



UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION III

STATEMENT OF BASIS

FORMER SUNOCO INC. (R&M) AOI-8
MARCUS HOOK, PENNSYLVANIA
EPA ID# PAD 980550594

Prepared by
Office of Pennsylvania Remediation
Land, Chemicals, and Redevelopment Division
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Section 1: Introduction

The United States Environmental Protection Agency (EPA) has prepared this Statement of Basis (SB) to solicit public comment on its proposed remedy for Area Of Interest-8 (AOI-8) of the former Sunoco Inc. (R&M) Marcus Hook Refinery located at 750 West 10th Street, Marcus Hook, PA 19061 (Facility). This SB pertains only to AOI-8 and the remaining portion of the former refinery, now known as the Marcus Hook Industrial Complex (MHIC), will be addressed under a separate SB in the future. EPA's review of available information indicates that there are no unaddressed releases of hazardous waste or hazardous constituents from the Facility. EPA's proposed remedy for AOI-8 consists of land and groundwater use restrictions. This SB highlights key information relied upon by EPA in making its proposed remedy.

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

EPA is providing a thirty day public comment period on this SB and may modify its proposed remedy based on comments received during this period. EPA will announce its selection of a Final Remedy for AOI-8 in a Final Decision and Response to Comments (Final Decision) after the comment period has ended. The Administrative Record (AR) for the Facility contains all documents, including data and quality assurance information, on which EPA's proposed remedy for AOI-8 is based. See Section 6, Public Participation, for information on how you may review the AR.

Section 2: Facility Background

AOI-8 consists of approximately 24 acres and is surrounded by Amtrak rail lines and AOI-4 to the north, Blue Ball Road and AOI-4 to the east, Philadelphia Pike and AOI-5 to the south, and the Delaware Valley Works property to the west. A Facility location map identifying the location of AOI-8 is attached as Figure 1.

AOI-8 was historically used for petroleum storage and is included as part of the MHIC in the original RCRA Part A Permit Application. Historic aerial photos presented in a Current Conditions Report show open land in 1937 and nine large aboveground storage tanks (ASTs) in 1951 that were used for crude oil storage. The current polypropylene plant was constructed in

1996. Since 2012, Braskem PP Americas has leased and operated the polypropylene plant. The current and future expected use of AOI-8 is as a polypropylene plant.

AOI-8 was included as part of the property transfer from Sunoco Inc. (R&M) to Sunoco Partners Marketing & Terminals L.P. (SPMT) on April 1, 2013 after the idling of the former refinery operations on December 1, 2011. Evergreen Resources Group (Evergreen), whose parent company is Energy Transfer Equity, L.P. (merger of SPMT and Energy Transfer, L.P.), was established November 14, 2013.

Section 3: Summary of Environmental History

No RCRA Solid Waste Management Units (SWMUs) or Areas of Concern (AOCs) have been identified in AOI-8. There is no record of releases or environmental incidents within AOI-8 and no historic environmental investigations have been conducted since 2013. Therefore, EPA requested that Evergreen investigate the environmental conditions within AOI-8 to determine if Corrective Action was necessary. Evergreen submitted a work plan for a RCRA Facility Investigation (RFI) to the EPA on March 3, 2016 and submitted the RFI Report to EPA on May 25, 2017.

EPA evaluated the RFI Report to assure RCRA Corrective Action Program requirements were satisfied. Soil, groundwater, and indoor air sampling results were compared to the applicable EPA Regional Screening Levels (RSLs) for Corrective Action and federal Maximum Contaminant Levels (MCLs) promulgated pursuant to Section 42 U.S.C. §§ 300f et seq. of the Safe Drinking Water Act and codified at 40 CFR Part 141. No surface water or sediments are present in AOI-8. EPA approved the RFI Report on December 27, 2017.

For soils and indoor air, sample results meet EPA RSLs for industrial use. Therefore, EPA has determined that soils and indoor air are not a concern at AOI-8 under current and expected future industrial use.

For groundwater, the most recent sampling results indicate benzene (12 micrograms/liter [ug/L]) and 1,2-dichloroethane (16 ug/L) exceed their respective MCLs of 5 ug/L at upgradient monitoring wells. Downgradient well results indicate that the levels of benzene and 1,2-dichloroethane are below their respective MCLs (non-detect results) at the AOI-8 downgradient property boundary. Ultimately, groundwater flows from AOI-8 immediately beneath the MHIC property which is also subject to RCRA Corrective Action. No further action is needed for the AOI-8 parcel. Groundwater beneath MHIC will be addressed under a separate SB.

Section 4: Corrective Action Objectives

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

1. Groundwater

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

EPA's review of the local geology established that the principal geologic units are unconsolidated sands, silts, and clays, which are underlain by crystalline bedrock. The bedrock lies about 40 feet, on average, beneath the ground surface. Crystalline rocks typically have insufficient yield for industrial or public water supply (USGS 1996). Therefore, based on the foregoing, MCLs will not be used as the Corrective Action Objective.

Additionally, the groundwater underlying AOI-8 flows through the MHIC subsurface before it is discharged to the Delaware River and Middle Creek. As stated above, groundwater beneath MHIC will be addressed in a separate SB. Therefore, the only potential exposure pathway to groundwater within AOI-8 is direct contact or inhalation by industrial or construction workers. Consequently, EPA's Corrective Action Objective for groundwater is to control exposure to the hazardous constituents remaining in the groundwater.

2. Soil

EPA's Corrective Action Objective for soil is to control exposure to the hazardous constituents remaining in the subsurface.

3. Indoor Air

Volatile contaminants in groundwater have the potential to migrate into the indoor air of buildings overlying contaminated groundwater by vapor intrusion. EPA's Corrective Action Objective is to prevent exceedances of Industrial Indoor Air RSLs by vapor intrusion into hypothetical future buildings.

Section 5: Proposed Remedy

EPA's proposed remedy consists of the following components:

1. Groundwater

EPA's proposed remedy for groundwater is to:

- a. Prohibit the use of groundwater at AOI-8 for potable purposes, and
- b. Prevent direct contact and inhalation exposures by requiring the development of a Management Plan that includes appropriate Personal Protective Equipment sufficient to meet EPA's acceptable risk.

2. Soil

EPA's proposed remedy for soil is to:

- a. Prohibit residential use of AOI-8.

3. Indoor Air

EPA's proposed remedy for indoor air is to:

- a. Prevent future potential indoor air exposures by requiring future buildings to include a mitigation system or perform a confirmatory evaluation that indoor air will not exceed EPA's Industrial Air RSLs.

EPA proposes that the Final Remedy for AOI-8 be implemented through an enforceable mechanism such as a permit, order, and/or an Environmental Covenant. EPA's preferred instrument to enforce the land and groundwater use restrictions against the current and any future land owner is an Environmental Covenant prepared under Pennsylvania's Uniform Environmental Covenants Act, 27 Pa. C.S. § 6501 et seq. (UECA). If an Environmental Covenant is selected as the enforceable mechanism, it will be recorded in the chain of title for the Facility pursuant to the Pennsylvania Uniform Environmental Covenants Act.

Section 6: Evaluation of Proposed Remedy

This section provides a description of the criteria EPA used to evaluate the proposed remedy consistent with EPA guidance. The criteria are applied in two phases. In the first phase, EPA

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evaluates three decision threshold criteria as general goals. In the second phase, for those remedies which meet the threshold criteria, EPA then evaluates seven balancing criteria.

Threshold Criteria	Evaluation
1) Protect human health and the environment	EPA's proposed remedy protects human health and the environment by controlling potential unacceptable risks. EPA's proposed remedy for the Facility protects potentially open pathways through the adherence to land and groundwater use restrictions expected to be established under an Environmental Covenant at the Facility.
2) Achieve media cleanup objectives	EPA's proposed remedy meets the media cleanup objectives based on assumptions regarding current and reasonably anticipated land and water resource uses. The remedy proposed in this SB is based on the current and future anticipated land use at the Facility as non-residential. The groundwater is unsuitable as a current or potential drinking water source and cleanup objectives for groundwater and soils will be met at, or within, the AOI-8 property boundaries once the groundwater and land use restrictions are implemented.
3) Remediating the Source of Releases	In all proposed remedies, EPA seeks to eliminate or reduce further releases of hazardous wastes and hazardous constituents that may pose a threat to human health and the environment. The Facility has met this objective. No sources requiring remediation have been identified.

Balancing Criteria	Evaluation
4) Long-term effectiveness	Groundwater at the Facility is not a current or potential source of drinking water, and no down gradient users of off-site groundwater exist. Therefore, the proposed long-term effectiveness of the remedy for the Facility will be maintained by the implementation of land and groundwater use controls.
5) Reduction of toxicity, mobility, or volume of the Hazardous	The reduction of toxicity, mobility and volume of hazardous constituents has been achieved since concentrations of contaminants in soil and indoor air have met EPA's cleanup criteria and groundwater concentrations need no further

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Constituents	reduction to be protective.
6) Short-term effectiveness	EPA's proposed remedy does not involve any activities, such as construction or excavation, that would pose short-term risks to workers, residents, and the environment. EPA anticipates that the land and groundwater use restrictions will be fully implemented shortly after the issuance of a Final Decision.
7) Implementability	EPA's proposed remedy is readily implementable. EPA does not anticipate any regulatory constraints in implementing its proposed remedy.
8) Cost	EPA's proposed decision is cost effective. The costs to record an environmental covenant in the chain of title to the Facility property are minimal.
9) Community Acceptance	EPA will evaluate community acceptance of the proposed remedy during the public comment period, and it will be described in the Final Decision and Response to Comments.
10) State/Support Agency Acceptance	EPA will evaluate State acceptance of the proposed remedy during the public comment period and respond to comments in the Final Decision and Response to Comments.

Based upon EPA's evaluation and the information presented in this SB, EPA considers the threshold and balancing criteria to have been met achieving protection of human health and the environment.

Section 7: Public Participation

Interested persons are invited to comment on EPA's proposed remedy. The public comment period will last thirty calendar days from the date that notice is published in a local newspaper. Comments may be submitted by mail, fax, e-mail, or phone to Mr. Kevin Bilash at the address listed below.

A public meeting will be held upon request. Requests for a public meeting should be made to Mr. Kevin Bilash at the address listed below. A meeting will not be scheduled unless one is requested.

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

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U.S. EPA Region III
1650 Arch Street
Philadelphia, PA 19103
Contact: Mr. Kevin Bilash (3LD20)
Phone: (215) 814-2796
Fax: (215) 814-3113
Email: bilash.kevin@epa.gov

Section 8: Signature

EPA's review of available information indicates that there are no unaddressed releases of hazardous waste or hazardous constituents from AOI-8 of the former Sunoco Inc. (R&M) Marcus Hook Refinery located at 750 West 10th Street, Marcus Hook, PA 19061. EPA's proposed remedy for the Facility consists of land and groundwater use restrictions.

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Date: _____

John A. Armstead, Director
Land, Chemicals, and Redevelopment Division
US EPA, Region III

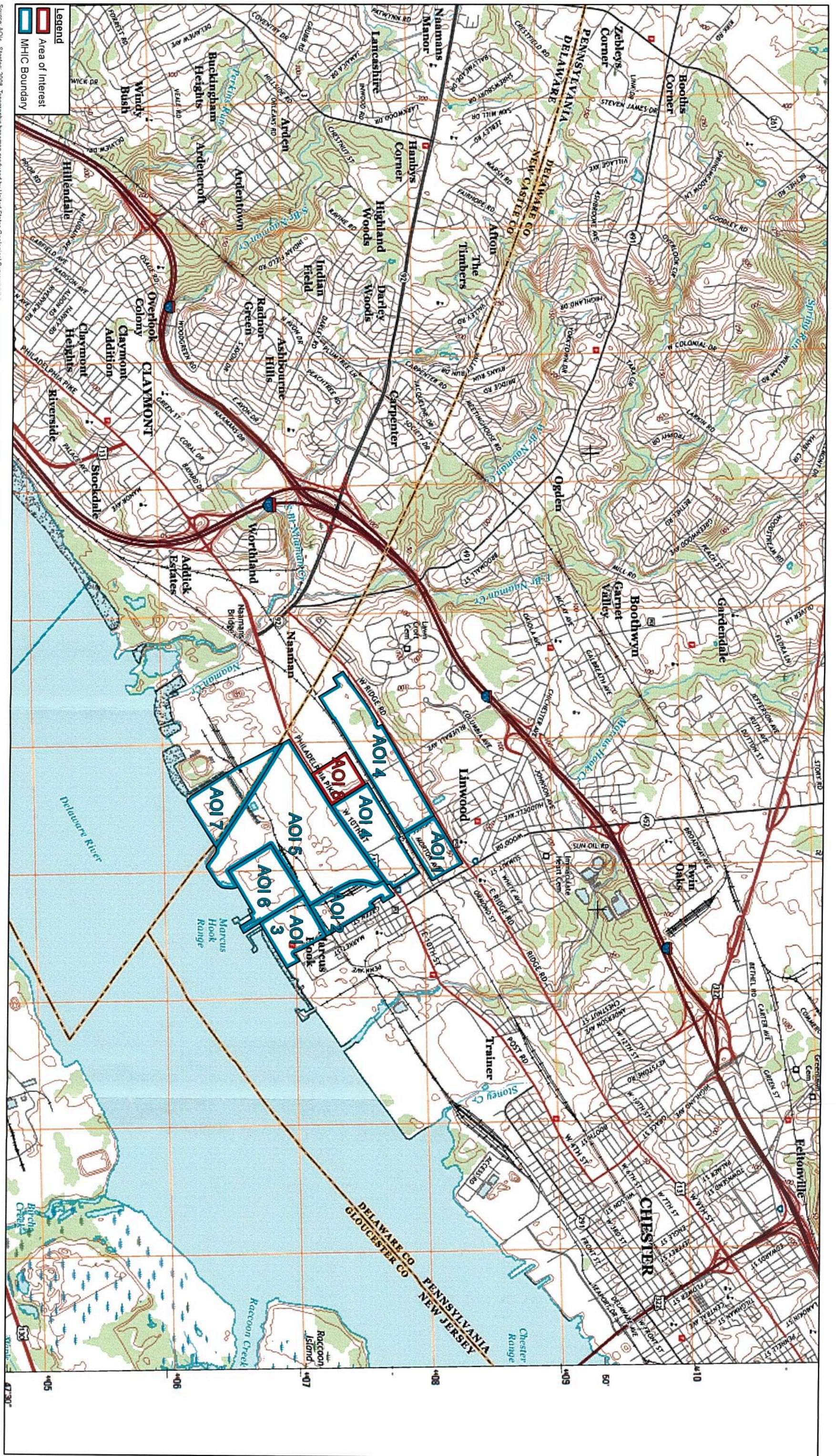
Index to Administrative Record

RCRA Part A Permit Application, Sunoco Inc., 1991

Groundwater Resources of Delaware County, Pennsylvania; W.T. Balmer and D.K. Davis, US Geological Survey, Water Resources Report 66, 1996

Current Conditions Report and Comprehensive Remedial Plan, Sunoco Inc. (R&M), January 30, 2012

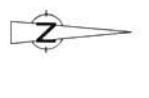
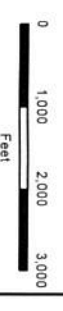
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Source: AGIS - Starline, 2008. Topographic base map produced by United States Geological Survey.

Legend

- Area of Interest
- MHC Boundary



Coordinate System:
NAD 1983 StatePlane Pennsylvania
South FIPS 3702 Feet



EVERGREEN RESOURCES MANAGEMENT OPERATIONS LLC
 MARCUS HOOK INDUSTRIAL COMPLEX, 100 GREEN STREET, MARCUS, PA 19061
 RCRA FACILITY INVESTIGATION REPORT
 AOI 8
 SITE LOCATION MAP

11110315-00
 Dec 5, 2016

FIGURE 1