



**Biennial Update
Remediation Status Report
14 Existing Heavy Industry Use Sites**

Pursuant to Coastal Zone Act, 7 Del. C. §7015(b)

December 2022

Prepared by: The Department of Natural Resources and Environmental Control

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Introduction

On August 2, 2017, Gov. John Carney signed House Bill 190, the Coastal Zone Conversion Permit Act, amending 7 *Del. C.*, Ch. 70. Under this amendment, the Department of Natural Resources and Environmental Control (DNREC) is directed to provide a report to the General Assembly and the Governor regarding the condition of existing heavy industry use sites in Delaware's Coastal Zone.

7 *Del. C.* §7015(b) states:

Beginning on January 1, 2019, and every 2 years thereafter the Department of Natural Resources and Environmental Control shall provide a comprehensive report to the General Assembly and the Governor summarizing the status of contamination and remediation for all 14 heavy industry use sites compared to the status of the sites on July 1, 2017, and summarizing the environmental status at each site issued a coastal zone act conversion permit.

At the time of this report, no sites have applied for nor have been issued a conversion permit.

This document provides an overview of DNREC's regulatory remediation programs and associated laws governing the 14 heavy industry sites within Delaware's Coastal Zone. All but one of these locations are in New Castle County, with Delaware Storage and Pipeline Company located in Kent County. This report represents DNREC's current knowledge of the sites and is broken into sections summarizing the environmental status of each location, including the information required by §7015(b), if applicable.

DNREC's Regulatory Remediation Programs

Groundwater, soil, surface water and sediment remediation occur under one or more of the following programs:

Resource Conservation and Recovery Act **42 U.S.C. §6901 et. seq. (1976); 7 Del. C., Ch. 63**

The Resource Conservation and Recovery Act (RCRA) gives EPA the authority to control the generation, transportation, treatment, storage, and disposal of hazardous waste. Under this program, the facility or responsible party conducts and assumes the cost of investigation, remediation and post-closure monitoring and maintenance.

Underground Storage Tank Act and Aboveground Storage Tank Act **7 Del. C., Ch. 74; 7 Del. C., Ch. 74A**

The Underground and Aboveground Storage Tank (UST and AST, respectively) programs ensure the cleanup of releases from specific tanks located at a facility. Both programs have regulations designed to ensure the tank systems are constructed and maintained in a way to minimize the risk of a release of regulated substances, such as petroleum, into the environment. If a release occurs, the responsible parties have an obligation to perform necessary cleanup activities. DNREC refers to these types of cleanup projects as Leaking Underground Storage Tank projects (LUSTs) or Leaking Aboveground Storage Tank projects (LASTs). Cleanups under these programs may occur independently or be combined with facility-wide cleanup under another program.

Comprehensive Environmental Response, Compensation and Liability Act **42 U.S.C. §9601 et seq. (1980)**

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or Superfund) is a federal program that captures facilities that did not meet the transportation, storage and disposal definition but otherwise had contamination and a nonviable responsible party to complete an investigation and remediation. Federal and/or state dollars are expended until a viable responsible party or parties can be identified and costs can be recovered. For the Environmental Protection Agency (EPA) to perform the lead under CERCLA utilizing federal funds, the state must concur with this action and provide assurances to fund 10 percent of the remedial action and 100 percent of the long-term operation and maintenance. An example of this is Standard Chlorine, where the state is responsible for funding the full amount of maintaining the groundwater treatment system and the engineered soil cap once the facility is considered operational and functional. In other cases, as with Formosa, the EPA is the technical lead due to the complexity of the facility, but a viable Potentially Responsible Party (PRP) pays for the remedial action and the state is not required to provide a cost share. However, if in the future, the federal government determines the PRP is no longer viable, then the state must agree to provide the above-mentioned cost share.

Delaware's Hazardous Substance Cleanup Act 7 Del. C., Ch. 91

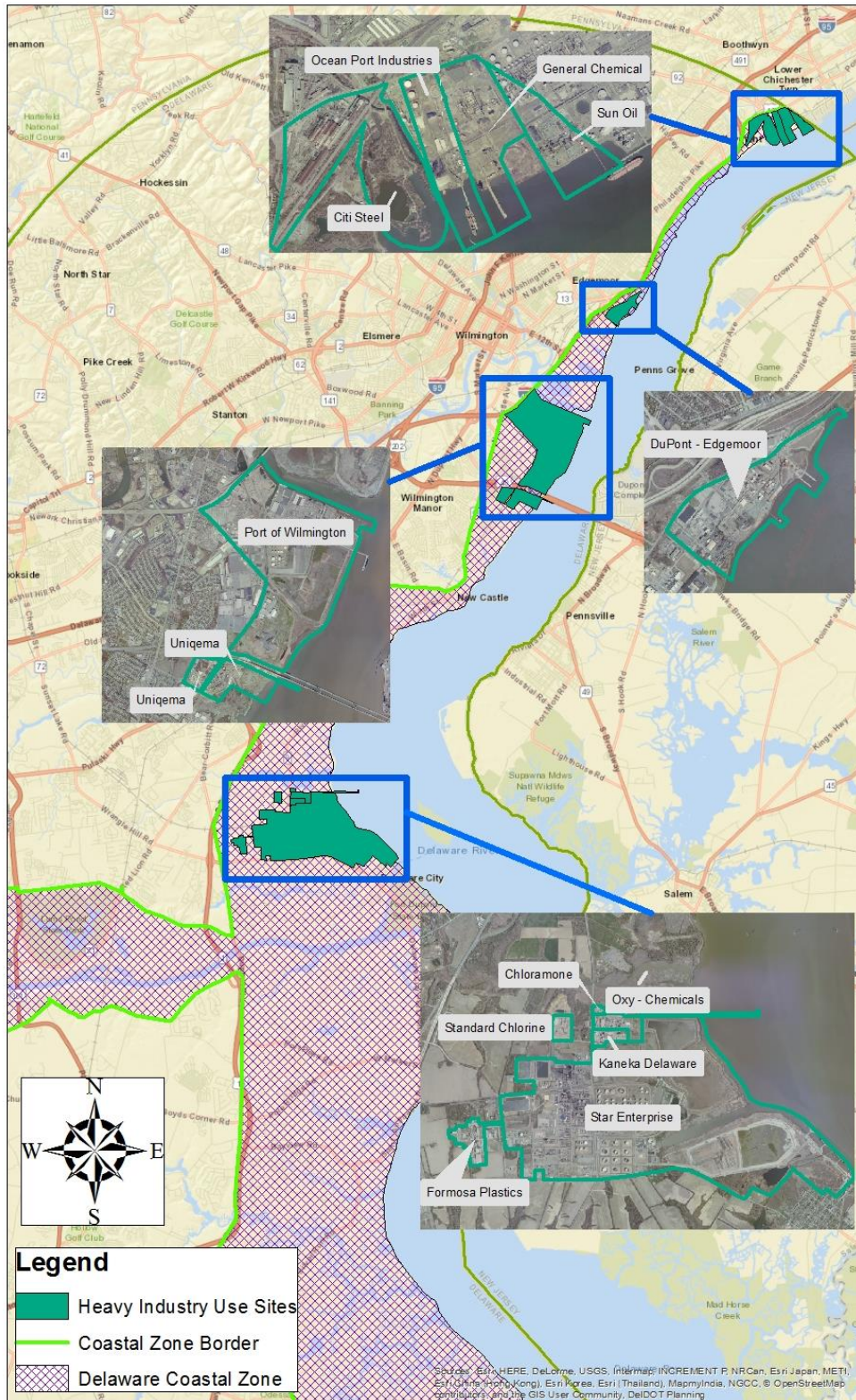
The Hazardous Substance Cleanup Act (HSCA) gives DNREC the ability to ensure the cleanup of facilities with a release or imminent threat of release of hazardous substances. HSCA applies to all the programs, including the Brownfields Program, Voluntary Cleanup Program, state-led projects and enforcement. The Brownfields Program follows the HSCA statute and regulations, and Brownfields Grants are financed by the HSCA Fund for certified sites. State-led projects follow the HSCA statute and regulations, and the cleanup is financed by the HSCA Fund until the responsible party can be identified. HSCA allows for viable PRPs to voluntarily enter into an agreement to fund and remediate the facilities. HSCA also provides the funding mechanism to address facilities where either the state is the PRP or no viable PRP could be identified.

Under each of these programs, an investigation can be conducted and a remedy decision be implemented; however, the site may be reopened upon discovery of new information (e.g., toxicity research, changes to site understanding, new release and changes to site use).

Remedy decisions do not require removal of all hazards from a site. Remedial actions performed either by the state or federal government cannot restore these facilities back to their original pristine condition. Therefore, restrictions are often placed on the facility, limiting its future use (e.g., non-residential uses only) or placing requirements for future monitoring (e.g., soil cap inspection). A remedy may include engineering and/or institutional controls, such as fencing or a deed notice/environmental covenant. Long-term operations, maintenance and monitoring strategies may be required to maintain and verify the effectiveness of a remedy decision. Redevelopment of these facilities must abide by other applicable laws and regulations, such as zoning limitations, no matter what regulatory program leads the remedial action.

Oversight of a facility may be administratively led by either the state or a federal agency. DNREC provides technical support to the EPA on federally led projects, and vice versa. The lead agency is selected based on a variety of factors, including statutory authority and resource availability.

Site Locations New Castle County



Status of Sites

Sun Oil

Alternate name(s): Sunoco Marcus Hook Refinery

Location: Delaware Avenue and Green Street, Marcus Hook, DE 19061

Responsible party: Sunoco/Evergreen Resources Group, LLC

Remediation program(s): RCRA Corrective Action, AST Program

Contaminant(s) of concern: benzene

2017 Baseline Report summary:

Most of the Sun Oil/Sunoco site is in Pennsylvania, with only a small portion in Delaware.

RCRA Corrective Action activities have been conducted under the direction of the EPA in conjunction with the Pennsylvania Department of Environmental Protection and the site is not on the list of Delaware RCRA Corrective Action 2020 sites.

Seven out of eight leaking AST projects containing ethylene glycol, propylene glycol and petroleum products have been closed. One project, consisting of two tanks, remains open due to benzene exceedances with ongoing semi-annual monitoring in place.

Current status of contamination and remediation compared to July 1, 2017:

RCRA Corrective Action activities continue to be conducted under the direction of the EPA in conjunction with the Pennsylvania Department of Environmental Protection.

There are no active or open leaking AST projects at this site.

Residual contaminants on the site will likely be addressed by recovery system operation regulated under other programs and by Pennsylvania.

Link: <https://www.epa.gov/hwcorrectiveactionsites/hazardous-waste-cleanup-sunoco-partners-m-t-marcus-hook-refinery-marcus-hook>

General Chemical

Alternate name(s): Allied Chemical, Delaware Valley Works

Location: 6300 Philadelphia Pike, Claymont, DE 19703

Responsible party: Honeywell, Chemtrade and Drawbridge LLC

Remediation program(s): RCRA Corrective Action

Contaminant(s) of concern: arsenic, lead and DDX (DDT, etc.)

2017 Baseline Report summary:

This is an EPA-led RCRA Corrective Action site with extensive DNREC technical support (i.e., staff time). The financial responsibility for cleanup is held collectively between Honeywell, Chemtrade (the current owner of the former General Chemical site), and Drawbridge (a recent purchaser and developer of a portion of the General Chemical site). Soil, groundwater and sediments in the Delaware River are contaminated with arsenic, lead and DDX (DDT, etc.) as the main contaminants of concern.

There are plans for continued remediation and expected redevelopment at the site. Plans for capping a portion of the contaminated sediments in the Delaware River are being developed, although additional work will be required.

The site had one leaking UST project that was closed in 1991.

Current status of contamination and remediation compared to July 1, 2017:

Multiple Solid Waste Management Units and Areas of Concern are being investigated through RCRA Corrective Action. Metals, volatile organic compounds and pesticides are the main contaminants of concern in soils, sediments and groundwater at the facility. As of 2022, an area of fuel contamination in groundwater has been discovered at an upgradient corner of the facility and is being investigated.

Remediation and redevelopment of a portion of the property as a railyard has been completed. The railyard was constructed on top of a RCRA cap. The remainder of the parcel is planned to be capped as well.

Link: <https://www.epa.gov/hwcorrectiveaction/hazardous-waste-cleanup-general-chemical-corporation-claymont-de>

Oceanport Industries

Alternate name(s): Oceanport LLC

Location: 6200 Philadelphia Pike, Claymont, DE 19703

Responsible party: Oceanport LLC, Evergreen Property Holdings, LLC

Remediation program(s): UST/AST Program, HSCA

Contaminant(s) of concern: Petroleum

2017 Baseline Report summary:

This site is in active use as a bulk product transfer facility.

One previously leaking UST was identified and closed several years ago.

All ASTs at the facility have been removed or are permanently closed. As part of the tank closure process, nine leaking AST projects were initiated, indicating the release of petroleum products. Four projects are closed and require no further action. The remaining five projects have been combined in order to address cleanup requirements more efficiently. Due to the proximity of the site to Naaman's Creek, DNREC's Tanks Compliance Section is requiring the cleanup of all leaking ASTs to the strictest risk-based screening levels.

Current status of contamination and remediation compared to July 1, 2017:

Remediation efforts related to the ASTs are ongoing at this site. The site is monitored with semi-annual reports to DNREC Remediation Section.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10054711&piid=218676>

Citi Steel

Alternate name(s): Evraz Steel, Claymont Steel

Location: 4001 Philadelphia Pike, Claymont, DE 19703

Responsible party: Environmental Liability Transfer Company

Remediation program(s): HSCA Voluntary Cleanup Program

Contaminant(s) of concern: PAHs, PCBs, metals

2017 Baseline Report summary:

This is an HSCA Voluntary Cleanup Program site. The responsibility for the cleanup is held by Claymont Properties LLC, a subsidiary of Environmental Liability Transfer Company, the current property owner. The site has been separated into seven distinct operable units at different phases of the remedial process. The majority of the site has been investigated, with environmental concerns relating to soils, sediments and groundwater on areas of the site.

Two leaking UST projects were removed from the site prior to its purchase by Claymont Properties LLC, with minimal contamination encountered. There are no active or open leaking USTs onsite.

Current status of contamination and remediation compared to July 1, 2017:

DNREC is overseeing the responsible party in performing the required remedial actions. Remedial actions are on-going within OU-2 and OU-4. In July 2022, New Castle County granted a variance for floodplain fill required in order to install a cap atop the former cooling water channel and lagoon in accordance with the Final Plans of Remedial Action for OU-2 and OU-4.

Certifications of Completion of Remedy were recorded with the property deeds for OU-1, OU-3, OU-5, OU-6, and OU-7. Environmental covenants set forth restrictions for OU-1, OU-3, OU-5, and OU-7: 1) property use to non-residential, 2) limitation of groundwater withdrawal without prior written approval from DNREC, and 3) required compliance with the DNREC-approved Contaminated Material Management Plan during construction activities. OU-6 has the same restrictions except for the use restriction.

The portion of OU-3 north of Philadelphia Pike will be redeveloped as a warehouse and associated parking. OU-7 is being redeveloped as the new Claymont train station and associated parking. During construction activities in July 2022, the contractor encountered buried drums. The drums and their contents, along with some surrounding soil, were removed from the excavation and temporarily and securely staged on the property atop and covered with plastic. Soil was sampled and deemed acceptable for reuse on site. The drums and their contents were disposed at a licensed disposal facility.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10000063>

DuPont – Edgemoor

Alternate name(s): Diamond State Port Corporation, Chemours – Edgemoor

Location: 104 Hay Road, Wilmington, DE 19809

Responsible party: Diamond State Port Corporation

Remediation program(s): RCRA Corrective Action

Contaminant(s) of concern: metals, dioxins, furans

2017 Baseline Report summary:

This is a state-led Hazardous Waste Management site. Financial responsibility for the investigation, cleanup and monitoring of this site is held by Diamond State Port Corporation. DNREC's Waste Management & Reduction (formerly Solid & Hazardous Waste Management) Section received a revised Risk Assessment and has a Corrective Measure Study under review. The former settling ponds are in post-closure monitoring.

One AST containing ferric chloride was closed in place, requiring site assessment. The investigation has been incorporated into the RCRA Corrective Action efforts. There were previously two leaking UST projects that are closed.

Current status of contamination and remediation compared to July 1, 2017:

There is no active remediation occurring at this site. The permit for the site was issued on April 29, 2021 for Corrective Action and Post-Closure Care under RCRA. The site is preparing for redevelopment into a container port as part of the Port of Wilmington expansion.

Link: <https://www.epa.gov/hwcorrectiveaction/hazardous-waste-cleanup-chemours-company-fc-llc-edge-moor-plant-wilmington-de>

Port of Wilmington

Alternate name(s): Diamond State Port Corporation

Location: 1 Hausel Road, Wilmington, DE 19899

Responsible party: Diamond State Port Corporation, GulfTainer USA Wilmington, LLC

Remediation program(s): HSCA Voluntary Cleanup Program

Contaminant(s) of concern: metals (aluminum, lead, arsenic, antimony, chromium in soils; aluminum, barium, chromium, cobalt, copper, iron, lead, manganese, nickel, vanadium in groundwater), polycyclic aromatic hydrocarbons (PAHs), benzene, toluene, ethylbenzene, xylene and petroleum compounds in soil.

2017 Baseline Report summary:

This site is a DNREC HSCA Voluntary Cleanup Program site. Responsibility for the cleanup is held by the property owner, Diamond State Port Corporation.

Six previously leaking USTs are closed at this facility. Eight ASTs containing petroleum products have been closed or removed.

Current status of contamination and remediation compared to July 1, 2017:

On January 17, 2020, DNREC approved a Contaminated Materials Management Plan submitted by a HSCA-certified consultant to guide the proper management of soil, groundwater, etc., encountered during additional container storage infrastructure construction activities. In April 2020, DNREC received a draft of the Conceptual Site Model for the site to review. The consultant and DNREC discussed a general scope of work for the comprehensive Remedial Investigation of the site and the consultant will submit a work plan to DNREC for review and approval once given approval by the client.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10153008>

Uniqema

Alternate name(s): Croda, ICI – Atlas Point

Location: 315 Cherry Lane, New Castle, DE 19720

Responsible party: Croda and Fuji Films

Remediation program(s): HSCA Voluntary Cleanup Program

Contaminant(s) of concern: metals (arsenic, cadmium, lead, manganese), PAHs, VOCs (bis(2-chloroethyl) ether (BCCE), phthalate acid esters, 1,2-dichloroethane, PCE)

2017 Baseline Report summary:

This is a HSCA Voluntary Cleanup site under the responsibility of Croda and Fuji Films. The site is broken into two operable units (OUs). OU-1 addresses impacted soil onsite and OU-2 addresses groundwater impacted on- and off-site. Ongoing monitoring and remediation are occurring to address the soil and groundwater contamination.

Croda also has an agreement with Artesian Water to address contamination of Croda's Cherry Lane production well.

Two leaking UST projects have been initiated at the site. One is closed and one is being addressed through Voluntary Cleanup Program activities. Six ASTs have been closed or removed at the site, all containing petroleum products.

Current status of contamination and remediation compared to July 1, 2017:

A Long-Term Stewardship plan was approved for OU-1 in November 2018 and for OU-2 in January 2019. A Contaminated Materials Management Plan for the site was also approved in January 2019. In September 2019, an Amended Final Plan of Remedial Action for both operable units was advertised and no comments were received. Environmental Covenants were recorded in September 2019 as well. Long-Term Stewardship plans, Contaminated Materials Management Plans, and Environmental Covenant restrictions are being followed.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10153130>

Chloramone

Alternate name(s): Kuehne Chemical

Location: 1645 River Road, New Castle, DE 19720

Responsible party: N/A

Remediation program(s): N/A

Contaminant(s) of concern: N/A

2017 Baseline Report summary:

This site is currently active as a chemical processing plant and is not in any of DNREC's or EPA's remediation programs.

Two previously leaking UST projects are closed. One AST was removed from the site and the project is closed.

Current status of contamination and remediation compared to July 1, 2017:

This site continues to operate as a chemical processing plant and is not in any remediation programs.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10152894>

Oxy Chemicals

Alternate name(s): OxyChem, Occidental Chemical Corporation

Location: 1657 River Road, New Castle, DE 19720

Responsible party: OxyChem

Remediation program(s): RCRA Corrective Action

Contaminant(s) of concern: chlorobenzenes, mercury, manganese, chlorinated VOCs

2017 Baseline Report summary:

This is an EPA-led RCRA Corrective Action site, with extensive DNREC technical support. The financial responsibility for site cleanup is held by OxyChem, with its holding company, Glenn Springs Holdings, conducting the remediation. Soil, groundwater and sediments are contaminated in a small tributary draining into Red Lion Creek. Remediation has been completed for some areas of this site, and designs are in progress for others.

VOC contamination is likely coming from an offsite (upgradient) source.

Fourteen ASTs have been removed or closed at this facility.

Current status of contamination and remediation compared to July 1, 2017:

Remediation and monitoring activities are ongoing at this site.

Link: <https://www.epa.gov/hwcorrectiveaction/hazardous-waste-cleanup-occidental-chemical-corporation-new-castle-de>

Standard Chlorine

Alternate name(s): Delaware Metachem

Location: 745 Governor Lea Road, Delaware City, DE 19706

Responsible party: N/A – Responsible party declared bankruptcy

Remediation program(s): CERCLA

Contaminant(s) of concern: benzene, many types of chlorobenzene compounds, toluene, polychlorinated biphenyls, meta-chloronitrobenzene, dioxins

2017 Baseline Report summary:

Standard Chlorine is a federal Superfund site governed by a Record of Decision from 1995. As such, EPA funds 90% of remedial costs until the remedy is determined to be operational and functional, at which point Delaware will assume responsibility for 100% of the costs associated with operations and maintenance of the remedy. The remedial actions are separated into operable units (OUs), such as interim action for groundwater (OU-1), sediments (OU-2), and soils (OU-3), along with a final action for groundwater (OU-4).

Remedial actions for OU-1 and OU-3 are complete, including a sub-surface slurry wall to contain and treat groundwater and a multilayer cap to prevent contact with contaminated soil at the site, along with capturing and treating any soil gas that may come from the soil.

Three previously leaking USTs are all closed.

Current status of contamination and remediation compared to July 1, 2017:

Final parts of remedial investigation for OU-4 Final Groundwater Remedy are underway. The Proposed Remedial Action Plan for OU-2 Wetlands was released and a virtual public meeting was held in 2021. The Record of Decision Amendment #3 was signed by EPA Administrator Regan in 2022 and the OU-2 remedy is in design phase.

The multilayer cap (OU-3) is complete and has been in Operations and Maintenance under the authority of DNREC's Remediation Section since 2019. The OU-1 Interim Groundwater Remedy is still under EPA authority.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10000054>

Kaneka Delaware

Alternate name(s): None

Location: 1685 River Road, New Castle, DE 19720

Responsible party: Kaneka of America Corporation and EcReCon (Delaware City Industries)

Remediation program(s): HSCA Voluntary Cleanup Program

Contaminant(s) of concern: VOCs in groundwater

2017 Baseline Report summary:

This site is owned by Tri-Supply, a construction equipment supplier.

This HSCA Voluntary Cleanup Program site is the responsibility of Kaneka of America Corporation for groundwater contamination, and EcReCon (Delaware City Industries) for operations and maintenance responsibilities for any other outstanding issues. The site is in the operations and maintenance phase, which includes groundwater monitoring to address low level VOCs in groundwater.

Current status of contamination and remediation compared to July 1, 2017:

Groundwater monitoring is ongoing at the site.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10000027>

Formosa Plastics

Alternate name(s): Delaware City PVC, Stauffer Chemical

Location: US Route 13 & School House Road, Delaware City, DE 19706

Responsible party: Formosa

Remediation program(s): CERCLA

Contaminant(s) of concern: trichloroethylene (TCE), 1,2-dichloroethane (1,2-DCA), vinyl chloride

2017 Baseline Report summary:

This is an EPA-led CERCLA site. Responsibility for the cleanup is held by the current property owner (Formosa) and the former owner (Stauffer). There is currently no state financial liability for this site; however, if in the future the Responsible Parties no longer have the means to remediate the site and the EPA takes over the cost of remediation, they may seek a state cost share. Numerous remedial actions have occurred onsite to address soil and groundwater contamination. A pump and treat system is utilized to address groundwater contamination.

Current status of contamination and remediation compared to July 1, 2017:

The pump and treat system was decommissioned and demolished. Formosa is no longer operating on the property and has moved operations to another location outside of Delaware. The property is currently up for sale.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10056495&piid=27290>

Star Enterprise

Alternate name(s): Delaware City Refinery, Motiva Enterprises

Location: 4500 Wrangle Hill Road, Delaware City, DE 19706

Responsible party: Motiva Enterprises

Remediation program(s): RCRA Corrective Action

Contaminant(s) of concern: petroleum hydrocarbons, chlorinated VOCs

2017 Baseline Report summary:

Cleanup activities at the Delaware City Refinery are underway, conducted through state-led RCRA Corrective Action. Motiva Enterprises retains the environmental liability for the facility for historical contamination at the site.

A Remedial Facility Investigation is being conducted to determine the corrective measures that should be taken to address soil and groundwater contamination. There is a large plume of petroleum hydrocarbons beneath the site and groundwater sampling is ongoing. Chlorinated VOCs have been identified in the groundwater under the site but are likely from off-site sources. Soil contamination has been identified in some areas and Solid Waste Management Units are in various states of cleanup.

Five previously leaking USTs are closed. Eleven ASTs have been closed or removed from the site and require no further action.

Current status of contamination and remediation compared to July 1, 2017:

Remediation is ongoing at this site.

Link: <https://www.epa.gov/hwcorrectiveaction/hazardous-waste-cleanup-delaware-city-refinery-delaware-city-de>

Delaware Storage and Pipeline Company

Alternate name(s): None

Location: 987 Port Mahon Road, Little Creek, DE 19961

Responsible party: N/A

Remediation program(s): N/A

Contaminant(s) of concern: N/A

2017 Baseline Report summary:

This is an active site that is used for bulk transfer of jet fuel. It is not in any DNREC or EPA remediation programs.

Current status of contamination and remediation compared to July 1, 2017:

This site continues to operate as a bulk product transfer facility and is not in any remediation programs.

Link: <https://den.dnrec.delaware.gov/Detail/FacilityDetail.aspx?id=10000982>



Department of Natural Resources
and Environmental Control
89 Kings Hwy
Dover, DE 19901
dnrec.delaware.gov