EXPLANATION OF SIGNIFICANT DIFFERENCES

Former Kil-Tone Company Superfund Site
Operable Unit 1

Site Name and Location
Former Kil-Tone Company Superfund Site
City of Vineland, Cumberland County, New Jersey

Introduction
The purpose of this Explanation of Significant Differences (ESD) is to explain the United States Environmental Protection Agency's (EPA) changes to the remedy selected in the September 2016 Record of Decision (ROD) for the Former Kil-Tone Company Superfund Site (Site), Operable Unit (OU) 1. The selected remedy described in the OU1 ROD represents the first of four planned remedial phases, or operable units, for the Site. The first ESD for OU1 was approved and dated July 2021.This is the second ESD for OU1. This ESD documents EPA's decision to remove pesticides and polycyclic aromatic hydrocarbons (PAHs) from the list of contaminants of concern (COCs) for OU1 based on findings from the second operable unit (OU2) remedial investigation, and a refinement to the remediation goal for lead.

Under Section 117(c) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA or Superfund), 42 U.S.C. § 9617(c), EPA is required to publish an ESD when, after issuance of a ROD, subsequent enforcement or remedial actions lead to significant, but not fundamental, changes in the selected site remedy. Sections 300.435(c)(2)(i) and 300.825(a)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. §§ 300.435(c)(2)(i) and 300.825(a)(2), set forth the criteria for issuing an ESD and require that an ESD be published if the remedy is modified in a way that differs significantly in scope, performance, or cost from the remedy selected in the ROD for the Site.

This ESD presents the significant differences to the remedy selected in the OU1 ROD. This ESD also provides a brief history of the Site, describes the original remedy, and explains how, subsequent to issuance of the OU1 ROD, issues concerning the scope and performance of the selected remedy were identified.

This ESD and the documents that provide the basis for the ESD decision will be incorporated into the administrative record maintained for the Site in accordance with Section 300.825(a)(2) of the NCP, 40 C.F.R. § 300.825(a)(2). The administrative record file is available for review during business hours at the EPA Region 2 Superfund Records Center, 290 Broadway, New York, NY 10007 (Monday through Friday, 9:00 AM–5:00 PM); at the information repository at the Vineland City Library, 1058 East Landis Ave. Vineland, New Jersey 08360 (for library hours: http://www.vinelandlibrary.org); and online at: www.epa.gov/superfund/former-kil-tone. EPA recommends contacting the EPA Region 2 Superfund Records Center at (212) 637-4308 or the Vineland City Library Info Center at (856) 794-4244 (ext. 4243) to discuss options for

viewing before visiting.

Site Location, History, Contamination Problems, and Selected Remedy

A. Site Location and Description

The Site includes the former Kil-Tone Company facility located at 527 East Chestnut Avenue, City of Vineland, Cumberland County, New Jersey (the Property) and the areal extent of contamination, including residential, commercial, and industrial properties in the vicinity of the Property, as well as certain floodplain and sediment areas near the Property. The Property is bordered to the north by East Chestnut Avenue; to the east by South Sixth Street; to the south by Paul Street; and to the west by South East Boulevard, which is next to railroad tracks used for freight transport. Residential, commercial and industrial properties are located throughout the area. A storm sewer catch basin located in the northwestern corner of the Property discharges into the head of the Tarkiln Branch, a tributary of the Parvin Branch that flows into the Maurice River that flows into Union Lake.

OU1, the subject of this ESD, addresses soil contamination at residential properties in the vicinity of the Property. OU2 concerns the Property itself as well as other commercial and industrial properties in the vicinity of the Property. A remedial investigation is ongoing for OU3 that concerns potential groundwater contamination, and another remedial investigation is being performed for OU4 that concerns possible sediment, surface water and floodplain soil contamination along or near the Tarkiln Branch.

The Property is approximately 4.076 acres and is located in a mixed-use (residential, commercial and industrial) community that has been identified as a community with environmental justice concerns. According to the 2021 American Community Survey (ACS), the annual demographics survey of the U.S. Census Bureau, the approximate racial breakdown of the City of Vineland included White (64.9%), Black or African American (14.3%), and Asian (1.2%). The 2021 ACS also reported a Hispanic/Latino population of 41.6%[1]. The total median household income was reported in 2021 at $60,018. Results from EPA's Environmental Justice screening tool, EJSCREEN, show that the EJ Index in Vineland is in the 98th percentile for Superfund Proximity, which shows the Superfund sites per square kilometer. Additionally, Vineland is in the 84th percentile for the Lead Paint Indicator, which considers the percentage of housing constructed before 1960. EJ Indexes combine an Environmental Indicator with Demographic Indexes (Person of Color Population and Low-Income Population) to provide a more holistic picture of the environmental burden on the community. EPA considers areas with EJ Indexes above the 80th national percentile as being of particular concern for environmental justice.

B. Site History

The Property was the site of pesticide manufacturing operations from about 1916 to about 1933. Starting in or about 1916, the former Kil-Tone Company manufactured, among other things, the

[1] According to the United States Census Bureau, Hispanics may be of any race, so also are included in applicable race categories (https://www.census.gov/quickfacts/vinelandcitynewjersey).

pesticide lead arsenate at the Property. In 1926, the Property was purchased by John Lucas & Company, which created a new subsidiary named the Lucas Kil-Tone Company that continued to manufacture arsenic-based pesticides on the Property until about 1933, at which point pesticide manufacturing ceased.

Lead arsenate is a pentavalent form of inorganic arsenic and contains about 22 percent arsenic. Inorganic arsenics are known to be acutely toxic. Among the products manufactured at the Property were Green Cross Dry Powdered Arsenate of Lead, Green Cross Standard Arsenate of Lead, Green Cross Sulpho-arsenate Powder, Green Cross Sulphur and Arsenate Lead Mixture, Modified Kil-Tone, Improved Kil-Tone, Fruit Kil-Tone, Bordeaux Mixture, Dry Powdered Arsenate of Zinc, and Beetle Mort.

The Property was sold in 1943 to three individuals that produced tomato-based products. The Property changed ownership several times and was purchased in 2008 by the current owner Urban Manufacturing, LLC. The Property is leased to Urban Sign & Crane, Inc., which fabricates and installs commercial signs.

C. Contamination Problems

An August 2014 investigation of the Property by NJDEP found arsenic at concentrations as high as 740 parts per million (ppm) in the top six inches of soil, and at concentrations as high as 5,800 ppm between 3.5 to 4 feet below ground. Groundwater beneath the Property had concentrations of arsenic of 8.1 micrograms per liter (µg/L) to 14,000 µg/L. As a result of its investigation, on November 14, 2014, the NJDEP referred the Site to EPA.

From January 2015 through February 2016, EPA conducted several sampling events at the Site to determine the nature and extent of contamination. Sampling results identified arsenic and lead in soils at the Property, as well as in soils at nearby residential, commercial and industrial properties. Arsenic and lead were also found in samples collected by EPA from groundwater, surface water and sediment. On April 5, 2016, EPA placed the Site on the National Priorities List.

In April 2016, EPA initiated a removal action to address potential exposure to surface soil contaminated with arsenic and lead at residential properties in the vicinity of the Property. Clean topsoil was placed over portions of 26 residential properties as an interim measure until a permanent remedy was selected and implemented to prevent exposure to arsenic- and lead-contaminated soil. Additional removal work was done further from the Property in the floodplain of the Tarkiln Branch. Clean soil was placed on six residential properties in the floodplain and fencing was installed at portions of two public housing developments along the Tarkiln Branch. These additional removal activities are also interim measures designed to prevent exposure to and migration of arsenic and lead contaminated soil until a final remedy is selected and implemented for the Tarkiln Branch floodplain.

D. The OU1 Remedy

The OU1 ROD selected a remedy to address a discrete portion of the Site involving contaminated soil at residential properties in the vicinity of Property. The OU1 ROD identified remedial action objectives (RAOs), which are specific goals to protect human health and the environment. The RAOs in the OU1 ROD are:

- Prevent potential current and future unacceptable risks to human receptors resulting from direct contact with contaminated soil.

- Prevent migration of site contaminants from the OU1 properties to other areas via overland flow and air dispersion.

The major components of the remedy selected in the OU1 ROD are:

- Excavation of an estimated 21,000 cubic yards of soil contaminated primarily with arsenic and lead from approximately 57 residential properties in the vicinity of the Property;

- Off-site disposal of excavated contaminated soil, and backfilling of excavated areas with clean fill; and

- Restoration of the affected properties.

The OU1 remedy is being implemented in three phases. Phase 1 was completed in 2018 with six residential properties remediated and restored to unrestricted future use, including continued residential use. In 2020, Phase 2 of the OU1 remedial action was completed with 26 residential properties remediated and restored to conditions allowing for unrestricted future use. The third and final phase of the OU1 remedy was started in the fall of 2022 and is expected to be completed in the spring of 2024. At least 48 residential properties have been identified for cleanup under Phase 3.

E. July 2021 Explanation of Significant Differences for OU1

In July 2021, EPA issued an ESD for OU1 that modified the OU1 remedial action by providing for permanent relocation of some residents, as well as property acquisition and property demolition, in the event such action is needed to safely address soil contamination beneath residential structures. Arsenic and lead contaminated soils have been identified exceeding the OU1 cleanup levels beneath some structures at residential properties that are being addressed under OU1. The 2021 OU1 ESD explains that when EPA determines particular residential structures will be an impediment to implementation of the OU1 remedy, EPA may acquire title to the properties and permanently relocate the residents, consistent with EPA's National Superfund Permanent Relocation Interim Policy and EPA's OSWER Directive: 9355.0-71P, Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.

F. Operable Unit 2 Remedy

On September 30, 2019, EPA issued a ROD for OU2 at the Site to address contamination at the Property itself, and at non-residential properties in the vicinity of the Property. The OU2 remedy includes excavation of an estimated 57,800 cubic yards of soil contaminated with arsenic and lead from approximately 40 properties, including the Property. Contaminated soil is to be excavated to a depth not to exceed the groundwater table. Excavated soil is to be sent off-site for disposal, and the excavated areas are to be backfilled with clean fill. Properties affected by the cleanup are to be restored. EPA has completed the first phase of design of the OU2 remedial action and expects to begin construction of the OU2 remedy in the fall of 2023.

On May 16, 2023, EPA issued an ESD for OU2, which modified the OU2 remedy to provide for permanent relocation of businesses, and property acquisition and/or compensation for the value of demolished structures. Similar to the ESD for the OU1 ROD with respect to residential structures, the ESD for OU2 allows for the use of permanent relocation of businesses if there is a risk to human health that cannot effectively be addressed by cleanup or where a structure is an impediment to a protective cleanup, consistent with consistent with EPA's National Superfund Permanent Relocation Interim Policy and EPA's Interim Policy on the Use of Permanent Relocations as Part of Superfund Remedial Actions.

Description of Significant Differences

This ESD documents EPA's decision to remove pesticides and PAHs, and their remediation goals (RGs), from the list of COCs for OU1 identified in the OU1 ROD, based on findings from the OU2 remedial investigation. The OU1 RGs are shown below in Table 1:

Table 1

Constituent in Soil	Cleanup Goal (mg/kg)
Lead	400
Arsenic	19
Dieldrin	0.04*
Heptachlor epoxide	0.07*
Benzo(a)pyrene	0.2*
Benzo(a)anthracene	0.6*
Benzo(b)fluoranthene	0.6*

Table 1: Remediation Goals from the OU1 ROD
* Remediation Goals for PAHs and pesticides to be removed by ESD.

There are multiple lines of evidence that support this change.

- The OU1 ROD, which addresses residential properties in the vicinity of the Property, was issued prior to the completion of the remedial investigation and feasibility study (RI/FS) for OU2, which addresses the Property itself and the source of contamination. Information from the OU2 RI/FS provided EPA with a more detailed understanding of

Site-related contamination. While the Baseline Human Health Risk Assessment for OU1 found that arsenic and lead in soil were the only contaminants that posed unacceptable risk at the properties, EPA did not have the benefit of information from the OU2 RI/FS and pursued a conservative (protective) approach by identifying all contaminants that also exceeded the NJDEP soil cleanup standards then in effect, known as residential direct contact soil remediation standards (RDCSRS)[2], as COCs for OU1. However, based on information from the OU2 RI/FS, EPA concluded that arsenic and lead are the only Site-related COCs.

The Final Revised Remedial Investigation Report for OU2 notes that PAH impacts across the OU2 Study Area are scattered and do not fall into a coherent pattern.
The remedial investigation for OU2 further noted that no organic pesticides were detected above RDCSRS at the Property.

- In addition to EPA's determination that only arsenic and lead are clearly Site-related contaminants, the other contaminants detected at OU1 and OU2 are generally present at concentrations below those that trigger unacceptable risk. Samples collected during the OU2 RI were analyzed for a comprehensive list of hazardous substances, including volatile organic compounds, semi-volatile organic compounds, PAHs, polychlorinated biphenyls, pesticides and metals. The Baseline Human Health Risk Assessment conducted for OU2 evaluated all of the sampling data and considered several exposure scenarios and found that unacceptable risks were driven by arsenic and lead.

- Consistent with the findings of the OU1 Baseline Human Health Risk Assessment, the concentrations of contaminants found at the OU1 properties other than arsenic and lead were generally low. The OU1 ROD notes the pesticides found at the residential properties at concentrations above the applicable RDCSRS are dieldrin and heptachlor epoxide. Maximum concentrations were found to be 0.49 mg/kg for dieldrin and 0.38 mg/kg for heptachlor epoxide. The PAHs found at concentrations above the applicable RDCSRS are benzo(a)pyrene, benzo(a)anthracene, and benzo(b)fluoranthene; these were detected at concentrations as high as 0.81 mg/kg, 2.1 mg/kg, and 2.2 mg/kg, respectively. Further, during Phases 1 and 2 of the OU1 remedial action, which addressed a total of 32 residential properties, the above listed pesticides and PAHs were tested for in the pre- and post-excavation soil samples and were found at similar concentrations and exceeding the RDCSRS at a much lower frequency than arsenic and lead.

- The properties that comprise OU1 and OU2 are located in a densely populated urban area, and both PAHs and pesticides are commonly found in such areas. The data do not support that these ubiquitous urban contaminants are related to the Site activities; they are present at concentrations that would be expected in any similar urban area.

[2]In May 2021, NJDEP promulgated revised soil remediation standards pursuant to New Jersey law, renaming the standards and separating direct contact soil remediation standards into one set of standards for ingestion-dermal exposure, and another set for inhalation exposure. The standards formerly known as the New Jersey residential direct contact soil remediation standards are now known as the New Jersey residential soil remediation standards.

Therefore, this ESD revises the COCs and RGs for OU1 as shown in Table 2 by removing those contaminants that EPA has concluded are not Site-related. The RG for arsenic is unchanged. The RG for lead has been refined to reflect the current science on lead exposure. The RG of 400 mg/kg for lead in the OU1 ROD was based on a target child blood lead level of 10 micrograms per deciliter (µg/dL). However, recent toxicological evidence outlined in a December 2016 EPA memorandum "Updated Scientific Considerations for Lead in Soil Cleanups" suggests that adverse health effects are associated with lower blood lead levels. To achieve a lead risk reduction goal consistent with recent toxicological findings, the adjusted RG for lead is a two-tiered approach whereby the average lead concentration across the surface of the remediated area must be at or below 200 mg/kg, with no single concentration above 400 mg/kg, which corresponds to a typical (or hypothetical) child or group of similarly exposed children having an estimated risk of no more than 5% of the population exceeding a blood lead level of 5 µg/dL. OU1 properties that have been remediated to date have achieved these levels.

Table 2: Revised Remediation Goals

Constituent in Soil	Cleanup Goal (mg/kg)
Lead	400/200
Arsenic	19

Support Agency Comments

The State of New Jersey concurs with this ESD. The State's letter providing its concurrence is in the administrative record maintained for the Site.

Affirmation of Statutory Determinations

EPA, after consultation with NJDEP, is issuing this ESD to modify the selected OU1 remedy to remove the COCs and associated remediation goals for dieldrin, heptachlor epoxide, benzo(a)pyrene, benzo(a)anthracene and benzo(b)fluoranthene and to reflect a refinement of the remediation goal for lead. The OU1 remedy, as modified by this ESD, still satisfies the requirements of Section 121 of CERCLA, 42 U.S.C. § 9621.

The remedy, as modified by this ESD, will be protective of human health and the environment and will comply with federal and state requirements that are legally applicable or relevant and appropriate to the remedial action.

The modified remedy is technically feasible, cost-effective, and represents the maximum extent to which permanent solutions and treatment technologies can be used in a practicable manner at the Site.

This ESD does not alter the five-year review requirements outlined in the OU1 ROD.

Public Participation Compliance

In accordance with the NCP, a formal public comment period is not required when issuing an ESD. A notice briefly summarizing this ESD will be published in a major local newspaper of general publication in accordance with Section 300.435(c)(2)(i) of the NCP, 40 C.F.R. § 300.435(c)(2)(i).

This ESD and the documents that provide the basis for the decision to modify the OU1 remedy to remove remedial goals for select pesticides and PAHs will be incorporated into the administrative record for the Site in accordance with Section 300.825(a)(2) of the NCP, 40 C.F.R. § 300.825(a)(2). The administrative record file is available for review during business hours at the EPA Region 2 Superfund Records Center, 290 Broadway, New York, NY 10007 (Monday through Friday, 9:00 AM–5:00 PM); at the information repository at the Vineland City Library, 1058 East Landis Ave. Vineland, New Jersey 08360 (for library hours: http://www.vinelandlibrary.org); and online at: www.epa.gov/superfund/former-kil-tone. EPA recommends contacting the EPA Region 2 Superfund Records Center at (212) 637-4308 or the Vineland City Library Info Center at (856) 794-4244 (ext. 4243) to discuss options for viewing before visiting.

Pat Evangelista Digitally signed by Pat Evangelista
Date: 2023.09.13 18:27:45 -04'00'

Pat Evangelista, Director
Superfund & Emergency Management Division
U.S. EPA, Region 2

September 13, 2023
Date