as county government land.

A map depicting the 21 subject property parcels and surrounding parcels owned by others is included as Figure 2. Photographs taken at the subject property during the site reconnaissance are presented in Appendix B. Site reconnaissance observations are included in Figure 3.

## 2.2 PHYSICAL SETTING

Environmental characteristics, including topography, soils, geology, and hydrogeology, were evaluated based on subject property observations, published literature, primary previous environmental documents, and maps.

### 2.2.1 Topography and Drainage

According to the United States Geological Survey (USGS) *Stockton, NJ* 7.5-minute topographic map (USGS 1981), the ground elevation of the subject property ranges from approximately 200 feet above mean sea level (amsl) on the southwestern parcels, sloping downward to approximately 80 feet amsl on the northeastern parcels.

Surface water on the subject property is generally expected to follow the topographic gradient and flow northeast toward the Pennsylvania Canal and the Delaware River. Based on topography, surface water on the subject property parcels is expected to flow northeast to the Pennsylvania Canal and then the Delaware River. Surface water on the subject property parcels northeast of River Road is expected to flow primarily northeast to the Delaware River or southwest in the immediate vicinity of the Pennsylvania Canal.

A review of the U.S. Fish and Wildlife Service National Wetlands Inventory map accessed online shows that designated wetlands are located on the subject property. A 0.59-acre freshwater pond wetland is designated on Parcel [REDACTED] and a 0.60-acre freshwater pond wetland is designated just south of Parcel [REDACTED]. The Pennsylvania Canal is a designated 17.61-acre freshwater pond wetland.

Based on a review of the Federal Emergency Management Agency Flood Insurance Rate Map, the northeastern portion of the subject property between the Pennsylvania Canal and the Delaware River is located within the 100-year floodplain. A small portion of the parcels south of the intersection of Ely Road and River Road are located within the 500-year floodplain.

### 2.2.2 Geology and Hydrogeology

The subject property lies within the Piedmont Upland Section of the Piedmont Physiographic Province, which is underlain by mainly schist, gneiss, quartzite, and some saprolite.

According to the U.S. Department of Agriculture's Soil Conservation Service (shown in the EDR Report), the predominant soil types identified on the subject property are the Buckingham silt loam, Alton gravelly loam, and Lansdale loam. Buckingham silt loam soils are characterized as somewhat poorly drained soils with slow infiltration rates. Alton gravelly loam soils are characterized as deep, well-drained soils with high infiltration rates. Lansdale loam soils are characterized as deep and moderately deep, well-drained soils with moderate infiltration rates.

According to the July 18, 1996 *Solebury Township, Pennsylvania Well Water Investigation Report*, shallow groundwater in the area of the subject property east of the Pennsylvania Canal is likely encountered at a depth of approximately 5 to 10 feet below ground surface and shallow groundwater in the area of the subject property west of the Pennsylvania Canal is likely encountered at a depth of approximately 30 feet below ground surface. Estimated groundwater levels may vary due to seasonal fluctuations in precipitation, local usage demands, geology, underground structures, or nearby dewatering operations. Groundwater in this region is largely used for drinking water and agriculture.

Shallow groundwater in the area of the subject property likely flows to the northeast toward the Delaware River. Based on the July 18, 1996 *Solebury Township, Pennsylvania Well Water Investigation Report*, groundwater at the former Tuscarora Oil property on the east side of the canal discharges to the canal footing drain or flows east toward the Delaware River. However, this report suggests that clay liners installed at the base of the canal during construction may no longer be present causing a leak in sections resulting in a mounded water table surface beneath the channel. The mounded water table could create a barrier to easterly groundwater flow from the subject property to the Delaware River.

Water quality information from individual domestic groundwater wells within the subject property was not provided.

### **2.3 SITE AND VICINITY GENERAL CHARACTERISTICS**

The subject property consists of 21 parcels located in a rural area in the vicinity of the intersection of Ely Road and River Road. Surrounding areas include rural, residential, and agricultural properties.

Figure 4 shows the subject property layout and characteristics, along with adjacent property uses.

### **SECTION THREE: PREVIOUS ENVIRONMENTAL DOCUMENTS**

The following presents a chronological summary of the historical uses and events at the subject property based on available historical investigations, reports, memos, and other documents. Features discussed in the historical reports are illustrated on Figures 5 and 6.

In 1906, the Standard Oil Company of New Jersey established a petroleum pumping station through its subsidiaries, Tuscarora Oil Company and National Transit Company (NTC). According to the *Chronological Summary, Tuscarora Pipeline Leak*, the Tuscarora pipeline consisting of three 8-inch pipes, originally known as the A.C. Bedford Pipeline, was constructed in 1908 to carry crude oil east through the Centerbridge pumping station in Solebury Township (believed to be the pumping station building on Bucks County Parcel #41-028-050-001). In 1929, the pipeline was at least partially converted to carry gasoline, and this continued through the 1950s, when the line was removed from service; it is not known if the pipes remain in the ground. The memorandum regarding the *Solebury Township, Pennsylvania Petroleum Releases* stated that in 1937, Tuscarora constructed an 8-inch diameter gasoline pipeline, and an existing 12-inch diameter pipeline continued to transport crude oil. A 20-inch pipeline, known as the “Big Inch,” was installed through the area south of the Tuscarora Pumping Station in the summer of 1943 (Carmichael, L., Exxon, 1993; Vinson, L.C., Pennzoil, 1997[A]; Havens, G.S. and M.E. Havens, New Hope Historical Society, 1966).

NTC reportedly had six aboveground storage tanks (ASTs) on its property north of Ely Road: five tanks were located on Bucks County Parcel [REDACTED], with one tank partially on Parcel # [REDACTED], and one tank was located on Bucks County Parcel [REDACTED]. These tanks were reportedly designed to hold 80,000 barrels (approximately 3.36 million gallons) of petroleum each. These NTC tanks were constructed of circular steel plates enclosed by a fire bank, which was reportedly designed for containment. Tuscarora Oil Company, which adjoined the NTC property to the west, reportedly housed 28 ASTs holding 100,000 barrels (approximately 4.2 million gallons) each. One of these tanks was located on Bucks County Parcel [REDACTED] (a subject property parcel). These tanks had clay beneath them in an attempt to create a less permeable containment pit, and each tank was also enclosed by a fire bank for containment. A power plant was reportedly in the vicinity, identified on Parcel #4 [REDACTED], to power petroleum pumping operations (Havens, G.S. and M.E. Havens, New Hope Historical Society, 1966).

NTC was divested from Exxon, formerly Standard Oil of New Jersey, during the 1912 antitrust breakup of Standard Oil. NTC, as a completely separate entity, owned and operated tank farms immediately north (across Ely Road) and west of the Tuscarora Pumping Station. Exxon reported that from 1915 to 1937, seven NTC tanks were individually struck by lightning and subsequently caught fire or were destroyed. Various accounts are available of when the lightning strikes happened, how much petroleum was released, and how many barrels of petroleum were burned. One event reportedly caused over 1 million gallons of petroleum to be released and burned, spreading over 2 to 3 acres. The total content of the seven tanks was reported to be approximately 5 million gallons of crude oil. No remediation efforts were documented for any petroleum that reached the ground; Exxon reported that “significant quantities likely burned off.” In 1936, it was reported that crude oil was present in shallow gravel in a well drilled nearby on a Tuscarora property (Carmichael, L., Exxon, 1993; Vinson, L.C., Pennzoil, 1997[A] and 1997[B]).



On April 17, 1938, the New Hope Historical Society reported that thousands of gallons of petroleum product leaked from a Tuscarora pipeline, which ran from western Pennsylvania through a site owned by the Limeport Company (located on Bucks County Parcel [REDACTED]). The leak was discovered after nine successive days of rain resulted in a rise in groundwater, which saturated the soil with crude oil and gasoline. Tuscarora recovered approximately 92,000 gallons of crude oil, gasoline, and water as part of their remedial response. Tuscarora reportedly skimmed a mixture of gasoline and crude oil from the canal and adjacent footing drain area. After recovering as much oil as possible, Tuscarora reportedly burned the remaining accumulated product at these locations. (Carmichael, L., Exxon, 1993; *Intelligencer* newspaper, 1993; Arthur D. Little, Inc., 1996; Vinson, L.C., Pennzoil, 1997[A]).

There was reportedly another break in a Tuscarora-operated pipeline circa 1941–1942; an unknown amount of gasoline was released, and impacts to groundwater were unknown. The location of the release was identified on Bucks County Parcel [REDACTED] (Yaniga, P., 1977). URS notes that this is the sole account of a pipeline release in 1941–1942. URS believes that this may have been the 1938 pipeline break that was referenced in multiple historical sources.

For 3 years, Tuscarora attempted to install new wells on several properties due to impacted groundwater from the Tuscarora pipeline leak. In 1941, Tuscarora Oil drilled a shared well in a shallow aquifer northeast of the spill area (and thus upgradient), and installed a distribution system for approximately 10 to 12 affected homeowners. (Fitzgerald, C.A., Bucks County Department of Health, 1969; Carmichael, L., Exxon, 1993).

In 1943, the War Department installed a 20-inch diameter pipeline known as the “Big Inch” in an offsite area south of the Tuscarora Pumping Station. They used dynamite to blast a trench under the Delaware River for construction, and Pennzoil indicates this may have caused the bedrock to fracture, which may have exacerbated the migration of released substances to the groundwater table (Vinson, L.C., Pennzoil, 1997[A]).

On August 26, 1943, 50,000 barrels of crude oil was released at the Big Inch pipeline, reportedly running over Ely and River Roads and entering Primrose Creek, the Delaware Canal (currently identified as the Pennsylvania Canal), and the Delaware River. Based on distance and topography, it is unlikely that the crude oil ran north to Ely Road as reported; crude likely entered Primrose Creek and crossed River Road prior to entering the canal and Delaware River. Newspaper reports indicate that thousands of gallons poured into the Delaware River; the oil covered the river for more than one mile. The pipeline was reportedly put into place without any pressure testing (Carmichael, L., Exxon, 1993; Ingersoll, B., 1997; Vinson, L.C., Pennzoil, 1997[A] and 1997[B]).

In 1949, Tuscarora reportedly removed an unidentified pipeline and tankage. Reports indicate that as many as 40 tanks could have existed at the site at the height of activity. As of 1958, three tanks on Bucks County Parcel [REDACTED] remained (Ingersoll, B., 1997).

In 1952, NTC transferred Bucks County Parcel [REDACTED] to [REDACTED]; the deed reportedly indicates that the parcel had two pipelines and valves, three oil tanks, a pump house, and several store rooms (Ingersoll, B., 1997).

Tuscarora ceased operations at the site in 1953, but provided funds to the group of homeowners to continue operating the drinking water system (Ingersoll, B., 1997[B]; Vinson, L.C., Pennzoil, 1997[A]). The water distribution system was transferred from Tuscarora to the Limeport

Company in 1962, when Tuscarora Oil Company legally dissolved. In 1969, the Limeport Company reported that Tuscarora Oil Company polluted a rock seam, which contaminated drinking water wells along the seam. (Carmichael, L., Exxon, 1993; Fitzgerald, C.A., Bucks County Department of Health, 1969; Fergusson, I.L., Limeport Company, 1983).

On March 16, 1977, a field investigation was conducted by Pennsylvania Department of Environmental Resources (PADER; now PADEP) in response to the 1941–1942 gasoline leak. The report concluded that the high permeability and porosity of the area soils would account for rapid and widespread contamination of the groundwater supply. The report also stated that localized accumulations of weathered product may exist in the area, and advised to use a citizens' association well, which was installed upgradient of the 1941–1942 gasoline release, and distribution system (Limeport Company) on Bucks County Parcel [REDACTED] (Yaniga, P., 1977).

The U.S. Environmental Protection Agency (EPA) issued a letter to the Limeport Company in 1983 regarding violations of the Limeport Company drinking water of certain sections of the National Interim Primary Drinking Water Regulations. The Limeport Company responded stating they had ceased operations as of January 4, 1983, and that private wells were in use in the area. In 1986, Central Bucks, Inc, reportedly retained a consultant (Bruno Mercuri) to analyze groundwater; no petroleum contamination was reported (Fergusson, I.L., Limeport Company, 1983; Sullivan, A., Limeport Company, 1983; Ingersoll, B., 1997[B]).

In 1991, Bucks County Department of Health reported receiving periodic complaints from residents of Hillside Lane (located south-southeast and downgradient of the subject property) regarding petroleum odor in their well water, and petroleum odor in the air, and seepage of a brown oil-looking substance from the base of the riverside wall of the Pennsylvania Canal. Bucks County confirmed the seepage of a brown oil-looking substance from the base of the riverside wall of the Pennsylvania Canal on February 25, 1991. Mr. Everett C. Hogg of the Health Department requested that PADER (now PADEP) consider reopening the Tuscarora incident (Hogg, E.C., Bucks County Department of Health, 1991).

On July 16, 1992, a complaint was issued to the Bucks County Department of Health describing pollution leaching from the ground “on the side of the canal towpath.” Mr. Ken Lewis, Bucks County Parks Director, visited the property and encountered a strong oil-like smell and a brown/rust-colored stream. The complaint report describes a 6-inch iron pipe and pollution source located about 100 yards to the north of bridge at canal. A letter from the same date (July 16, 1992) stated that Mr. Bill Mitchell, Director of Bucks County Parks and Recreation, agreed with Mr. Lewis that the pipe where Mr. Lewis saw a pollution source was in the bank of the canal on state land, rather than county land (Lewis, K., Delaware Canal State Park, 1992; Glascott, P.A., Bucks County Solicitor, 1992).

On December 4, 1992, the EPA initially listed the Tuscarora Site in the Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database. Investigations were conducted under the direction of the EPA in 1993 in response to drinking water complaints in the area. A Solebury Township, Pennsylvania Well Water Investigation Report prepared by Arthur D. Little, Inc. said that since 1993, Exxon has been working voluntarily with the EPA to determine the nature and extent of reported odors in some of the domestic wells in Solebury Township. The wells represented in this report include wells from Ely Road to the north to Hillside Lane/Old Mill Lane to the south. Weathered petroleum

materials were found in some soil samples and some groundwater, the source of which was determined to be crude oil. The report concluded that the most likely source of crude oil was from the NTC crude oil storage tank failures, and that there is no hydrological or chemical evidence of the 1938 Tuscarora gasoline spill. The EPA delisted the Tuscarora site in April 1993, requiring no further action or investigation (*Intelligencer* newspaper, 1993; Arthur D. Little, Inc., 1996; Ingersoll, B., 1997[B]).

A June 17, 1993 article from the Philadelphia Enquirer discussed the EPA involvement with the residential water well sampling in the Solebury area. The article reports that diethyl benzene, discovered in a private water well in March 1986 at 100 times the limit allowed for drinking water, was not included in the U.S. EPA well water results. The article further states that Jack Owens, the U.S. EPA coordinator overseeing the case, was “puzzled why the agency’s results did not list diethyl benzene” (Ingersoll, B., 1997[B]).

A 1994 proposal for preliminary sampling and mapping of hydrocarbon seeps, burn pit sampling, and data compilation and evaluation is accompanied by a hand-drawn figure that includes several of the subject property parcels. The figure depicts two burn pits on Parcel [REDACTED], a hydrocarbon seep area on the east bank of the canal on Parcel [REDACTED], and two pipelines running through the subject property parcels south of the intersection of River Road and Ely Road, across River Road to Parcel # [REDACTED]. The figure also depicts an infiltration basin, the historical use for which is unknown, on Parcel # [REDACTED]. The pipe break area is identified in this figure on the northeast portion of Parcel [REDACTED], Parcel [REDACTED] [REDACTED] (Geraghty and Miller, 1994).

As of June 1995, EPA made no conclusions regarding groundwater impacts in the area. Exxon indicated that issues may exist in the area related to the 1938 Tuscarora release, fires at NTC, the 1943 Big Inch release, a nearby limestone quarry, or naturally occurring factors (Ingersoll, B., 1997[B]).

A February 1996 complaint to an unknown agency reported heating oil or diesel fuel was leaking from an old brick building described as an old public works building, across from the towpath of the Delaware Canal (currently identified as the Pennsylvania Canal). This is possibly describing the historic pumping station on Bucks County Parcel [REDACTED]. The EPA was advised of the complaint (Complaint regarding suspected leaking storage tanks, 1996).

In June 1996, a Solebury Township Pennsylvania Well Water Investigation Report was prepared. The report indicated that since 1993, Exxon Company, U.S.A. (Exxon) had been working voluntarily with the U.S. EPA to determine the nature and extent of reported odors in some domestic wells in Solebury Township. Exxon’s investigation included the installation of approximately 100 soil borings, the collection and analyses of approximately 40 soil and groundwater samples, and the installation of six observation wells. The investigation extended from Ely Road parcels at the north to Hillside Lane/Old Mill Lane parcels at the south (Arthur D. Little, Inc., 1996).

The studies included residential well sampling in December 1993, a packer test in April 1994, test well installation in May 1994, footing drain sampling from the east side of the canal in May 1994, sampling of other operational areas on the east side of the canal in November 1994, hand auger borings from the west side of the canal in January 1995, Geoprobe sampling on the west side of the canal in January 1995, and installing observation wells in Hillside Lane in October 1995. The report concluded that the hydrocarbon odors in affected homeowner wells was likely

due to trace levels of petroleum-related compounds, the most likely source being the water-soluble fraction of crude oil from the documented National Transit crude oil tank failures and spills. The groundwater, non-aqueous phase liquids, and soil samples from Ely Road to an area 2,000 feet south show contamination by a crude oil source. The source of odors and sheens in the Delaware Canal (currently identified as the Pennsylvania Canal) footing drain was crude oil, the most likely source being the documented National Transit crude oil tank failures and spills. The report concluded that there is no hydrological or chemical evidence of a 1938 gasoline spill from the Tuscarora pipeline to the groundwater samples or to the affected homeowner well water samples. During the installation of a test well located south of the subject property parcels, a sample of rock encountered from 190 to 260 feet bgs was analyzed and found to contain trace petroleum hydrocarbons. (Arthur D. Little, Inc., 1996).

A truck accident occurred along River Road (the exact location was not noted) in 2001, resulting in the discharge of about 60 gallons of oil into a drainage ditch; a sheen was reportedly noted for several hundred feet. The spill was cleaned up using a boom and digging out the drainage ditch (Noll, P.G., Bucks County Department of Health, 2001).

On February 9, 2001, the property located at [REDACTED] received a Notice of Violation (NOV) for a reportable release from a non-regulated tank system. The NOV does not identify the volume or substance released (PADEP, 2001).

A January 2005 complaint issued to the EPA described a fuel smell while walking along the Delaware Canal (currently identified as the Pennsylvania Canal). A fuel spill was reported between the canal and the Delaware River in a small stream. The odor was described as “very strong” and the sheen “significant and vast” (Complaint regarding sheen at park, 2005).

In 2005, a site characterization was conducted at Bucks County Parcel [REDACTED], which is the Kovalchick Salvage site near the subject property. As a part of this investigation, 41 soil borings were installed on Parcel [REDACTED] (not a subject property parcel) and the adjoining parcel to the west, Parcel [REDACTED], a subject property parcel). None of the soil samples collected contained volatile organic compounds (VOCs) or semi-volatile organic compounds (SVOCs) above PADEP’s State Health Standard (SAIC, 2005[A]).

In 2005, a comprehensive evaluation of data relating to the former NTC Centerbridge Station facility was prepared by SAIC. This included wells and soil borings between Ely Road and Chelsea Drive west of River Road, North of Ely Road west of River Road [REDACTED] and east of River Road ([REDACTED]). Several groundwater samples exceeded regulatory standards (SAIC, 2005[B]). URS notes that two soil samples on Parcel [REDACTED] also exceeded regulatory standards.

A detailed summary of information pertaining to individual subject property parcels is included in the site-specific reports for each of the 21 parcels (Appendix A). A summary of select previous environmental documents are included in Appendix C. A comprehensive summary of available laboratory chemical data for groundwater, soil, surface water, non-aqueous phase liquid (NAPL), and sediment collected at the subject property and vicinity is included on tables in Appendix D. Known soil boring and monitoring well locations are illustrated on Figure 7. A summary of select available fingerprint findings is provided in Appendix E. A summary of available data and findings pertaining to samples collected from residential properties is provided in Appendix F. A summary of other reviewed documents is provided in Appendix G.

## SECTION FOUR: RECORD REVIEW

### 4.1 ENVIRONMENTAL DATABASES REVIEW

URS reviewed the federal, state, and local database search lists provided by EDR to evaluate whether activities on or near the subject property have the potential to cause a REC on the subject property. The complete list of databases reviewed is provided in the EDR report, which is included in Appendix H. It should be noted that this information is reported as URS received it from EDR, which in turn reports information as it is provided in various government databases. It is not possible for either URS or EDR to verify the accuracy or completeness of information contained in these databases. However, the use of and reliance on this information is a generally accepted practice in the conduct of environmental due diligence.

The databases searched and the information obtained is summarized below in Table 4-1. Additional supplemental databases searched are summarized in the EDR report. Databases where properties were identified within the search radius of the target property are discussed following Table 4-1.

**Table 4-1: Summary of Environmental Databases**

| Type of Database             | Description of Database/Effective Date   | Search Radius | Number of Identified Sites |
|------------------------------|--|---------------|----------------------------|
| <b>Federal ASTM Standard</b> |  |               |                            |
| NPL                          | The National Priorities List (NPL) identifies uncontrolled or abandoned hazardous waste sites. To appear on the NPL, sites must have met or surpassed a predetermined hazard ranking system score, been chosen as a state's top priority site, pose a significant health or environmental threat, or be a site where the EPA has determined that remedial action is more cost-effective than removal action.   | 1.0 mile      | 0                          |
| Proposed NPL                 | The Proposed National Priorities List (Proposed NPL) identifies uncontrolled or abandoned hazardous waste sites with potential for coverage under the NPL program.   | 1.0 mile      | 0                          |
| Delisted NPL                 | The Delisted National Priorities List (Delisted NPL) identifies hazardous waste sites removed from the NPL program.  | 1.0 mile      | 0                          |
| CERCLIS                      | The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database identifies hazardous waste sites that require investigation and possible remedial action to mitigate potential negative impacts on human health or the environment.  | 0.5 mile      | 0                          |
| CERC-NFRAP                   | The No Further Remedial Action Planned Report (CERC-NFRAP) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as the CERCLIS Archive, contains information pertaining to sites that have been removed from the U.S. EPA's CERCLIS database. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. | 0.5 mile      | 1*                         |

| Type of Database           | Description of Database/Effective Date  | Search Radius   | Number of Identified Sites |
|----------------------------|---|-----------------|----------------------------|
| RCRA CORRACTS              | Identifies hazardous waste handlers with Resource Conservation and Recovery Act (RCRA) corrective action activity (CORRACTS).   | 1.0 mile        | 0                          |
| RCRIS TSDFs                | Resource Conservation & Recovery Information System (RCRIS) treatment, storage, or disposal facilities (TSDFs)  | 0.5 mile        | 0                          |
| RCRA Generators            | RCRA-regulated hazardous waste generator notifiers list. A RCRA conditionally exempt small-quantity generator (CESQG) is defined as a facility that generates less than 100 kilograms (kg) per month of hazardous waste or less than 1 kg of acutely hazardous waste. A RCRA small-quantity generator (SQG) is defined as a facility that generates less than 1,000 kilograms (kg) per month of hazardous waste or less than 1 kilogram per month of acutely hazardous waste. A RCRA large-quantity generator (LQG) is defined as a facility that generates greater than 1,000 kg per month of non-acutely hazardous wastes or greater than 1 kg per month of acutely hazardous wastes. | 0.25 mile       | 0                          |
| ERNS                       | EPA's Emergency Response Notification System (ERNS) list contains reported spill records of oil and hazardous substances.   | Target Property | 0                          |
| <b>State ASTM Standard</b> |   |                 |                            |
| PA SHWS                    | State Hazardous Waste Sites (SHWS) records are the states' equivalent to CERCLIS.   | 1.0 mile        | 0                          |
| NJ SHWS                    | SHWS records are the states' equivalent to CERCLIS.   | 1.0 mile        | 6                          |
| PA SWF/LF                  | Solid Waste Facilities/Landfill (SWF/LF) sites.   | 0.5 mile        | 0                          |
| PA LUST                    | Leaking Underground Storage Tank (LUST) database is an inventory of reported LUST incidents.  | 0.5 mile        | 0                          |
| PA AST                     | Aboveground Storage Tanks (AST) sites.  | 0.25 mile       | 0                          |
| PA UST                     | State Underground Storage Tank (UST) sites.   | 0.25 mile       | 0                          |
| PA INST Controls           | Sites with Institutional (INST) Controls.   | 0.5 mile        | 0                          |
| PA ENG Controls            | Sites with Engineering (ENG) Controls.  | 0.5 mile        | 0                          |
| PA AUL                     | Sites with Activity and Use Limitations (AULs).   | 0.5 mile        | 0                          |
| PA UNREG LTANKS            | Unregulated Tank Cases: Leaking storage tank cases from unregulated storage tanks.  | 0.5 mile        | 1                          |
| PA VCP                     | Voluntary Remediation Sites: Provides administrative, technical, and legal incentives to encourage the cleanup of contaminated sites.   | 0.5 mile        | 1                          |

| Type of Database             | Description of Database/Effective Date   | Search Radius   | Number of Identified Sites |
|------------------------------|--|-----------------|----------------------------|
| PA ACT 2-DEED                | Act 2-Deed Acknowledgment Sites: Sites where PADEP has approved a cleanup requiring a deed acknowledgment under Act 2. Includes sites remediated to a non-residential statewide health standard, all sites demonstrating attainment of a state-specific standard, and sites being remediated as a special industrial area.   | 0.5 mile        | 1                          |
| <b>Additional Databases</b>  |  |                 |                            |
| US BROWNFIELDS               | A listing of Brownfields sites.  | 0.5 mile        | 0                          |
| RCRA NonGen/NLR              | RCRA Non-Generators do not presently generate hazardous waste.   | 0.25 mile       | 0                          |
| FINDS                        | Facility Index System (FINDS) contains pointers to other sources that contain more detail.   | Target Property | 0                          |
| DRYCLEANERS                  | A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; dry cleaning plants, except rugs; carpet and upholstery cleaning; industrial launderers; laundry and garment services. | 0.25 mile       | 0                          |
| <b>EDR Exclusive Records</b> |  |                 |                            |
| EDR US Hist Auto Stat        | EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers.   | 0.25 mile       | 0                          |
| EDR US Hist Cleaners         | EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers.   | 0.25 mile       | 0                          |

\*Includes subject property.

## 4.1.1 Subject Property

The following locations on the subject property were identified in the EDR database report:

- Tuscarora Oil, identified at the intersection of River Road and Ely Road, is listed in the CERC-NFRAP database. A release at the Tuscarora Oil site was discovered on December 4, 1992, and a preliminary assessment was completed on April 6, 1993. The site was granted No Further Remedial Action Planned (NFRAP) status on April 6, 1993, and was not placed on the National Priorities List (NPL). Historic documents indicate that the U.S. EPA conducted sampling of affected residential wells in January 1993, April 1993, and July 1993, and sampled five locations along the Delaware Canal (currently identified as the Pennsylvania Canal) in April 1993; URS presumes this sampling was conducted in conjunction with the 1993 preliminary assessment under CERCLA. None of the well water samples indicated the presence of petroleum impact.

#### 4.1.2 Offsite Properties

The following offsite properties were identified in the EDR database report:

- Kovalchick Salvage Co., identified at the intersection of River Road and Ely Road, is listed in the Pennsylvania Voluntary Cleanup Program (VCP) and Pennsylvania Act 2-DEED databases. Review of previous environmental documents and aerial photographs indicate the property was previously developed with five large ASTs within earthen berms. Previous environmental documents also identify this property as a former NTC property. The VCP listing identifies multiple sites, all listed as “Completed Sites” with a date approved of October 27, 2009. The contaminants are listed as No. 2 Fuel Oil, and “other organics” in soil and groundwater, reported on June 1, 2006. The Act 2-DEED listing appears to reference the VCP sites. The Kovalchick Salvage Co. received a Release of Liability (ROL), indicating that cleanup of the site was performed in accordance with the Pennsylvania Act 2 Land Recycling Program; therefore, the Kovalchick Salvage Co. is not likely to represent an environmental concern to the subject property at this time.
- [REDACTED] Residence [REDACTED], located topographically upgradient and approximately 1,000 feet southwest of the western portion of subject property, is identified in the PA Unregulated Tank Cases database for a No. 2 Fuel Oil tank. The classification is listed as “Cleanup of Tanks using authorities other than Act 32,” and closure information was not provided. Due to the lack of closure information and likely hydrologically upgradient location relative to the subject property, the [REDACTED] Residence location presents an environmental concern to the subject property.
- The remaining sites identified in the EDR database report are located in Stockton Borough, New Jersey, across the Delaware River. These sites are hydrologically separated from the subject property and surrounding areas, and therefore not likely to present an environmental concern.

#### 4.1.3 Other Information

URS reviewed the EDR Orphan Sites list, which is a list of sites that have not been geocoded based on a lack of sufficient data regarding their exact location. The review of the Orphan Sites list did not identify properties that are likely to have caused a REC at the subject property. A copy of the EDR environmental database report is included in Appendix H.

### 4.2 REGULATORY AGENCY CONTACT

During the performance of an environmental assessment, state and local regulatory agencies having jurisdiction over the subject property may be contacted to evaluate the following information: the status of relevant environmental permits; whether there has been any violations, or other similar correspondence from such agencies; whether any corrective action or remediation is planned, currently taking place, or has been completed at the subject property; whether there have been any reported violations or complaints that the subject property is not in compliance with environmental laws, regulations, or standards, and whether the subject property is under investigation for such non-compliance; whether the subject property is listed on any of



the regulatory databases; and whether there is any other pertinent documentation on file with such regulatory agencies regarding the subject site or surrounding sites of concern.

URS submitted written Freedom of Information Act requests on June 11, 2014 to PADEP to obtain information regarding evidence of contamination, environmental permits, violations, or corrective actions at the subject property for each of the 21 parcels. URS requested documents pertaining to the subject property and adjacent properties. PADEP responded by phone on June 12, 2014, stating they had files available that could be reviewed in person. URS conducted a review of PADEP files available for this subject property. Primary documents are discussed herein. However, it should be noted that some reviewed documents were not available in their entirety.

### **4.3 HISTORICAL USE INFORMATION ON THE SUBJECT SITE AND ADJOINING PROPERTY**

URS contacted EDR to obtain available historical documents, including historic aerial photographs, historic topographic maps, city directories, and Sanborn Fire Insurance Maps. Aerial photographs were provided for the years 1938, 1953, 1958, 1964, 1968, 1971, 1978, 1984, 1995, 1999, 2005, 2006, 2008, and 2010. Topographic maps for the years 1906, 1907, 1942, 1954, 1970, and 1981 were provided. A city directory image report was provided for the years 1973, 1980, 1985, 1991, 1999, 2003, 2008, and 2013; information regarding individual parcels is discussed in each of the 21 site-specific reports appended to this report (Appendix A). Sanborn Map coverage for the subject property and surrounding properties was not provided. Table 4-2 below summarizes the historical site use from the aerial photographs, topographic maps, and city directories. Copies of the aerial photographs, historic topographic maps, city directories, and Sanborn Maps “no coverage” report are included in Appendix I.

**Table 4-2: Chronological Summary of Historic Land Use**

| <b>Date</b> | <b>Location</b>     | <b>Finding</b>  | <b>Source</b>  |
|-------------|---------------------|---|--|
| 1906-1907   | Subject Property    | Multiple unidentified structures appear along River Road just south of the intersection of River Road with Ely Road.  | USGS Topographic Maps 1906, 1907                                 |
|             | Adjacent Properties | Adjacent properties appear to be undeveloped, rural, or residential.  |  |
| 1938-1954   | Subject Property    | Large circular bermed areas, believed to have historically supported large ASTs, are visible on the western and southern portions of the subject property. Smaller ASTs and former AST pads are visible along River Road to the southeast. Several structures associated with the ASTs are visible south of the intersection of River Road and Ely Road. Evidence of underground pipelines, as well as burn pits, is visible east of the intersection of River Road and Ely Road. Some small structures that could be residences are visible in the western portion of the subject property. The word “Gas” appears north of Ely Road in the 1954 topographic map. A limestone quarry is visible in the southern portion of the subject property. | Aerial Photographs 1938, 1953 & USGS Topographic Maps 1942, 1954 |
|             | Adjacent Properties | Additional large circular bermed areas are visible to the west and southwest of the subject property. Adjacent properties appear to be otherwise undeveloped, rural, residential, or agricultural.  |  |

| <b>Date</b> | <b>Location</b>     | <b>Finding</b>  | <b>Source</b>  |
|-------------|---------------------|---|--|
| 1958-1970   | Subject Property    | The subject property appears similar to the earlier aerial photographs. All ASTs appear to have been removed from the properties south of the intersection of River Road and Ely Road; three ASTs still remain west of the intersection of River Road and Ely Road. The burn pits are no longer visible. The limestone quarry is less visible and no longer appears to be active. | Aerial Photographs 1958-1969 & USGS Topographic Map 1970 |
|             | Adjacent Properties | Adjacent properties appear similar to the earlier aerial photographs.   |  |
| 1971-1978   | Subject Property    | The subject property appears similar to the earlier aerial photographs. All ASTs within the subject property appear to have been removed.   | Aerial Photographs 1972, 1978                            |
|             | Adjacent Properties | Adjacent properties appear similar to the earlier aerial photographs.   |  |
| 1984        | Subject Property    | Many of the present-day residences now appear along Ely Road and River Road. The circular bermed areas are still visible, and former AST pads north of Ely Road are still visible. Many areas previously cleared of trees now appear as wooded land.  | Aerial Photograph 1984                                   |
|             | Adjacent Properties | Adjacent properties appear similar to earlier aerial photographs, with more dense residential development to the south.   |  |
| 1995        | Subject Property    | All of the parcels on the subject property appear to be developed with their present-day land use.  | Aerial Photograph 1995                                   |
|             | Adjacent Properties | Adjacent properties appear similar to the 1984 aerial photograph.   |  |
| 1999-2010   | Subject Property    | The subject property appears approximately as it does currently.  | Aerial Photographs 1999-2010                             |
|             | Adjacent Properties | Adjacent properties appear approximately as they do currently.  |  |

Based on a title search and review of historical information, each of the 21 subject property parcels were owned by SOPUS and/or their subsidiaries and may have also been owned at some time by other petroleum companies including Standard Oil Company, Humble Oil & Refining Company, and/or Tuscarora Oil Company, and /or rights to the properties were granted to Tuscarora Oil Company and/or Standard Oil Company for a period of time. The majority of the subject property parcels were observed or documented to have infrastructure developed and used for oil petroleum storage and conveyance since before 1900.

Evidence of earthen berms that historically supported multiple large ASTs and smaller ASTs, as well as structures reportedly used as pump houses, pumping stations, and other petroleum storage and conveyance activities, are visible in historic aerial photographs to the west of the intersection of River Road and Ely Road. Evidence of two burn pits and two underground pipelines are also visible across the Delaware Canal (currently identified as the Pennsylvania Canal) from the intersection of River Road and Ely Road. The limestone quarry on the subject property, south of the intersection of River Road and Ely Road, is visible in the 1938 and 1953 aerial photographs, after which it appears as wooded land. All ASTs appear to have been removed from the subject property parcels by 1978. The majority of the subject property parcels were developed as residential properties by 1984, while the parcels that are currently owned by

Bucks County remained wooded and undeveloped. However; several older structures associated with petroleum storage and conveyance activities were observed during the site reconnaissance. No evidence of any current petroleum oil or fuel storage is evident on the subject property.

### **4.3.1 Title Records**

In accordance with our approved scope of services, URS performed title searches for properties owned by SOPUS or its subsidiaries to identify parcels appropriate for Environmental Screening. URS contracted Doylestown Abstract to search the records at the office of the Recorder of Deeds for Bucks County at Doylestown, Pennsylvania from 1889 to the present for any potential Fee Title (past or present), Rights of Way, Easements, Agreements or Leasehold Estates appearing in the names of SOPUS Oil Company, National Transit Company (NTC), Pennzoil-Quaker State, Exxon-Mobil and/or Tuscarora Oil Company.

Standard Oil Company of New Jersey established a pumping station through subsidiaries Tuscarora Oil Company, an Exxon subsidiary, and NTC, a former Pennzoil entity, now owned by SOPUS.

According to the title search, each of the 21 subject property parcels were historically owned by petroleum companies including Standard Oil Company, Humble Oil & Refining Company, and/or Tuscarora Oil Company, and /or rights to the properties were granted to Tuscarora Oil Company and/or Standard Oil Company for a period of time, indicating the properties may have been used as part of historic petroleum storage and conveyance operations.

The title history for each subject parcel is included in Appendix J.

### SECTION FIVE: FINDINGS, OPINIONS, AND CONCLUSIONS

#### 5.1 FINDINGS

The findings regarding site listings, site conditions, and potential environmental concerns identified at the subject property during this Environmental Screening are summarized as follows:

- Based on a title search and review of historical information, each of the 21 subject property parcels were historically owned by SOPUS and/or their subsidiaries and may have also been owned at some time by other petroleum companies including Standard Oil Company, Humble Oil & Refining Company, and/or Tuscarora Oil Company, and /or rights to the properties were granted to Tuscarora Oil Company and/or Standard Oil Company for a period of time. The majority of the subject property parcels [ED1] were observed or documented to have infrastructure developed and used for oil petroleum storage and conveyance since before 1900. Evidence of earthen berms that historically supported multiple large ASTs and smaller ASTs, as well as structures reportedly used as pump houses, pumping stations, and other petroleum storage and conveyance activities, are visible in historic aerial photographs as early as 1938 to the west of the intersection of River Road and Ely Road. Evidence of two burn pits and two underground pipelines are also visible across the Delaware Canal (currently identified as the Pennsylvania Canal) from the intersection of River Road and Ely Road. The limestone quarry on the subject property, south of the intersection of River Road and Ely Road, is visible in the 1938 and 1953 aerial photographs, after which it appears as wooded land. All ASTs appear to have been removed from the subject property parcels by 1978. The majority of the subject property parcels were developed as residential properties by 1984, while the parcels that are currently owned by Bucks County remained wooded and undeveloped. Based on observations made during the site reconnaissance, several of the older buildings associated with the former oil operations still remain on the subject property. Several historic structures associated with petroleum storage and conveyance activities were observed during the site reconnaissance. No evidence of any current petroleum or fuel storage is evident on the subject property.
- Review of previous environmental documents, aerial photographs, and site observations show large, circular earthen berms on and immediately adjacent to the subject property. ASTs located both onsite and immediately adjacent to the subject property were historically used for petroleum storage. Six large ASTs were previously located north of Ely Road on Bucks County Parcels # [REDACTED] (a subject property parcel), [REDACTED] (adjoining parcels), two small ASTs were located adjacent to the pumping station south of Ely Road on Parcels [REDACTED] and [REDACTED] (subject property parcels), and four large ASTs were located west of the pumping station, south of Ely Road on Parcels [REDACTED] (all subject property parcels). Some of these tanks were very large, and were described as having a capacity in excess of 3 million gallons. From the 1910s through the 1930s, lightning strikes and fires caused releases from these ASTs, reportedly releasing millions of gallons of oil. During the August 1937 lightning strike and subsequent fire of two tanks located on Bucks County Parcel #41-018-124, water used for cooling the surrounding tanks caused an overflow of

the tank impoundments; reports indicate that burning oil spread over 2 to 3 acres. It is not known from previous environmental documents how much of the released petroleum product was captured, released to the environment, or burned by fire. No current ASTs were observed; however, berms associated with several previous ASTs were observed at the subject property at the time of the site reconnaissance. No evidence of stained soils, stressed vegetation, or odors was observed in the vicinity of these previous ASTs.

- In 1938, thousands of gallons of petroleum product were reportedly released from a Tuscarora pipeline, which ran from western Pennsylvania through the Limeport site (located on Bucks County Parcel [REDACTED]). The pipeline release extended to the border of Bucks County Parcels [REDACTED]. Tuscarora recovered approximately 92,000 gallons of crude oil, gasoline, and water as part of their remedial response. Because an unknown amount was released, it is unknown what portion of the product released was recovered.
- Kovalchick Salvage Co. at Bucks County Parcel [REDACTED], west of the intersection of Ely Road and River Road, is identified in the Pennsylvania VCP and Pennsylvania Act 2-DEED databases. The VCP program listing identifies multiple sites on the [REDACTED] property, all listed as “Completed Sites” with an approval date of October 27, 2009. The contaminants are listed as No. 2 Fuel Oil, and “other organics” in soil and groundwater, reported on June 1, 2006. Multiple subject property parcels adjoin Kovalchick Salvage Co. property. The Kovalchick Salvage Co. received a ROL, indicating that cleanup of the site was performed in accordance with the Pennsylvania Act 2 Land Recycling Program.
- Tuscarora Oil, identified at the intersection of River Road and Ely Road, is listed in the CERC-NFRAP database. A release was discovered at the site on December 4, 1992, and a preliminary assessment was completed on April 6, 1993. The site was granted NFRAP status on April 6, 1993, and was not placed on the NPL. During this assessment, samples of potable well water were taken under the direction of the EPA. None of the well water samples taken during the EPA drinking water investigation indicated the presence of petroleum contamination.
- At the time of the site reconnaissance, Bucks County Parcel [REDACTED], located south of Ely Road, was developed with a wooden structure. Rusted steel drums, 6-inch-diameter sections of steel piping, and scrap metal debris were also observed on the parcel during the site reconnaissance.
- A stream containing both dark and rust-colored materials, which appear to be biologic in origin, was observed on Parcel [REDACTED]. In addition, a petroleum-like odor was noted throughout the parcel at the time of the site reconnaissance. Multiple complaints filed at local and state agencies and with the U.S. EPA from 1992 to 2005 indicate that petroleum-like odors and a potential sheen of a brown and rust color were observed in the stream on the southwest portion of Parcel [REDACTED]. During the URS site reconnaissance, a petroleum-like odor was also encountered on all subject property parcels directly adjoining Parcel [REDACTED], and neighbors who were interviewed during the site reconnaissance reported that they regularly noticed an odor along River Road. URS performed a follow-up site reconnaissance to further evaluate these potentially impacted areas on July 10, 2014. Although it is suspected that all material

observed in the stream is biologic in origin, it has not been definitively determined that no petroleum constituents are present in or near the surface water feature.

- Sampling of monitoring wells located on Parcels [REDACTED], and [REDACTED], a residential well on Parcel [REDACTED], and at several adjacent properties shows that the groundwater has been affected by several SVOCs (i.e., chrysene, benzo(g,h,i)perylene, organic regulated substances) at concentrations exceeding PADEP Land Recycling Program Medium-Specific Concentrations (MSCs) and Maximum Contaminant Levels (MCLs).
- Based on findings presented in Attachment A-16, a groundwater sample collected from Bucks County Parcel [REDACTED] was noted to have a floating layer of petroleum product (i.e., NAPL).
- A footing drain sample collected from Parcel [REDACTED] contained a concentration of total saturated hydrocarbons at 516 milligrams per kilogram (mg/kg), above the Pennsylvania 12/93 Interim "Cleanup Standards for Contaminated Soils" of 500 mg/kg. Two soil samples collected from Parcel [REDACTED] at depths between 0 and 15 feet contained benzo(a)pyrene at concentrations exceeding Residential Soil Direct Contact MSCs.
- Based on findings presented in Attachment A-5, a well water sample collected from Bucks County Parcel # [REDACTED] was noted to have a skim of oil with black blobs. Laboratory results indicate that water collected from the water conditioner appeared to be weathered oil, possibly lubricating oil, and water collected directly from the well contained weathered petroleum product that could not be identified.
- Bucks County Parcel # [REDACTED] was identified as having seepages along the canal at the subject parcel, containing a coal yard, and having an onsite well notated as having "gas and much sediment."
- In 1943, the War Department installed a 20-inch pipeline known as the "Big Inch" in the area south of the Tuscarora Pumping Station. On August 26, 1943, 50,000 barrels (approximately 2.1 million gallons) of crude oil was released at the Big Inch pipeline, reportedly running over Ely and River Roads and entering Primrose Creek, the Delaware Canal (currently identified as the Pennsylvania Canal), and the Delaware River; the pipeline was reportedly installed without any pressure testing. This pipeline was mapped approximately 1 mile south of the intersection of Ely and River Roads; the extent of this release is not known.
- The former Tuscarora Oil property, which adjoins the subject property to the west, reportedly housed 28 ASTs, each holding 100,000 barrels (approximately 4.2 million gallons). These tanks had clay beneath them in an attempt to create a less permeable containment pit, and each tank was also enclosed by a fire bank for containment. The history of these tanks or any potential releases is not known.
- [REDACTED] Residence [REDACTED] located topographically upgradient and approximately 1,000 feet southwest of the western portion of subject property, is identified in the PA Unregulated Tank Cases database for a No. 2 Fuel Oil tank. The

classification is listed as “Cleanup of Tanks using authorities other than Act 32,” and closure information was not provided.

- On February 9, 2001, the property located at [REDACTED] received a Notice of Violation (NOV) for a reportable release from a non-regulated tank system. The NOV does not identify the volume or substance released. The [REDACTED] location was mapped approximately 0.45- mile north of the northernmost subject parcel.
- Based on findings presented in Attachment A-14, the structure on Bucks County Parcel # [REDACTED] contained steel pipes penetrating the floor and the southwest wall of the structure that were likely used in historical petroleum storage and conveyance.
- Based on findings presented in Attachment A-15, Bucks County Parcel # [REDACTED] was observed to have an UST. No details regarding age, construction, and integrity were provided during the site reconnaissance.
- Two burn pits are visible on the 1938 and 1954 aerial photographs to the east of the Pennsylvania Canal (from the intersection of River Road and Ely Road) on Parcel [REDACTED]. The burn pits are no longer visible in the 1958 aerial photograph. In response to a reported gasoline pipeline leak in 1938, Tuscarora Oil skimmed a mixture of gasoline and crude oil from the Pennsylvania Canal and adjacent footing drain area. Approximately 92,000 gallons of crude oil, gasoline, and water was reportedly covered as part of their remedial response. After recovering as much product as possible, Tuscarora reportedly burned the remaining accumulated product in these burn pits.

## 5.2 OPINIONS

The use of the 21 subject property parcels as part of historical petroleum storage and conveyance operations has led to several RECs and HRECs at the subject property as identified below.

RECs and HRECs locations are presented on Figure 8.

- The unknown quantities and extent of the documented releases to the environment from the numerous large ASTs used for petroleum storage on and in the vicinity of the subject property represents a REC.
  1. **REC #1:** [REDACTED] *(On Subject Property):* AST 2104, located partially on Parcel [REDACTED] and partially on Parcel [REDACTED] and identified as containing 30,547 bbls, was struck by lightning in 1928 and an unknown volume was released.
  2. **REC #2:** [REDACTED] *(On Subject Property):* AST 2103, located partially on Parcel [REDACTED] and partially on Parcel [REDACTED] and identified as containing 2,532 bbls, was destroyed by fire in 1915 and an unknown volume was released.
  3. **REC #3:** Parcel [REDACTED], Unknown Address Ely Road and Parcel [REDACTED] *(On Subject Property):* AST 2101, located partially on Parcel [REDACTED] and partially on Parcel [REDACTED], was destroyed by fire in 1921 and an unknown volume was spilled. Also in 1924, AST

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2101, identified as containing 29,129 bbls, caught on fire due to lightning and an unknown volume was released.

- **HREC #1:** [REDACTED], Unknown Address River Road (Off Subject Property): The Kovalchick Salvage Co. (located at Bucks County Parcel [REDACTED]) received a ROL, indicating that cleanup of the site after No. 2 Fuel Oil and “other organics” were reported in soil and groundwater was performed in accordance with the Pennsylvania Act 2 Land Recycling Program. The past release of hazardous substances on this property represents a HREC, but does not constitute an actual REC on the subject property.
- **REC #4:** [REDACTED], Unknown Address River Road (On Subject Property): The well water data collected during the CERCLA investigation did not indicate the presence of petroleum contamination. The Tuscarora Oil CERC-NFRAP site was granted NFRAP status in 1993, indicating petroleum impact was not found at this site. However, petroleum constituents were still documented in the soil and groundwater between 1994 and 1996. Therefore, the former Tuscarora Oil site represents a HREC that still constitutes a REC to the subject property.
- **REC #5:** [REDACTED], Unknown Address River Road (On Subject Property): The structure and materials observed on Bucks County Parcel [REDACTED] were likely used as part of the historical petroleum storage and conveyance operations. The historic use of this property for the pumping and storage of petroleum inside equipment and infrastructure represents a REC.
- **REC #6:** [REDACTED], Unknown Address Ely Road (On Subject Property): The release of an unknown amount of gasoline product from the Tuscarora pipeline on the subject property, the documented subsurface impact, and the unknown portion of product not recovered represents a REC.
- **REC #7:** Parcel [REDACTED], Unknown Address River Road (On Subject Property): The dark and rust-colored materials observed in the stream on Bucks County Parcel [REDACTED] and the petroleum-like odor could indicate surface and subsurface petroleum impact. Although it is suspected that all material observed in the stream are biologic in origin, it has not been definitively determined that no petroleum constituents are present in or near the surface water feature. Therefore, this is considered a REC.
- **RECs #8-12:** [REDACTED]  
[REDACTED]  
[REDACTED] (On Subject Property): The documented historical exceedances of constituents in soil [REDACTED]  
[REDACTED] above applicable regulatory standards are considered a REC.
- **REC #13:** Parcel [REDACTED] (On Subject Property): The floating layer of petroleum product (i.e. NAPL) in groundwater obtained from Bucks County Parcel # [REDACTED] represents a REC.



- **REC #14:** Parcel [REDACTED] (*On Subject Property*): The oil layer in well water obtained from Bucks County Parcel [REDACTED] represents a REC.
- **REC #15:** Parcel [REDACTED] (*On Subject Property*): The documented presence of seeps on Bucks County Parcel [REDACTED], use of the property as a coal yard, and the potential that gas was detected in the onsite well represents a REC.
- Based on distance and topography, it is unlikely that the crude oil released at the Big Inch pipeline ran north to Ely Road as reported; crude likely entered Primrose Creek and crossed River Road prior to entering the canal and Delaware River. Newspaper reports indicate that thousands of gallons poured into the Delaware River; the oil covered the river for more than one mile.
- **REC #16:** West of Subject Property Parcels (*Off Subject Property*): The proximity of the 28 Tuscarora Oil Company ASTs to the subject property, single-walled AST construction, lack of adequate secondary containment, and lack of information regarding spill history is considered a REC.
- **REC #17:** Southwest of Subject Property Parcels (*Off Subject Property*): Due to the lack of closure information related to the No. 2 Fuel Oil tank and likely hydrologically upgradient location relative to the subject property, the [REDACTED] Residence location represents a REC.
- Based on distance and the likely hydrologically crossgradient location relative to the subject property, the [REDACTED] location is not likely to present an environmental concern to the property.
- **REC #18:** Parcel [REDACTED] (*On Subject Property*): Steel pipes were observed penetrating the floor and the southwest wall of the large historic structure on Bucks County Parcel [REDACTED]. The presence of infrastructure likely used in historical petroleum storage and conveyance represents a REC.
- **REC #19:** Parcel [REDACTED], Unknown Address River Road (*On Subject Property*): The presence of a UST at Bucks County Parcel [REDACTED] with no additional information represents a REC.
- **REC #20:** Parcel [REDACTED] Unknown Address River Road (*On Subject Property*): The burn pits that were formerly located on Parcel [REDACTED] and used by Tuscarora Oil to burn off crude oil, gasoline, and water after a release from a gasoline pipeline in 1938 represents a REC.

### 5.3 CONCLUSIONS

URS has performed an Environmental Screening at the former Centerbridge Facility (SOPUS Site #97611740) located in Bucks County, Pennsylvania. The subject property consists of 21 parcels totaling approximately 130 acres that were previously owned by SOPUS or its subsidiaries, and are located near the intersection of Ely Road and River Road, west of the Delaware River. The scope of work for this project was described in the URS Proposal dated April 10, 2014. Although ASTM International Standard Practice E 1527-13 was used as a guide defining regulatory databases and search radii for this project, this report is not intended to be a Phase I Environmental Site Assessment as defined by that standard.

Based on the scope of activities conducted, the following RECs were identified:

- **RECs #1-3: Parcels** [REDACTED] *(On Subject Property)*: The unknown quantities and extent of the documented releases to the environment from the former numerous large ASTs used for petroleum storage on and in the vicinity of the subject property.
- **REC #4: Parcel** [REDACTED] *(On Subject Property)*: The Tuscarora Oil property, identified at the intersection of River Road and Ely Road, is listed in the CERC-NFRAP database. The well water data collected during the CERCLA investigation did not indicate the presence of petroleum impact. The Tuscarora Oil CERC-NFRAP site was granted NFRAP status in 1993. However, petroleum constituents were still documented in the soil and groundwater between 1994 and 1996.
- **REC #5:** [REDACTED] *(On Subject Property)*: The structure and materials observed on Bucks County Parcel #41-018-087 that were likely used as part of the historical petroleum storage and conveyance operations.
- **REC #6: Parcel** [REDACTED] *(On Subject Property)*: The release of an unknown amount of gasoline product from the Tuscarora pipeline on the subject property, the documented subsurface impact, and the unknown portion of product not recovered.
- **REC #7: Parcel** [REDACTED] *(On Subject Property)*: The dark and rust-colored materials observed in the stream on the southwest portion of Bucks County Parcel #41-028-057, as well as the petroleum-like odor.
- **RECs #8-12: Parcels** [REDACTED] *(On Subject Property)*: The historical exceedances of constituents in soil (at Parcel [REDACTED]) and groundwater (at Parcels [REDACTED]), and [REDACTED] above applicable regulatory standards at the subject property.
- **REC #13: Parcel** [REDACTED] *(On Subject Property)*: The floating layer of petroleum product (i.e., NAPL) in groundwater obtained from the subsurface aquifer below Bucks County Parcel [REDACTED].
- **REC #14: Parcel** [REDACTED] *(On Subject Property)*: The reported oil layer in well water obtained below Bucks County Parcel [REDACTED].
- **REC #15: Parcel** [REDACTED] *(On Subject Property)*: The documented presence of oil seeps on Bucks County Parcel [REDACTED], former use of the property as a coal yard, and the potential that gas was detected in the onsite well.
- **REC #16: West of Subject Property Parcels** *(Off Subject Property)*: The proximity of the 28 Tuscarora Oil Company ASTs to the subject property, single-walled AST construction, lack of adequate secondary containment, and lack of information regarding spill history.
- **REC #17: Southwest of Subject Property Parcels** *(Off Subject Property)*: The [REDACTED] Residence listed on the PA Unregulated Tank Cases database for a No. 2 Fuel Oil tank is in a likely hydrologically upgradient location relative to the subject property and closure information was not provided.

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- **REC #18:** Parcel [REDACTED] (*On Subject Property*): The presence of infrastructure on Bucks County Parcel [REDACTED] that was likely used in historical petroleum storage and conveyance represents a REC.
- **REC #19:** Parcel [REDACTED] (*On Subject Property*): The presence of a UST at Bucks County Parcel [REDACTED] with no additional information.
- **REC #20:** Parcel [REDACTED] (*On Subject Property*): The presence of the former burn pits located on Parcel [REDACTED]

The following HREC was identified for the subject property:

- **HREC #1:** Parcel [REDACTED] (*Off Subject Property*): Petroleum impact is documented for the offsite Kovalchick Salvage Co. (Bucks County Parcel #41-018-124), including No. 2 Fuel Oil and “other organics” in soil and groundwater. The Kovalchick Salvage Co. received a ROL, indicating that cleanup of the site was performed in accordance with the Pennsylvania Act 2 Land Recycling Program.

The following environmental concerns were also identified during a review of the past environmental investigations performed on the subject property parcels:

- Presented data, in some cases, does not show soil sample depths (i.e., WB-5 through WB-8, WB-9N, WB-9S, and WB-10).
- The locations on Parcel [REDACTED] of two soil samples with exceedances above regulatory samples (501 and 502) are unknown.
- Based on site observations and review of existing documentation, it appears some areas on the subject property have not been adequately characterized for potential releases.
- Tuscarora reportedly removed an unidentified pipeline and tankage in 1949; however, in August 1993, U.S. EPA discovered an abandoned underground pipeline on the Kovalchick parcel (Parcel [REDACTED]). There is a potential that other pipelines and other petroleum storage and conveyance structures may still be present on the subject property parcels.

URS recommends that an environmental investigation be performed to characterize and delineate the petroleum contamination identified at the subject property.

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### SECTION SEVEN: SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

This section includes qualification statements of the environmental professionals responsible for conducting the site reconnaissance and preparing this Environmental Screening report.

The site reconnaissance was performed by [REDACTED] and [REDACTED] Environmental Scientists of the URS office in Germantown, Maryland. The report was written by [REDACTED] and [REDACTED], Senior Environmental Scientist of the URS office in Annapolis Junction, Maryland.

This report was reviewed by [REDACTED] Environmental Compliance & Management Systems Team Leader, in the URS office in Germantown, MD. [REDACTED] has 12 years of experience in the environmental field, including Phase 1 Environmental Site Assessments.

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental Professional as defined in §312.10 of 40 CFR 312.

We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

[REDACTED]

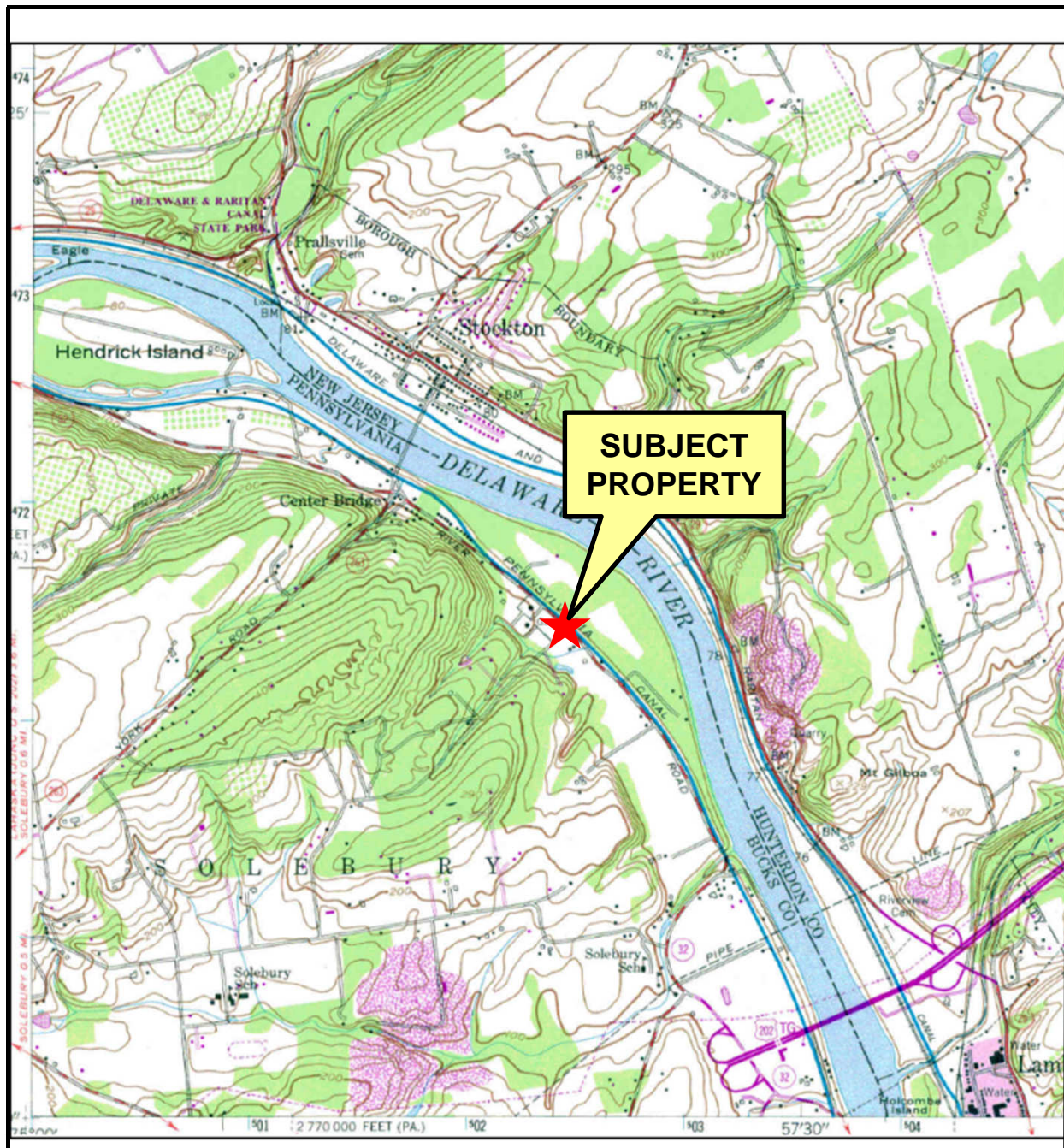
[REDACTED]

Team Leader

Environmental Compliance & Management Systems



## Figures



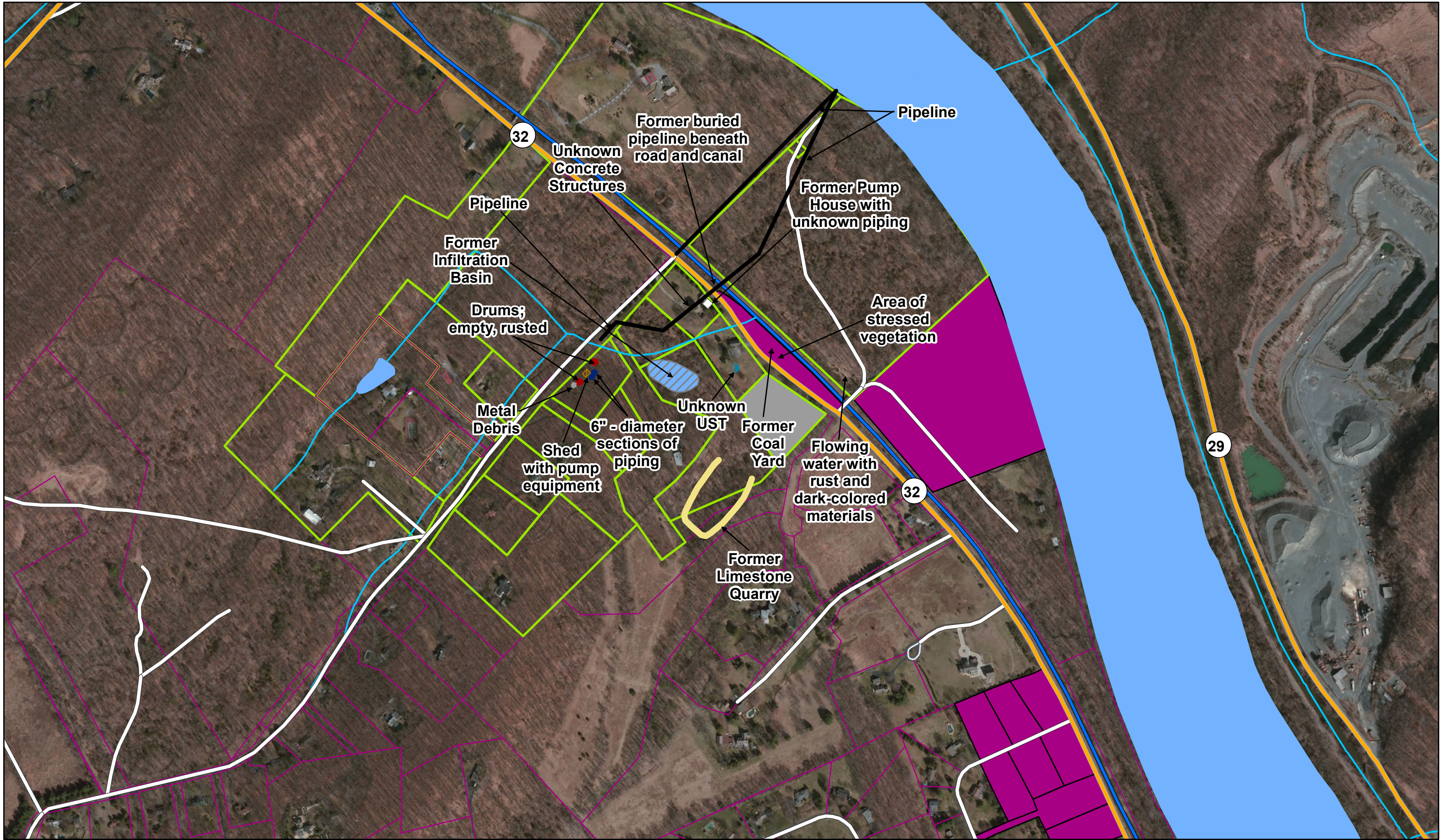
SOURCE: USGS 7.5' Series Scale 1:24000  
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 Date: 1981

**FIGURE 1**  
**SITE LOCATION MAP**  
**CENTERBRIDGE PARCELS**  
**NEW HOPE, PA**







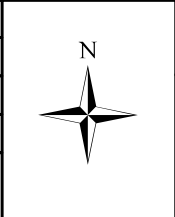


**Legend**

|                          |  |   |               |                     |
|--------------------------|--|---|---------------|---------------------|
| Pipeline                 | 6-in crude well casing or pipe                       | Residence Conducts Own Filtering With Reverse Osmosis and Permanent Carbon Unit | Former Quarry | Reservoir/Lake/Pond |
| Shed with pump equipment | Drum; empty, rusted                                  | Infiltration Basin  | Canal         |                     |
| Metal Debris             | UST  | Parcel Boundary   | Stream        |                     |
| Former Pump House        | Residence Participating in Carbon Filtration Program | Subject Property Parcel   |               |                     |

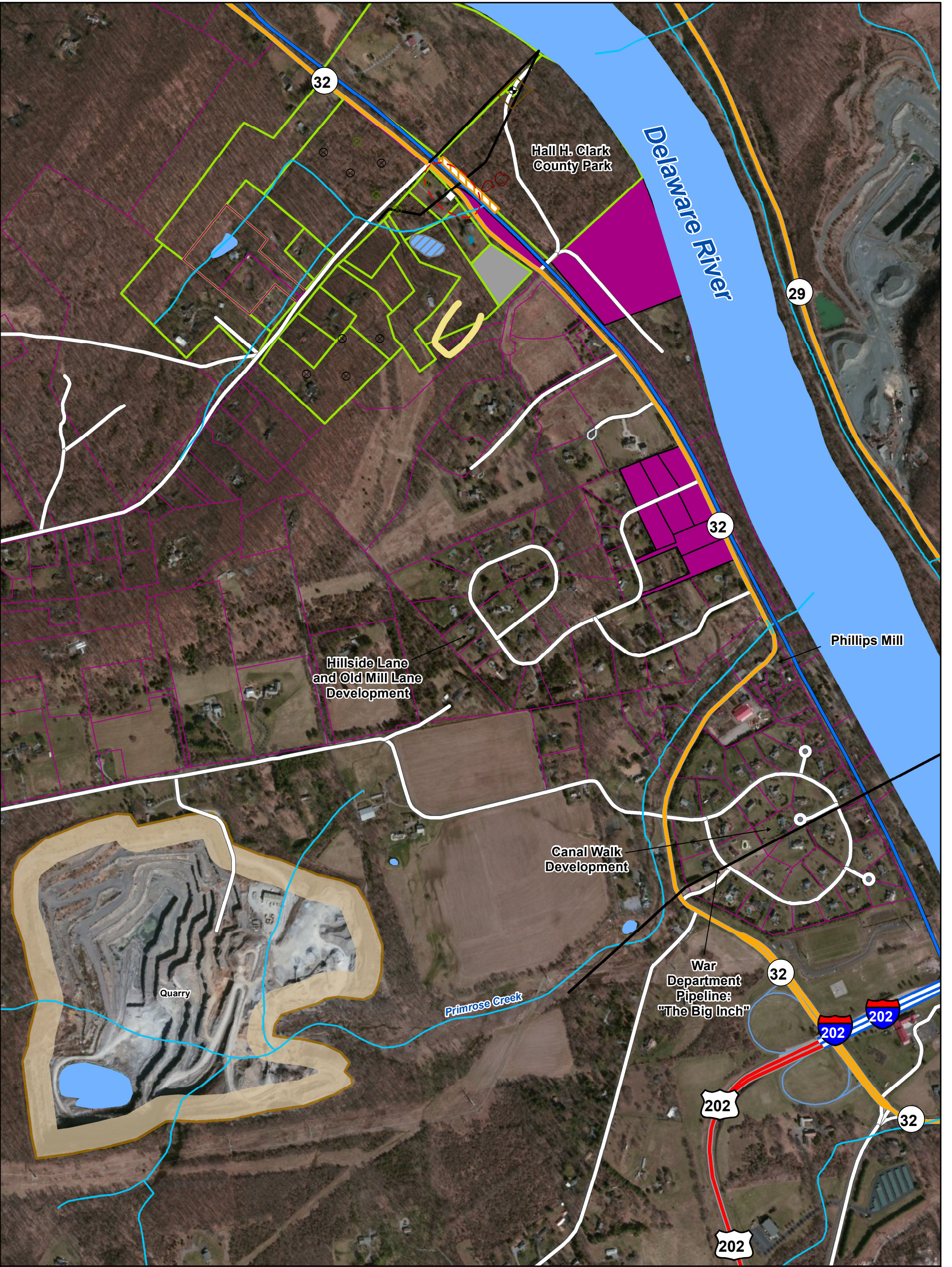
0 200 400 600 1,200 Feet

|  |                                       |        |    |            |
|--|---------------------------------------|--------|----|------------|
| CLIENT   | SOPUS                                 |        |    |            |
| PROJ   | Centerbridge Environmental Screenings |        |    |            |
| SCALE  | 1:5,500                               | DES BY | AW | 09/09/2014 |
|  |                                       | CHK BY | CB | 09/09/2014 |
| Q:\Projects\TechSol\GIS\Projects\Shell\Centerbridge_PA\Projects\SiteReconnaissanceObservations.mxd |                                       |        |    |            |



|   |  |
|---|--|
| TITLE<br>Site Reconnaissance Observations |  |
|   | 12420 Milestone Center Drive<br>Germantown, MD 20876 |
| FIGURE 3                                  |  |







**Legend**

- Pipeline
- Pipe Break
- Seep
- Burn Pit
- AST Releases
- AST
- UST
- Former Pump House
- Limeport Co. Potable Well
- Parcel Boundary
- Residence Participating in Carbon Filtration Program
- Residence Conducts Own Filtering With Reverse Osmosis and Permanent Carbon Unit
- Sold Land
- Subject Property Parcel
- Former Quarry
- Quarry
- Infiltration Basin
- Reservoir/Lake/Pond
- Canal
- Stream

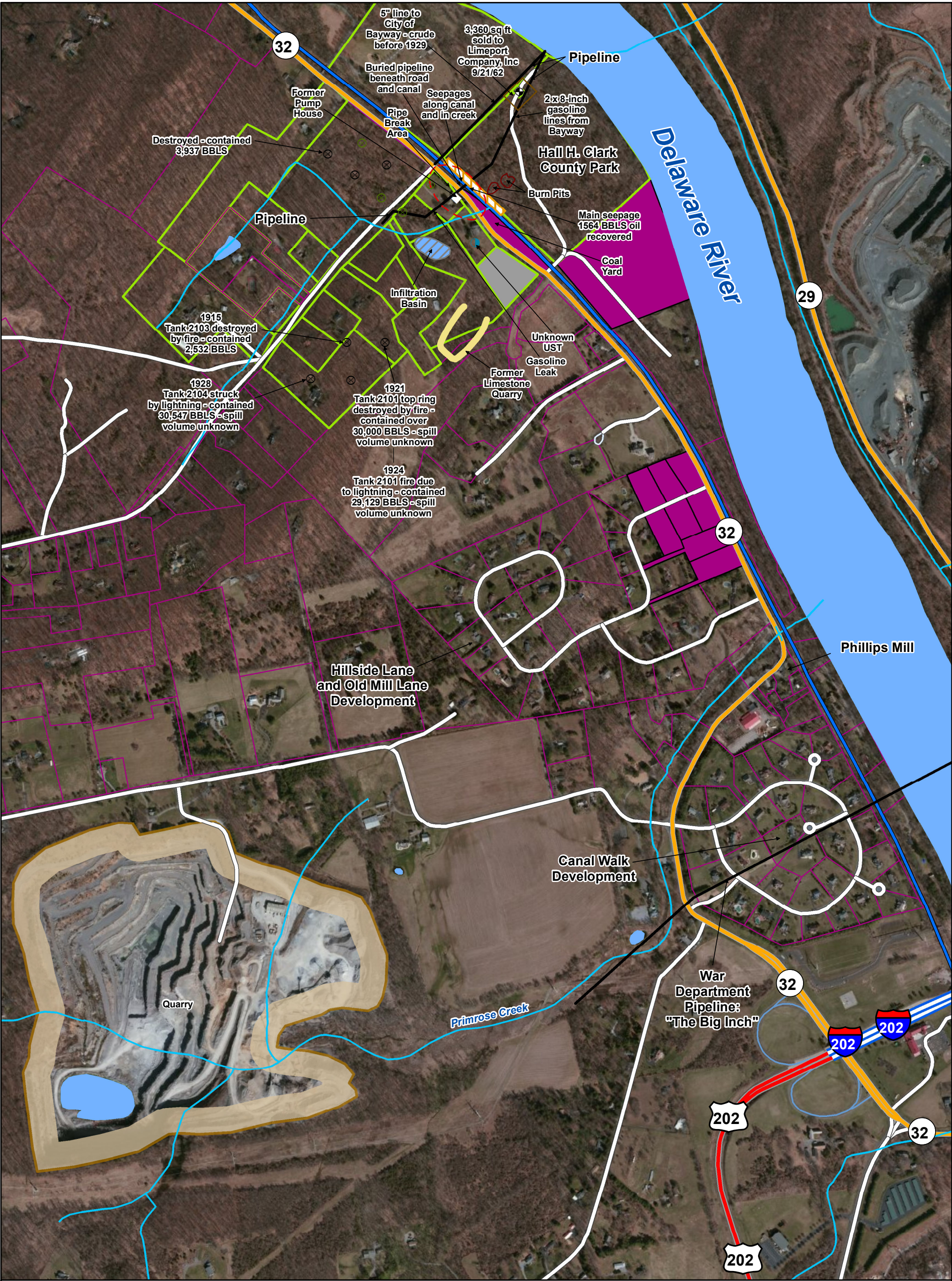
*Note:*  
All features are approximate based on historical documentation. Features are not to scale.

|  |         |        |        |   |   |            |  |
|--|---------|--------|--------|---|---|------------|--|
| CLIENT<br>SOPUS  |         |        |        |  | TITLE<br>Site Layout and Current Features   |            |  |
| PROJ<br>Centerbridge Environmental Screenings  |         |        |        |   | <br>12420 Milestone Center Drive<br>Germantown, MD 20876 |            |  |
| REVISION NO  | 0       | DES BY | TB     |   |   | 08/04/2014 |  |
| SCALE  | 1:8,400 | DR BY  |        |   |   |            |  |
| Q:\Projects\TechSol\GIS\Projects\Shell\Centerbridge_PA\Projects\SiteLayoutAndCurrentFeatures.mxd |         |        | CHK BY |   | JK  | 07/31/2014 |  |











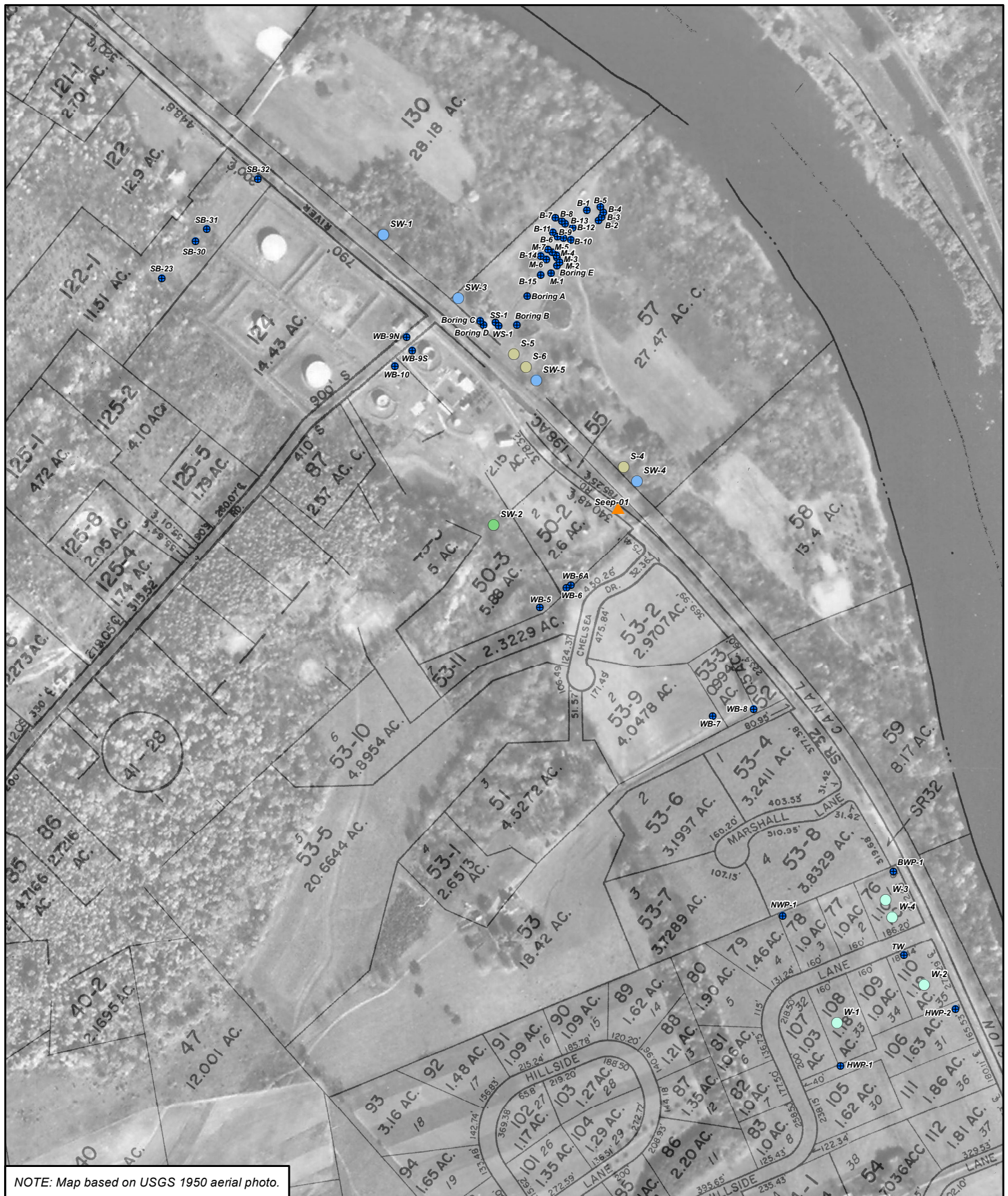
**Legend**

- |            |                           |   |                    |                     |
|------------|---------------------------|---|--------------------|---------------------|
| Pipeline   | AST Releases              | Parcel Boundary   | Former Quarry      | Reservoir/Lake/Pond |
| Pipe Break | AST                       | Residence Participating in Carbon Filtration Program                            | Quarry             | Canal               |
| Seep Area  | Former Pump House         | Residence Conducts Own Filtering With Reverse Osmosis and Permanent Carbon Unit | Infiltration Basin | Stream              |
| UST        | Limeport Co. Potable Well | Sold Land   |                    |                     |
| Burn Pit   |                           | Subject Property Parcel   |                    |                     |


Note:  
All features are approximate based on historical documentation. Features are not to scale.

|  |  |              |            |   |  |  |  |  |  |
|--|--|--------------|------------|---|--|--|--|--|--|
| CLIENT<br>SOPUS  |  |              |            |  | TITLE<br>Site and Vicinity Overview: Aerial Photograph   |  |  |  |  |
| PROJ<br>Centerbridge Environmental Screenings  |  |              |            |   |  12420 Milestone Center Drive<br>Germantown, MD 20876 |  |  |  |  |
| REVISION NO<br>0   |  | DES BY<br>AW | 09/09/2014 |   |  |  |  |  |  |
| SCALE<br>1:8,400   |  | DR BY        |            |   |  |  |  |  |  |
| Q:\Projects\TechSol\GIS\Projects\Shell\Centerbridge_PA\Projects\SiteAndVicinityOverview_AerialPhotograph.mxd |  | CHK BY<br>JK | 09/09/2014 |   | FIGURE 6   |  |  |  |  |

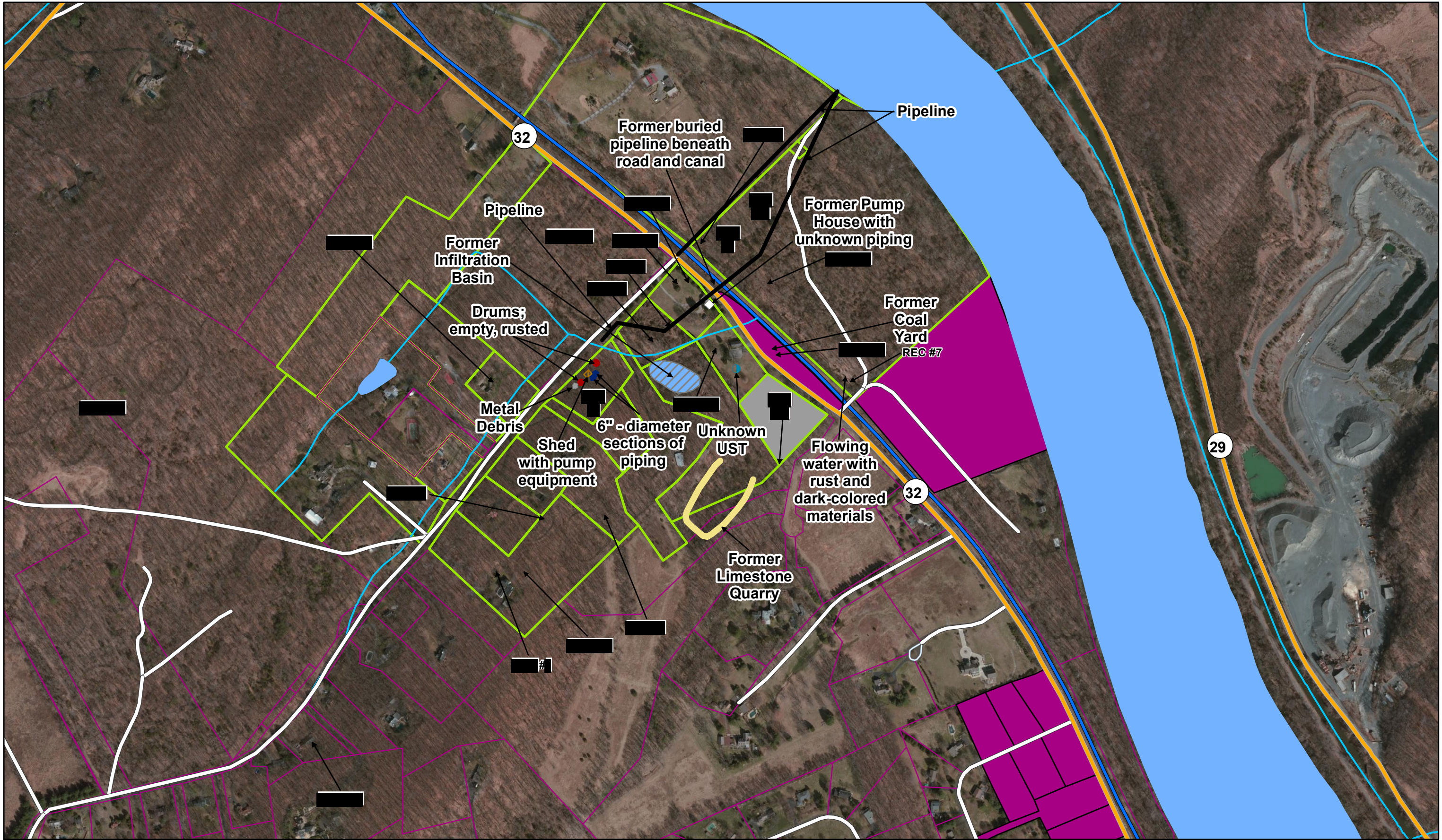




| Legend   |   |                      |   |  |
|--|---|----------------------|---|--|
| WB-SW  | Approximate Soil Boring and Monitoring Well Locations | Potable Water Sample | Sediment Sample from East Side of Canal | Surface Water Sample from East Side of Canal |
|  |   |                      |   | Surface Water Sample from Quarry Pond        |
|  |   |                      |   | Seep Sample                                  |
| 0 250 500 1,000 Feet   |   |                      |   |  |
| SOURCE SAIC "Soil Boring and Monitoring Well Locations Map", 03/15/05                                    |   |                      |   |  |
| SCALE  | 1:6,000   | DES BY               | TB                                      | 08/04/2014                                   |
| Q:\Projects\TechSol\GIS\Projects\Shell\Centerbridge_PA\Projects\SoilBoringandMonitoringWellLocations.mxd |   | CHK BY               | JK                                      | 07/29/2014                                   |

|  |  |
|--|--|
| TITLE  |  |
| Soil Boring and Monitoring Well Locations Map  |  |
|  | 12420 Milestone Center Drive<br>Germantown, MD 20876 |
| FIGURE 7   |  |





Pipeline

Shed with pump equipment

Metal Debris

6-in crude well casing or pipe

Drum; empty, rusted

UST

Former Pump House

Residence Conducts Own Filtering With Reverse Osmosis and Permanent Carbon Unit

Residence Participating in Carbon Filtration Program

Former Quarry

Infiltration Basin

Subject Property Parcel

Reservoir/Lake/Pond

Canal

Stream

02004006001,200

Feet

REC - Recognized Environmental Condition

HREC - Historical Recognized Environmental Condition

|   |                                       |        |    |            |
|---|---------------------------------------|--------|----|------------|
| CLIENT  | SOPUS                                 |        |    |            |
| PROJ  | Centerbridge Environmental Screenings |        |    |            |
| SCALE   | 1:5,500                               | DES BY | AW | 09/09/2014 |
|   |                                       | CHK BY | CB | 09/09/2014 |
| Q:\Projects\TechSol\GIS\Projects\Shell\Centerbridge_PA\Projects\IdentifiedRecognizedEnvironmentalConditions.mxd |                                       |        |    |            |

TITLE

Identified Recognized Environmental Conditions

URS

12420 Milestone Center Drive  
Germantown, MD 20876

FIGURE 8