RECORD OF DECISION

Matteo & Sons, Inc. Superfund Site
Operable Unit 1
West Deptford Township, Gloucester County, New Jersey

U.S. Environmental Protection Agency
Region 2
New York, New York
September 2019

DECLARATION STATEMENT

Record of Decision for Operable Unit 1 (OU1)

SITE NAME AND LOCATION

Matteo and Sons, Inc. Superfund Site (EPA ID# NJD011770013)
West Deptford Township, Gloucester County, New Jersey

STATEMENT OF BASIS AND PURPOSE

This Record of Decision (ROD) documents the U.S. Environmental Protection Agency's (EPA's) selection of a remedy for Operable Unit 1 (OU1) at the Matteo and Sons, Inc., Superfund site (Site) located in West Deptford Township, Gloucester County, New Jersey, which was selected in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, 42 U.S.C. §§ 9601-9675 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision document explains the factual and legal basis for selecting a remedy to address OU1 for the Site. The attached index (see Appendix III) identifies the items that comprise the administrative record upon which the selected remedy is based.

The New Jersey Department of Environmental Protection (NJDEP) was consulted on the proposed remedy in accordance with CERCLA Section 121(f), 42 U.S.C. § 9621(f), and concurs with the selected remedy (see Appendix V).

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from OU1 for the Site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The selected remedy described in this document addresses the OU1 portion of the Site, which primarily consists of an approximately 82.5-acre area that includes an active scrap metal recycling facility and several distinct waste disposal areas.

A September 2017 ROD addressed the remediation of single-family, residential properties located in and adjacent to the Tempo Development in West Deptford, New Jersey (OU2).

EPA anticipates one additional OU, OU3, will address groundwater and surface water/sediment. EPA will further assess those media, after the waste at OU1 is removed, to determine if any action is warranted.

The major components of the OU1 remedy include the following:

- Excavation and off-site disposal of source materials;
- Excavation and off-site disposal of all contaminated soils in the open field/waste disposal area, the rental home area, the property formerly occupied by Mira Trucking and the residential property P002;
- Restoration following excavation;
- Restoration of the shoreline of Hessian Run;
- Capping of contaminated soil in the active scrapyard area with appropriate maintenance of the cap;
- Connection to city water for several properties with private wells;
- Institutional controls as needed; and
- Long-term monitoring of groundwater and surface water/sediment.

It is anticipated that the contaminated soil at the former Mira Trucking property will be addressed under a removal action. Any remaining components of the selected remedy that apply to the former Mira Trucking property (e.g., the implementation of institutional controls, long-term monitoring of groundwater) and that are not addressed by the removal action, would be addressed as part of the OU1 remedial action.

The environmental benefits of the selected remedy may be enhanced by consideration, during remedy design or implementation, of technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy.

DECLARATION OF STATUTORY DETERMINATIONS

Part 1: Statutory Requirements

The selected remedy meets the requirements for remedial actions set forth in Section 121 of CERCLA, 42 U.S.C. § 9621, because it: 1) is protective of human health and the environment; 2) meets a level or standard of control of the hazardous substances, pollutants, and contaminants that at least attains the legally applicable or relevant and appropriate requirements under federal and state laws; 3) is cost-effective; and 4) utilizes permanent solutions and alternative treatment or resource recovery technologies to the maximum extent practicable.

Part 2: Statutory Preference for Treatment

The selected remedy removes battery casing waste and contaminated soil from OU1. Excavation activities will provide for an immediate reduction in the volume of battery casing waste and contaminated soil from approximately 82.5 acres of contiguous upland areas and adjacent mudflats also known as the Matteo property, as well as the former Mira Trucking property (approximately 4 acres). Although treatment is not a principal element of the remedy, based on sampling performed to date, some of the contaminated soil may require treatment prior to land disposal at an off-site facility. Off-site treatment, if required, would reduce the toxicity of the battery casing waste and contaminated soil prior to land disposal. Based on the heterogenicity of the waste, treatment of the material on-site prior to off-site disposal would not be feasible.

Part 3: Five-Year Review Requirements

Because the OU1 remedy will result in hazardous substances, pollutants, or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure, a statutory five-year review of the remedy will be conducted within five years of initiation of remedial activities to ensure the remedial action is, or will be, protective of human health and the environment.

ROD DATA CERTIFICATION CHECKLIST

The following information is included in the Decision Summary section of this ROD. Additional information can be found in the administrative record file for this Site.

• Chemicals of concern (COCs) and their respective concentrations and a discussion of source materials constituting principal threats may be found in the "Site Characteristics" section;
• Baseline human health risks and screening level ecological risks posed by the COCs may be found in the "Summary of Site Risks" section;
• Remediation Goals can be found in the "Remedial Action Objectives" section;
• A discussion of principal threat waste is contained in the "Principal Threat Wastes" section;
• Current and reasonably anticipated future land use assumptions can be found in the "Current and Potential Uses" section;
• Estimated capital, and total present worth costs, and the number of years over which the remedy cost estimates are projected can be found in the "Description of Remedial Alternatives" section; and,
• Key factors that led to selecting the remedy may be found in the "Comparative Analysis" and "Statutory Determinations" sections.

Andrew Wheeler, Administrator
U.S. Environmental Protection Agency

10-28-19
Date

DECISION SUMMARY

Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

U.S. Environmental Protection Agency
Region 2
September 2019

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SITE NAME, LOCATION, AND DESCRIPTION

The Matteo & Sons, Inc Superfund site (Site), OU1, is located at 1708 U.S. Highway 130 (Crown Point Road) in West Deptford Township, Gloucester County, New Jersey. The Site is located in an industrialized area, along a busy highway. The Site consists of the Matteo property, nearby properties and portions of Hessian Run and Woodbury Creek (see Appendix I, Figure 1). The Site has been divided into several areas based on physical features, use, and historical information (see Appendix I, Figure 2). These areas are described below:

- Matteo property – 82.5 acres of contiguous upland areas and adjacent mudflats located between the confluence of Woodbury Creek, Hessian Run, and U.S. Highway 130. The Matteo property includes the scrapyard area, the open field/waste disposal area, and the rental home area.
    - Scrapyard area – The southeastern portion of the Matteo property that supports an active scrap metal recycling business is approximately 10 acres and largely paved or covered in crushed stone.
    - Rental Home area – The 2.3-acre property with a rental home owned by the Matteo family is separated from the scrapyard area by a chain-link fence and gate.
    - Open field/waste disposal area – This area is approximately 53 acres and consists primarily of heavily vegetated, undeveloped land, including several distinct waste disposal areas.
- Tidal mud flats – The Site also includes approximately 17.2 acres of tidal mud flats within Hessian Run that are below water at high tide.
- Former Mira Trucking property– This property is across the street from the Matteo property and also contains a significant amount of battery casing waste which originated from the Matteo property. Mira Trucking formerly operated on the property and staged large trucks on the western and southern portions of the property. The property is approximately 4 acres in size.
- Residential Property P002 – This is a residential property adjacent to the west of the former Mira Trucking property.
- Willow Woods property – This is a residential community of approximately 14.5 acres located adjacent to the southwestern border of the Matteo property.
- Woodbury Creek – Woodbury Creek is a primary tributary of the Delaware River, which is south of the Matteo property, with deep narrow channels and extensive tidal flats along its northern and southern shores.
- Hessian Run – Hessian Run is a tributary of Woodbury Creek adjacent to the northern boundary of the Matteo property, with its farthest upstream reaches just east of U.S. Highway 130. Hessian Run is primarily extensive tidal flats (mud flats) with small shallow channels (less than two to three feet below sea level) extending through the flats.

The western portion of the Matteo property (more than half of the property) is within the Federal Emergency Management Agency Special Flood Hazard Area, subject to inundation by a 100-year flood event.

SITE HISTORY AND ENFORCEMENT ACTIVITIES

OU1 primarily consists of an approximately 82.5-acre portion of the Site which includes an active scrap metal recycling facility and several distinct waste disposal areas. Hessian Run is adjacent to its northern border. In 1968, the NJDEP identified an inactive incinerator at the property. In April 1971, NJDEP approved James Matteo & Sons, Inc.'s request to operate the incinerator to burn copper wire. In May of that year, the company submitted a plan to operate a "sweating fire box" to melt lead battery terminals for lead reclamation. This lead-melting operation continued until approximately 1985. In 1972, NJDEP observed landfilling of crushed battery casings and household waste in an area of wetlands adjacent to Hessian Run. This operation was apparently performed in conjunction with the lead melting operation, as there were several reports of battery waste incineration and subsequent on-Site ash disposal. These land uses resulted in the contamination of soil, sediment and groundwater with lead, antimony and polychlorinated biphenyls (PCBs). EPA placed the Matteo & Sons, Inc. Site on the National Priorities List in September 2006.

ENFORCEMENT HISTORY

At the request of the NJDEP, EPA conducted a CERCLA removal action in 2005 at the Matteo property. The action consisted of the placement of a fence and warning signs to restrict human access to contaminated portions of the property. Subsequent to this action, EPA oversaw a lead-contaminated soil excavation removal action conducted by the responsible parties at Willow Woods. Approximately 425 tons of contaminated soil were excavated for off-site disposal.

A consent decree (CD) in the civil action *United States of America v. James Matteo & Sons, Inc.* (Matteo), 1:10-cv-06405 (D.N.J.), was approved and entered by the United States District Court for the District of New Jersey in January 2011. Based upon financial and insurance information, the United States determined that James Matteo & Sons, Inc. had limited financial ability to pay EPA's response costs incurred and to be incurred at the Site. As a result, the United States settled the case for $820,000 plus an additional sum for interest as well as other considerations such as access for remedial activities and the establishment of institutional controls (ICs). The CD requires Matteo to fully cooperate with all of EPA's future Superfund activities at the Site.

HIGHLIGHTS OF COMMUNITY PARTICIPATION

The Proposed Plan and supporting documentation for the proposed remedy for OU1 were released to the public for comment on July 3, 2019. These documents were made available to the public at the EPA Administrative Record File Room, 290 Broadway, 18th floor, New York, New York; and the West Deptford Free Public Library, West Deptford, New Jersey, as well as on the EPA's website for the Site at https://epa.gov/superfund/matteo-and-sons.

On July 3, 2019, EPA published a notice in the *South Jersey Times* newspaper which contained information relevant to the public comment period for the Site, including the duration of the comment period, the date of the public meeting and availability of the administrative record. Information regarding the public meeting was posted on EPA's webpage for the Site. The public comment period began on July 3, 2019 and ended on August 2, 2019.

EPA held a public meeting on July 17, 2019 to explain EPA's preferred remedy. The purpose of this meeting was to inform local officials and community members about the Superfund process, to discuss the Proposed Plan and receive comments on the Proposed Plan, as well as respond to questions from area residents and other interested parties.

SCOPE AND ROLE OF THIS OPERABLE UNIT

The Site is being addressed as three operable units. OU1, which is addressed by this Record of Decision, primarily consists of the Matteo property, as well as a commercial property, the former Mira Trucking property, and a residential property adjacent to the former Mira Trucking property. The former Mira Trucking property and the adjacent residential property, P002, are located on the opposite side of Highway 130.

In March 2016, NJDEP requested that EPA assess and characterize battery waste discovered at residential property in the nearby Tempo Development (located within one mile of OU1). As a result, EPA investigated the matter and found the waste to be related to the Matteo Site. EPA issued a Record of Decision in 2017, which selected a remedy to address residential properties within the Tempo Development. Activities related to the Tempo Development remediation are being addressed as the OU2 portion of the Site. Remedial action on OU2 is currently underway.

It is anticipated that the contaminated soil and battery casing waste associated with the former Mira Trucking property will be addressed under a removal action. Any remaining components of the selected remedy that apply to the former Mira Trucking property (e.g., the implementation of institutional controls, long-term monitoring of groundwater) and that are not addressed by the removal action will be addressed as part of the OU1 remedial action.

EPA anticipates one additional OU, OU3, to address groundwater and surface water/sediment. EPA will further assess those media after the waste at OU1 is addressed to determine if any action is warranted.

SUMMARY OF SITE CHARACTERISTICS

<u>Geology and Hydrology</u>

Three geologic units are encountered at the Site: from shallow to deep, they are the Cape May Formation, the Merchantville Formation and the Magothy Formation. The Merchantville Formation is considered an aquitard. It is encountered beneath the Cape May Formation in the eastern and southern portions of the Site where it is approximately 20 feet thick. The formation thins and eventually pinches out in the western portion of the Site. The Magothy Formation extends at least to the maximum drilled depth (approximately 100 feet below ground surface [bgs]).

Two groundwater flow systems are present at the Site: a shallow perched flow system and a deep regional flow system. The perched flow system is observed from approximately five to fourteen feet bgs. The extent of this perched water zone mirrors the extent of the Merchantville Formation. Generally, the perched groundwater flows radially away from the topographically elevated scrapyard area. In the eastern portion of the Site and along the northern shoreline, the perched groundwater flows north discharging to Hessian Run; the remainder flows toward the topographically lower western portion of the Site where the Merchantville Formation is absent.

The deep regional flow system is described as a single hydrologic unit, referred to as the Potomac-Raritan-Magothy (PRM) aquifer system. The average horizontal hydraulic conductivity in the PRM is 13.6 feet/day. The regional deep groundwater flows to the southeast. The potable wells at the Matteo facility and the rental home currently pump water from this deep aquifer.

Summary of the Remedial Investigation

EPA's Matteo OU1 field remedial investigation (RI) was conducted from 2011 through 2012 in order to determine the nature and extent of contamination at the Site. The results of the RI are presented in detail in the January 17, 2018, RI Report, and are summarized below.

Note that extensive investigations were performed by NJDEP and EPA prior to the 2011/2012 RI sampling, mostly between 1997 and 2006. This included an extensive field investigation by NJDEP performed from between 2000 and 2002. This investigation included over 450 soil samples analyzed for lead and PCBs, installation of 10 direct-push borings to collect soils from the surface to the water table, installation of 35 additional soil borings to collect samples for lead and PCB analysis, installation of shallow and deep monitoring well borings, excavation at 90 test pits to characterize the nature and extent of buried waste at the Site, the collection of 430 sediment samples at 143 locations, the collection of 10 seep samples, the collection of surface water samples from 12 locations in Hessian Run and Woodbury Creek, installation of 24 monitoring wells and collection of three rounds of groundwater samples from these wells, as well as from two on-Site potable wells.

Further, in 2005, EPA collected 80 surface soil samples on from the Willow Woods manufactured home community and from an area on the Matteo property adjacent to Willow Woods. In 2006, a fence was installed between the two properties and 425 tons of lead contaminated soils were removed. Additional soil samples were collected after the soil removal to assure that residential standards were met. During the RI additional sampling was performed in Willow Woods to assess the current status of surface soils. These data are presented below.

The substantial volume of data collected prior to the initiation of EPA's 2011 RI field work was considered in developing the RI sampling plan and in developing cleanup alternatives. Below is a summary of the data collected in the 2011/2012 RI. The previous investigations are briefly summarized above and described in detail in the January 2018 RI Report. The RI included identification of battery casing disposal areas which are considered source material, as well as extensive sampling of soil, groundwater, sediment and surface water at the Site to determine the nature and extent of contamination.

Further, subsequent to EPA's 2001/2012 RI field investigations, EPA became aware of that a four-acre property located directly across Route 130 from the Matteo property may have been used for Matteo operations. EPA collected numerous soil samples at this property, known as the former Mira Trucking property, in 2017 and 2018. Additionally, soil samples were also collected at five adjacent residential properties. The findings of this part of the investigation are summarized below and are presented in detail in the 2019 OU1 RI Addendum Report.

Source Material
Contamination sources include an approximately five-acre pile of crushed automotive battery casings, an approximately six-acre inactive landfill in the north-central portion of the Site, and lead- and PCB-contaminated soil located throughout the Matteo property. Crushed battery casings were deposited directly into Hessian Run and the wetlands adjacent to it, altering the shoreline. In addition, crushed battery casings are present throughout soils on the former Mira Trucking property. The battery casings contain highly elevated levels of lead, which serve as a continuing source of contamination to soil, groundwater, and sediment, and are Resource Conservation and Recovery Act (RCRA) characteristic hazardous waste. The waste includes broken and crushed battery casings and highly contaminated soil, sediment and other waste located in close proximity to the casings. There is approximately 56,200 cubic yards (CY) of waste that is considered to be principal threat waste due to its toxicity and mobility on the Matteo property and 7,600 CY on the former Mira Trucking property.

Soil Contamination
The extensive volume of broken and crushed battery casing waste and the highly contaminated soils, sediment, and other waste in close proximity to the battery casings act as sources of elevated lead levels in Site soils. Most of the lead contamination on-Site is concentrated in the upper four feet of soils. The primary chemicals of concern (COCs) at the Site are lead, PCBs, antimony, and zinc.

Over 150 soil samples were collected at the Site to characterize soils during the RI at the Matteo property and Willow Woods. Hundreds of results from previous investigations were used to develop a sampling plan to provide a complete delineation of contamination. In addition, approximately 1,000 samples were collected at the former Mira Trucking property to characterize those soils. Surface soil samples (from 0 to 2 feet in depth) and subsurface soil samples (greater than 2 feet in depth) were collected in the following areas of the Site: the scrapyard area, the open field/waste disposal area, Willow Woods, the rental home area and the former Mira Trucking property. A summary of the RI findings for soils follows:

<u>Background Data Evaluation</u>
Background data were evaluated as part of the RI in order to better inform the RI and help establish remediation goals at the Site. Background data were obtained from three sources: background surface soil data generated as part of the RI for OU2, a NJDEP study from 2003 titled *Ambient Levels of Metals in New Jersey Soils,* and a study by John H. Dooley in 2001 titled *Baseline Concentrations of Arsenic, Beryllium and Associated Elements in Glauconite and Glauconitic Soils in the New Jersey Coastal Plain.* Detailed information regarding the background data sets is available in the Final Remedial Investigation Report from January 2018.

The background concentrations developed from these studies were for the most part below the selected RI screening criteria which were typically derived from ecological protection endpoints. The exception was for lead where the screening criterion was below the background concentration of 128 milligrams per kilogram (mg/kg).

<u>Scrapyard and Open Field/Waste Disposal Area</u>
Seven surface and 21 subsurface soil samples were collected in the scrapyard area. These samples were analyzed for inorganic, pesticides/PCBs, semi-volatile organic compounds (SVOCs), and volatile organic compounds (VOCs). Lead levels in the surface soils ranged from 33 to 1,200 milligrams per kilogram (mg/kg). Lead levels in subsurface soils ranged from 1 to 1,860 mg/kg. PCBs were detected in surface soils at levels of up to 200 mg/kg and in subsurface soils at levels of up to 260 mg/kg. The NJDEP Non-Residential Direct Contact Soil Remediation Standard (NRDCSRS) for PCBs is 1 mg/kg. A summary of the data collected in the scrapyard area is presented in Tables 1 and 2 in Appendix II.

Over 40 samples were collected from the open field/waste disposal area and analyzed for inorganics, pesticides/PCBs, SVOCs and VOCs. Levels of lead in the surface soils of the open field ranged from 7 to 10,100 mg/kg. Lead levels in subsurface soils ranged from 1.8 to 94,100 mg/kg. PCB levels ranged from 3.4 to 3,400 mg/kg in surface soils and from 8.6 to 540 mg/kg in subsurface soils. A summary of the data collected in the scrapyard and open field/waste disposal area is presented in Appendix II, Tables 3 and 4.

In the open field/waste disposal area and the scrapyard area, the majority of approximately 38,300 CY of soil with lead contamination exceeding the NJDEP NRDCSRS of 800 mg/kg is concentrated in the upper four feet of soils in and near the scrapyard area and directly associated with the waste disposal areas along the shoreline of Hessian Run. The highest lead concentration in soil was 94,100 mg/kg at two to four feet bgs near the former incinerator in the northeastern corner of the open field/waste disposal area adjacent to the scrapyard area. In the four- to eight-foot bgs interval, lead contamination exceeded NRDCSRS at two locations immediately adjacent to the battery casing disposal areas. Elevated concentrations of antimony and zinc were generally co-located with the lead contamination in the upper four feet of soils in the scrapyard area, whereas antimony and lead were elevated in the waste disposal areas. This pattern suggests that lead, antimony and zinc were related to the metal reclamation processes in the scrapyard area, while the lead and antimony are associated with the remaining battery casings/ash or other waste in the disposal areas.

Elevated concentrations of PCBs were found in the scrapyard area and in the open field/waste disposal area, with the majority of contamination in the upper four feet. High PCB concentrations, greater than 200 mg/kg, were detected at two locations, one in the scrapyard area between ground surface and four feet bgs and one in the open field/waste disposal area between four and eight feet bgs.

Other inorganics, including arsenic, iron, manganese and vanadium, were also identified at elevated levels, but are likely concentrated in soil due to the presence of naturally occurring glauconite in the Merchantville Formation found on-Site. The primary constituents of the glauconitic soils are aluminum, calcium, iron, magnesium, potassium and sodium, but several studies have also shown it to be rich in trace elements such as antimony, arsenic, barium, beryllium, boron, cadmium, chromium, lead, manganese and vanadium. Polycyclic aromatic hydrocarbons (PAHs), specifically benzo(a)pyrene, were also detected at elevated concentrations in some areas of the Site; however, the distribution pattern is not similar to the Site-related metals or PCBs and was determined to be associated with urban soils. Only one sample contained PAH concentrations at significantly higher levels, but this sample was collected near the roadway at the rental home area. Therefore, the presence of PAHs in soils is not considered to be related to past disposal practices on-Site and instead due to urban runoff from the road.

Overall, it is estimated that in addition to the principal threat waste located on the Matteo and former Mira Trucking properties, there are approximately 14,800 CY of soils contaminated with lead and PCBs above the NRDCSRS in the scrapyard area of the Site and 23,500 CY of soils contaminated with lead and PCBs above the NRDCSRS in the open field/waste disposal area of the Site.

See Tables 1 through 4 in Appendix II for a summary of the soil findings in these areas.

Willow Woods

Sampling following a 2006 EPA removal action at the Willow Woods residential community, in which 425 tons of lead contaminated soils were excavated and disposed of off-Site, detected lead below the NJDEP Residential Direct Contact Soil Remediation Standard (RDCSRS) of 400 mg/kg. During the 2011/2012 RI sampling event, ten surface and seven subsurface samples were collected in the Willow Woods area of the Site. No residential or ecological criteria for lead were exceeded. The highest lead level was 75.5 mg/kg. This is significantly below the RDCSRS. Several metals exceeded the screening criteria in soils, but these were not attributed to site contamination, but rather due to the presence of glauconitic soils. One organic compound exceeded its screening criteria, but the level was below background levels, and not attributed to the Site.

Please see Tables 5 and 6 in Appendix II for a summary of soil data for Willow Woods.

Rental Home

Ten surface soil samples were collected from the rental home area. These samples were analyzed for inorganics, pesticides/PCBs and SVOCs. A lead level above the RDCSRS of 400 mg/kg was only detected in one sample, at 763 mg/kg. Seven samples demonstrated lead levels above the Site-specific background level for lead of 128.2 mg/kg. Other inorganics were detected above their respective screening criteria, but EPA concluded the levels are likely elevated due to the presence of glauconitic soils on the Merchantville Formation. PCB (Aroclor 1254) slightly exceeded its screening criterion of 0.2 mg/kg in one sample and benzo(a)pyrene was detected in one sample above established background levels. It is estimated that 1,350 CY of contaminated soils are present on this portion of the Site.

Please see Table 7 for a summary of data taken on the rental home area.

Former Mira Trucking Property

Battery casing waste was found on this property, as well as elevated levels of lead in the soil. Based on this, EPA incorporated the former Mira Trucking property into OU1. In 2017 and 2018, investigations were performed including soil sampling, and the installation of test pits to thoroughly characterize contamination. In addition, soils on five residential properties located adjacent to the former Mira Trucking property were sampled. Approximately 1,000 surface and subsurface soil samples were collected from the former Mira Trucking property and analyzed. Approximately 90 samples were collected from the five residential properties.

Battery casings, as well as elevated levels of lead and PCBs in soils, were detected throughout the former Mira Trucking property. Soil lead levels above the NRDCSRS of 800 mg/kg were widespread throughout the property. Elevated lead levels were generally found in close proximity to battery casing waste and were most frequently detected in shallow soils near the surface. The maximum concentration of lead detected in soils was 53,700 mg/kg. PCBs were detected in soils at levels up to 2.1 mg/kg. The battery casing material was directly sampled and found to consistently contain concentrations of lead greater than 800 mg/kg, indicating that this material is the source of the lead contamination in soils. Toxic Characteristic Leaching Procedure analysis of battery casing material found that battery casings are a RCRA hazardous waste. This material has been determined to be principal threat waste. Concentrations of antimony, total PCBs, and arsenic greater than their respective NJ NRDCSRS in soils were generally found co-located with elevated lead concentrations.

Lead concentrations greater than the NJ RDCSRS in soils located on residential properties were limited to one residential property adjacent to a corner of the former Mira Trucking property, P002. Discrete soil samples were collected in the yard of P002 at three depth intervals up to one-foot below the ground surface at twelve locations and analyzed for lead. Total lead was detected at concentrations ranging from 73 mg/kg to 521 mg/kg. Four surface soil (0-2 inches below ground surface) contained total lead concentrations exceeding the NJDEP RDCSRS of 400 mg/kg. The sample locations with lead concentrations above NJDEP RDCSRS are located on the northwest portion of the property along the fence line with the former Mira Trucking property.

There are approximately 7,600 CY of contaminated soils mixed with crushed battery casings, all of which is considered principal threat waste, present on the former Mira Trucking property. Analytical results tables can be found in the RI Addendum.

Groundwater Contamination

A comprehensive Site-wide groundwater sampling program was performed as part of the RI, which included 18 shallow monitoring wells, 16 deep groundwater monitoring wells, and 2 potable wells. The results indicated that while there is no identified groundwater contaminant plume, there were elevated levels of lead in shallow groundwater in limited areas of the Site where shallow groundwater is in direct contact with battery casing waste.

Total lead concentrations exceeded the groundwater screening criterion of 5 micrograms per liter (µg/L) at five shallow wells, whereas dissolved lead only exceeded the criterion at one well that is screened within a battery casing disposal area, with total and dissolved lead concentrations as high as 573J and 43.3 µg/L, respectively. Compared to the lead levels observed in groundwater during a previous investigation, lead concentrations have significantly decreased. Antimony exceeded the groundwater screening criterion of 6 µg/L at one shallow well not located within the battery casing disposal areas.

Tetrachloroethene, trichloroethene and vinyl chloride were detected in Site groundwater monitoring wells, but no evidence was found of their historical or current use at the Site. Tetrachloroethene and trichloroethene were detected in monitoring wells upgradient to the east of the Site in the shallow perched aquifer. These chemicals, however, were not detected at concentrations exceeding the RI groundwater screening criteria in any of the monitoring wells on-Site. Therefore, the chemicals are likely originating from an off-Site source. Vinyl chloride is present in the deep regional aquifer with the highest levels off-Site to the southeast. Vinyl chloride was detected in one of 17 shallow groundwater monitoring well samples, but not in any other media on-Site, suggesting that the vinyl chloride is not associated with past disposal practices at the Site.

The three potable wells on or adjacent to the Site do not appear to be affected by Site-related contaminants as only aluminum and sodium were detected above the New Jersey Drinking Water Standards [Maximum Contaminant Levels (MCLs)]. Although these wells are not currently impacted by Site contamination, they are in close proximity to groundwater contamination and considered threatened by Site contaminants.

Iron and manganese were detected at levels above groundwater screening criteria within groundwater monitoring wells on-Site as well. These metals were, however, detected at higher levels in the deep regional aquifer in comparison to the shallow perched zone. This is likely caused by the anaerobic geochemistry of the deep aquifer and the presence of glauconitic soils of the Merchantville Formation. The distribution of these analytes does not indicate they are related to disposal practices at the Site.

A summary of groundwater data collected in the RI can be found in Appendix II, Tables 8 through 10.

Sediment and Surface Water

Sediment sampling found that elevated levels of lead, PCBs, antimony, copper and zinc are generally concentrated in the upper three feet of sediment immediately adjacent to battery casing disposal areas. Surface water contained limited exceedances of screening criteria for lead and copper. The highest total lead concentration was adjacent to battery disposal areas. Dissolved lead concentrations were all below surface water criterion. Detailed results of sediment and surface water sampling are presented in the RI Report. These data are not presented in detail in this ROD as EPA will further assess sediment and surface water after the implementation of the OU1 remedy to determine if any action is warranted.

CURRENT AND POTENTIAL LAND AND RESOURCE USES

Currently, the southern portion of the Site along U.S. Highway 130 is an active metal salvaging facility that accepts scrap metal from individual, commercial, and industrial customers. Four inches of recycled crushed aggregate and/or recycled asphalt cover the unpaved portion of the scrapyard area to minimize exposure to contaminated soil. The remainder of the Site is unused open field and vacant, relatively flat, sandy, and well-drained with no evidence of ponding. Trails and dirt roads are present throughout the Site, with prominent overgrown vegetation. A chain-link fence extends across the southern property boundary between the Willow Woods property and the Matteo property and the northeastern property boundary on Crown Point Road. On the northeastern portion of the property, but outside of the chain-link fence, there is a rental home with tenants.

The 2011 CD prohibits the installation of any building of any type and includes other restrictions. Also, deed notices were recorded at the Gloucester County Clerk's Office on September 12, 2017. The notices inform potential buyers that the Matteo property is part of the Matteo & Sons, Inc. Superfund Site. Therefore, novel use of the Matteo property, prior to the remedial action, is unlikely.

Any expansion of the business on the property would require EPA review to assure it does not have a negative impact on the selected remedy.

SUMMARY OF SITE RISKS

As part of the RI/FS, EPA conducted a baseline risk assessment to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site in the absence of any actions or controls to mitigate such releases, under current and future land uses. The baseline risk assessment includes a human health risk assessment (HHRA) and an ecological risk assessment. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. This section of the ROD summarizes the results of the baseline risk assessment for the Site.

Human Health Risk Assessment

A four-step process is utilized for assessing site-related human health risks for a reasonable maximum exposure scenario:

- *Hazard Identification* – uses the analytical data collected to identify the contaminants of potential concern (COPC) at the Site for each medium, with consideration of a number of factors explained below;
- *Exposure Assessment* - estimates the magnitude of actual and/or potential human exposures, the frequency and duration of these exposures, and the pathways (e.g., ingesting contaminated well-water) by which humans are potentially exposed;
- *Toxicity Assessment* - determines the types of adverse health effects associated with chemical exposures, and the relationship between magnitude of exposure (dose) and severity of adverse effects (response); and
- *Risk Characterization* - summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of Site-related risks. The risk

characterization also identifies contamination with concentrations which exceed acceptable levels, defined by the National Contingency Plan (NCP) as an excess lifetime cancer risk greater than 1 x 10^{-6} to 1 x 10^{-4} or a Hazard Index (HI) greater than 1; contaminants at these concentrations are considered COCs and are typically those that will require remediation at the Site. Also included in this section is a discussion of the uncertainties associated with these risks.

Hazard Identification
In this step, COPCs in each medium are identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations, mobility, persistence and bioaccumulation. The HHRA began with selecting COPCs in soil, groundwater, surface water, sediment and fish tissue at the Site that could potentially cause adverse health effects in exposed populations. COPCs are selected by comparing the maximum detected concentrations of each chemical identified with state and federal risk-based screening values. Analytical data collected to determine the nature and extent of contamination at the Site indicated the presence of VOCs, PAHs, PCBs, pesticides, and metals in various media above screening criteria.

Only the COCs, or the chemicals requiring a response, are listed in Appendix II, Table 11. Although the HHRA evaluated risk associated with exposure to sediment, surface water and fish tissue, these media will be further assessed as a separate OU. Therefore, this ROD focuses on risks associated with soil and groundwater. The COCs in soil include lead and PCBs. Lead and antimony are also considered COCs in Site groundwater. The relevant subset of information for lead is summarized in Tables 17 and 18 of Appendix II. A comprehensive list of all COPCs can be found in the HHRA in the administrative record.

Exposure Assessment
As noted above, consistent with Superfund policy and guidance, the HHRA assumes no remediation has been performed or institutional controls established to mitigate or remove hazardous substance releases. Cancer risks and noncancer hazard indices were calculated based on an estimate of the reasonable maximum exposure (RME) expected to occur under current and future conditions at the Site. The RME is defined as the highest exposure that is reasonably expected to occur at a site.

OU1 of the Site includes a mix of residential and commercial zoning. For the purposes of the HHRA, OU1 was divided into five separate exposure areas. These exposure areas are geographic designations created for the risk assessment to define areas with similar anticipated current and future land use or similar levels of contamination. The exposure areas evaluated in the HHRA include the scrapyard area, rental home area, open field/waste disposal area, Willow Woods and Woodbury Creek/Hessian Run. Some pathways were also evaluated for the entire Matteo property, which includes the scrapyard area, open field/waste disposal area and the rental home area. For this scenario, EPA assumed that future redevelopment could result in one large contiguous soil exposure area (*e.g.*, residential) or that exposure to groundwater would occur on a Site-wide basis. The former Mira Trucking property was added to OU1 more recently. A streamlined risk evaluation was performed for this property and an adjacent residence (Property P002) as part of the RI Addendum.

The scrapyard is currently active, and both the rental home and Willow Woods are presently occupied. The remaining portions of the Matteo property are vacant but can be accessed by trespassers or recreational users. The Willow Woods property is residential and currently supplied with potable water from a municipal supply. The Matteo property, however, is not connected to the public water system and two potable wells are located on-Site. One well serves the rental home and the other provides water to an office within the scrapyard area. Both the rental home and scrapyard office are supplied with bottled water for drinking and cooking purposes by Matteo Brothers Management, but there are no current restrictions on the use of well water. As a result, the HHRA considered both current and potential future exposure pathways associated with soil, groundwater, surface water, sediment and fish consumption. As previously discussed, however, surface water, sediment and fish in Hessian Run and Woodbury Creek will be further assessed as a separate OU. The former Mira Trucking property is currently used as a truck staging area within the western and southern portions of the property. Property P002 is a single-family residence situated immediately west of the former Mira Trucking property as well.

Based on the current and anticipated future land uses described above, the following exposure populations and pathways were evaluated under the current and future land use scenarios:

- Site Worker (adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils within the scrapyard area and former Mira Trucking property.

- Trespasser (adolescent [6-18 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils within the open field/waste disposal area.

- Recreational User (adolescent [6-18 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils within the open field/waste disposal area.

- Resident (child [0-6 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils at the rental home area, Willow Woods, and Property P002; ingestion, dermal contact and inhalation of vapors during showering and bathing from Site-wide groundwater.

Pathways specific to future scenarios only included:

- Construction/Utility Worker (adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface (0-2 feet bgs) and subsurface soils (2-10 feet bgs) from across the Matteo property as well as Willow Woods.

- Resident (child [0-6 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils across the Matteo property.

The vapor intrusion pathway was also evaluated since VOCs unrelated to the Site are present in shallow groundwater. However, very low levels of three VOCs, including trans-1,2-DCE, PCE and methyl tert-butyl ether were detected in the shallow groundwater at concentrations below 1 μg/L. These concentrations are below their respective target groundwater concentrations for protection of indoor air and federal MCLs. Furthermore, it was determined that the Merchantville clay present on-Site can impose significant impedance to upward migration of vapors from underlying deep groundwater. Based on these factors, the vapor intrusion pathway is considered incomplete.

A summary of the exposure pathways included in the HHRA can be found in Appendix II, Table 12. Typically, exposures are evaluated using a statistical estimate of the exposure point concentration (EPC), which is usually an upper-bound estimate of the average concentration for each contaminant, but in some cases may be the maximum detected concentration. For lead exposures, the arithmetic mean of all samples collected from the appropriate soil interval was used as the EPC. A summary of the EPCs for the COCs in groundwater can be found in Appendix II, Table 11. Lead EPCs are summarized in Appendix II, Tables 17 and 18. A comprehensive list of exposure point concentrations for all COPCs can be found in Appendix B (Table 3 series) of the HHRA. Lead EPCs specific to the former Mira Trucking property and Property P002 are further described in the RI Addendum.

Toxicity Assessment
In this step, the types of adverse health effects associated with contaminant exposures and the relationship between magnitude of exposure and severity of adverse health effects were determined. Potential health effects are contaminant-specific and may include the risk of developing cancer over a lifetime or other noncancer health effects, such as changes in the normal functions of organs within the body (*e.g.,* changes in the effectiveness of the immune system). Some contaminants are capable of causing both cancer and noncancer health effects.

Under current EPA guidelines, the likelihood of carcinogenic risks and noncarcinogenic hazards due to exposure to Site chemicals are considered separately. Consistent with current EPA policy, it was assumed that the toxic effects of the Site-related chemicals would be additive. Thus, cancer and noncancer risks associated with exposures to individual COPCs were summed to indicate the potential risks and hazards associated with mixtures of potential carcinogens and noncarcinogens, respectively.

Toxicity data for the human health risk assessment were provided by the Integrated Risk Information System (IRIS) database, the Provisional Peer Reviewed Toxicity Database (PPRTV), or another source that is identified as an appropriate reference for toxicity values consistent with EPA guidance. This information is presented in Table 13 (Non-Carcinogenic Toxicity Data Summary) and Table 14 (Cancer Toxicity Data Summary) of Appendix II. Additional toxicity information for all COPCs is presented in the HHRA.

Risk Characterization
This step summarized and combined outputs of the exposure and toxicity assessments to provide a quantitative assessment of Site risks. Exposures were evaluated based on the potential risk of developing cancer and the potential for noncancer health hazards. Exposure from lead was evaluated using blood lead modeling and is discussed in more detail later in this section.

Noncarcinogenic Risks

Noncarcinogenic risks were assessed using a hazard index (HI) approach, based on a comparison of expected contaminant intakes and benchmark comparison levels of intake (reference doses, reference concentrations). Reference doses (RfDs) and reference concentrations (RfCs) are estimates of daily exposure levels for humans (including sensitive individuals) which are thought to be safe over a lifetime of exposure. The key concept for a noncancer HI is that a “threshold level” (measured as an HI of less than 1) exists at which noncancer health effects are not expected to occur. The estimated intake of chemicals identified in environmental media (*e.g.*, the amount of a chemical ingested from contaminated drinking water) is compared to the RfD or the RfC to derive the hazard quotient (HQ) for the contaminant in the particular medium. The HI is obtained by adding the HQs for all compounds within a particular medium that impacts a particular receptor population.

The HQ for oral and dermal exposures is calculated as below. The HQ for inhalation exposures is calculated using a similar model that incorporates the RfC, rather than the RfD.

HQ = Intake/RfD

Where: HQ = hazard quotient
Intake = estimated intake for a chemical (mg/kg-day)
RfD = reference dose (mg/kg-day)

The intake and the RfD will represent the same exposure period (*i.e*., chronic, subchronic, or acute).

As previously stated, the HI is calculated by summing the HQs for all chemicals for likely exposure scenarios for a specific population. An HI greater than 1 indicates that the potential exists for noncarcinogenic health effects to occur as a result of Site-related exposures, with the potential for health effects increasing as the HI increases. When the HI calculated for all chemicals for a specific population exceeds 1, separate HI values are then calculated for those chemicals which are known to act on the same target organ. These discrete HI values are then compared to the acceptable limit of 1 to evaluate the potential for noncarcinogenic health effects on a specific target organ. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media. A summary of the noncarcinogenic hazards associated with these chemicals for each exposure pathway is presented in Table 15 of Appendix II.

As seen in Table 15, the noncancer hazard estimates exceed EPA’s threshold value of 1 for current and future Site workers in the scrapyard area as well as future residents and construction workers at the Matteo property. The current and future Site worker was associated with an HI of 20, driven by exposure to Aroclor 1260 in surface soil. Exposure to Aroclors 1254 and 1260 in both surface and subsurface soil were the primary contributers to elevated hazard (HI=9) for the future construction workers. The future resident had an HI of 69, driven by exposure to Aroclor 1260 and vanadium in surface soils as well as antimony, arsenic and vanadium in groundwater. As previously discussed, however, arsenic and vanadium are not considered to be Site-related contaminants.

Carcinogenic Risks

For carcinogens, risks are generally expressed as the incremental probability of an individual developing cancer over a lifetime as a result of exposure to a carcinogen, using the cancer slope factor (SF) for oral and dermal exposures and the inhalation unit risk (IUR) for inhalation exposures. Excess lifetime cancer risk for oral and dermal exposures is calculated from the following equation, while the equation for inhalation exposures uses the IUR, rather than the SF:

Risk = LADD x SF

Where: Risk = a unitless probability (1×10^{-6}) of an individual developing cancer
LADD = lifetime average daily dose averaged over 70 years (mg/kg-day)
SF = cancer slope factor, expressed as [1/(mg/kg-day)]

These risks are probabilities that are usually expressed in scientific notation (such as 1×10^{-4}). An excess lifetime cancer risk of 1×10^{-4} indicates that one additional incidence of cancer may occur in a population of 10,000 people who are exposed under the conditions identified in the *Exposure Assessment*. Current Superfund guidance identifies the range for determining whether a remedial action is necessary as an individual lifetime excess cancer risk of 1×10^{-6} to 1×10^{-4} (corresponding to a one-in-a-million to a one-in-ten-thousand excess cancer risk), with 1×10^{-6} being the point of departure.

As summarized in Table 16 of Appendix II, the estimated cancer risk exceeded EPA's target risk range of 1×10^{-6} to 1×10^{-4} for current and future Site workers in the scrapyard area and future residents across the Matteo property. Cancer risks estimated for the Site worker were 3×10^{-4}, driven by exposure to Aroclor 1260 in surface soils. The total risk for future residents from exposure to surface soils and groundwater at the Matteo property was 5×10^{-3}, driven by PAHs and Aroclor 1260 in surface soil as well as vinyl chloride and arsenic in groundwater. Similarly, current residents at the rental property were also associated with a cancer risk of 1×10^{-2} due PAHs in surface soil as well as vinyl chloride and arsenic in groundwater. As discussed previously, however, PAHs, vinyl chloride, and arsenic are not considered Site-related contaminants.

Risks Associated with Lead Exposure

Lead was detected in Site media at elevated concentrations. Since there are no published quantitative toxicity values for lead, it is not possible to evaluate risks from lead exposure using the same methodology as for the other COCs. However, because the toxicokinetics (the absorption, distribution, metabolism, and excretion of toxins in the body) of lead are well understood, lead is regulated based on blood lead levels (BLL). In lieu of evaluating risk using typical intake calculations and toxicity criteria, EPA developed models which are used to predict blood lead concentration and the probability of a child's BLL exceeding specific target concentrations based on a given multimedia exposure scenario. For the purposes of the HHRA, screening levels for soil were developed using the Integrated Exposure Uptake Biokinetic (IEUBK) model for residential child scenarios (Willow Woods, rental home area and Matteo property) and the Adult Lead Model (ALM) for all other adolescent and adult receptors (scrapyard area, Matteo property, and open field/waste disposal area). Consistent with EPA guidance at the time, the screening levels were based on a target BLL of 10 µg/dL. In addition, lead screening levels for groundwater were based on New Jersey Groundwater Quality Standards (NJGWQS) for Class IIA Water (5 µg/L) and the federal MCL (15 µg/L). The lead EPCs (arithmetic mean) for soil and groundwater at the Site were compared to these screening values to qualitatively determine risk.

Consistent with current EPA guidance, the risks associated with the former Mira Trucking property and Property P002 were quantitatively evaluated using the IEUBK and ALM models in a streamlined risk evaluation. That information is included within the RI Addendum.

Since the HHRA for the Matteo property was finalized, however, new scientific information has come to light which indicates adverse health effects are evident at blood lead levels lower than 10 µg/dL. As such, the risk reduction goal for the Site is to limit to 5% or less the probability of a child's (or that of a group of similarly exposed individuals) BLL exceeding 5 µg/dL.

As displayed on Table 17 of Appendix II, the screening levels used in the BHHRA were exceeded in soil and groundwater, thus contributing to elevated risk for future residents (surface soil and groundwater) and construction workers (surface and subsurface soil) across the Matteo property as well as current/future trespassers and recreators exposed to surface soils in the open field/waste disposal area. The EPC generated for surface soils in the scrapyard area was based on delineation samples collected during the EPA RI. Although the EPC (415 mg/kg) was less than the industrial screening level used in the risk assessment (800 mg/kg), surface soil results identified during previous NJDEP investigations yielded lead concentrations up to 20,700 mg/kg. When the NJDEP and EPA surface soil results are evaluated together, the average lead concentration is 2,573 mg/kg. Furthermore, the surface soil EPC for lead at the rental home area (281 mg/kg) was below the residential screening level used in the HHRA (400 mg/kg). Inserting this EPC into the IEUBK model with a target BLL of 5 µg/dL, however, indicates the predicted probability of exceeding this blood lead concentration among a child population is 25%. Therefore, lead is considered to be a COC in both the rental home area and scrapyard area soils.

Table 18 (found in Appendix II) summarizes the results of the lead risk evaluation conducted at the former Mira Trucking property and the adjacent residence (P002). For a child resident at Property P002, the predicted probability of exceeding the target BLL due to lead exposure in soil was 22%. The predicted probability of exceeding a fetal target BLL for the Site worker exposed to surface soils on the former Mira Trucking property was 61%. Thus, lead is considered a COC in each exposure area. Furthermore, although additional contaminants had high concentrations relative to chemical-specific applicable or relevant and appropriate requirements (ARARs) (*i.e.*, arsenic, antimony, and PCBs) for soil on the former Mira Trucking property, the elevated concentrations were all co-located with high lead results. Therefore, lead was considered the primary chemical of potential concern for the purposes of the RI Addendum streamlined human health risk evaluation and the additional contaminants were not evaluated.

<u>Uncertainties</u>

The procedures and inputs used to assess risks in this evaluation, as in all such assessments, are subject to a wide variety of uncertainties. In general, the main sources of uncertainty include:

- environmental chemistry sampling and analysis;

- environmental parameter measurement;
- fate and transport modeling;
- exposure parameter estimation; and,
- toxicological data.

Uncertainty in environmental sampling arises in part from the potentially uneven distribution of chemicals in the media sampled. Consequently, there is significant uncertainty as to the actual levels present. Environmental chemistry-analysis error can stem from several sources including the errors inherent in the analytical methods and characteristics of the matrix being sampled.

Uncertainties in the exposure assessment are related to estimates of how often an individual would actually come in contact with the COCs, the period of time over which such exposure would occur, and in the models used to estimate the concentrations of the COCs at the point of exposure.

Uncertainties in toxicological data occur in extrapolating both from animals to humans and from high to low doses of exposure, as well as from the difficulties in assessing the toxicity of a mixture of chemicals. These uncertainties are addressed by making conservative assumptions concerning risk and exposure parameters throughout the assessment. As a result, the risk assessment provides upper-bound estimates of the risks to populations near the Site and is highly unlikely to underestimate actual risks related to the Site.

Due to a limited number of detections, a 95% UCL could not be calculated for several of the COPCs identified in surface soil, subsurface soil and groundwater across the Site. Instead, the maximum detected concentrations were used as the EPC for each of these COPCs. Using the maximum concentration as the EPC is a conservative (*i.e.*, health protective) assumption, which is likely to overestimate risks from exposure to contaminants at the Site.

More specific information concerning public health risks, including a quantitative evaluation of the degree of risk associated with various exposure pathways, is presented in the risk assessment report.

Ecological Risk Assessment

Screening-Level Ecological Risk Assessment

As part of the RI/FS, EPA conducted a Screening-Level Ecological Risk Assessment (SLERA) to evaluate the potential for ecological risks at the Site. No federally listed or proposed threatened or endangered species are known to exist within the vicinity of the Site. The NJDEP Natural Heritage Program reported the occurrence of the great blue heron (*Ardea herodias*), a species of special concern, near the Site. No other species or communities of concern were noted on or within 1/4 mile of the Site.

The Site is considered to be in an "Environmentally Sensitive Area" according to New Jersey regulations because it contains critical wildlife habitat, which are areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding and migrating. Further, ecotones, or edges between two types of habitat (such as wetlands and uplands), are a particularly valuable critical wildlife habitat.

The SLERA evaluated exposure of ecological receptors to chemicals in Site media through direct contact and dietary habits. Media evaluated included soil, sediment, surface water, porewater and seep water.

Dietary exposure risks were identified using food chain models for bioaccumulative chemicals detected in sediment and soil. The hazard quotient (HQ) method was employed, comparing total dose to toxicity reference values (TRVs) for each species evaluated. Ten species representing the avian and mammalian communities inhabiting the Site were evaluated using food chain exposure modeling.

The SLERA determined that there are contaminants in all Site media at levels that may cause adverse effects to ecological receptors via both direct exposure and dietary exposure. Multiple chemicals were determined to be risk drivers, but lead was the most prominent, affecting all Site media and causing risk via both direct and dietary exposure.

Step 3a Ecological Risk Assessment

The Step 3a Ecological Risk Assessment (ERA) was conducted to refine the list of chemicals of potential concern that were identified in the SLERA. Results of the Step 3a evaluation indicated fewer risks from exposure to chemicals detected in Site media when compared to the SLERA. Metals continue to be the primary risk driver in all Site media based on direct exposure.

Chemicals present in sediment pose little risk to ecological receptors based on food chain exposure models. The only exception was exposure to lead for piscivorous birds based on the great blue heron model where an HQ of 1.2 was calculated. Since the daily dose of lead calculated is so close to the TRV to which it is compared, and with the conservative assumptions used such as a Site foraging factor of 1.0, and assuming the great blue heron's diet consists only of fish, risk from exposure to lead in sediment is most likely overestimated.

Chemicals identified as risk drivers in soil based on food chain exposure models consist primarily of the Site-related metals lead and zinc. Pesticides, PCB Aroclors and dioxins were also noted as risk drivers based on the American robin and short-tailed shrew models used to represent insectivorous birds and mammals, of which only PCBs are considered to be Site-related.

Risk Characterization Conclusion

Risks and hazards for current and/or future Site workers (scrapyard area), residents (Matteo property) and construction workers (Matteo property) exceeded EPA thresholds due to PCBs in soil. Antimony also contributed to elevated risk in groundwater. Lead screening levels were exceeded in soil from across the Site and in groundwater, thus contributing to elevated risk for current/future residents (rental home area), Site workers (scrapyard area), and recreational users/trespassers (open field/waste disposal area) as well as future residents and construction workers (Matteo property). Therefore, lead, antimony, and PCBs were the primary Site-related chemicals contributing to elevated risk and hazard.

Metals continue to be the primary ecological risk driver in all Site media based on direct exposure. Chemicals identified as ecological risk drivers in soil based on food chain exposure models consist primarily of the Site-related metals lead and zinc.

Basis for Taking Action

Based on the results of the RI/FS and the risk assessments, EPA has determined that the response action selected in this ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances into the environment.

REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are defined as media-specific goals for protecting human health and the environment. RAOs are developed through an evaluation of data generated during the RI, including: the identified COCs, impacted media of interest, fate and transport processes, receptors at risk, and the associated pathways of exposure included in the conceptual Site model. RAOs also include preliminary remediation goals (PRGs), which are determined via an evaluation of risk, applicable or relevant and appropriate requirements (ARARs) and advisories, criteria or guidance to be considered (TBC), and other technical and policy considerations that may be applicable to the Site.

The following RAOs were developed for OU1:

- Source Materials:
    - Eliminate migration of contamination from the source materials to surface water, sediment, soil and groundwater; and,
    - Eliminate exposure of human and ecological receptors to source materials at concentrations exceeding the PRGs.

- Soil:
    - Reduce or eliminate exposure to contaminated soil at concentrations exceeding the PRGs by human and ecological receptors; and,
    - Minimize or eliminate contaminant migration to sediments, groundwater, and surface water.

- Groundwater:
    - Eliminate exposure to contaminated groundwater.

To achieve RAOs, EPA selected soil PRGs for Site-related COCs identified at the Site, which are now adopted as the remediation goals (RGs). Based on the RI and baseline risk assessments, the Site-related COCs include lead, antimony, zinc and PCBs. The soil RGs for these COCs are consistent with New Jersey human health direct contact standards or ecological risk-based goals and can be found in the table below. Site background metal concentrations were also taken into consideration. The specific soil RGs provided below apply to different areas or land uses of the Site.

Constituent in Soil	Residential Remediation Goal (mg/kg)	Non-Residential Remediation Goal (mg/kg)	Ecological Remediation Goal (mg/kg)
Lead	400	800	128*
Antimony	31	450	--
Zinc	23,000	110,000	106*
PCB Aroclor 1260	0.2	1	--

* based on background study
-- no ecological values were developed for Aroclor 1260 and antimony since they did not pose unacceptable risk for ecological endpoints.

The scrapyard area and former Mira Trucking property are zoned as commercial. Therefore, the soil RGs in these areas were based on the NJDEP NRDCSRS for lead (800 mg/kg), antimony (450 mg/kg), zinc (110,000 mg/kg) and PCBs (1 mg/kg). The NJDEP RDCSRS are considered applicable for the rental home area and residential property P002. The soil RGs in this area are 400 mg/kg for lead, 31 mg/kg for antimony, 23,000 mg/kg for zinc and 0.2 mg/kg for PCBs. The current NJDEP RDCSRS for lead is based on a 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 average lead concentration across the surface of the remediated area must be at or below 200 mg/kg, with no single point above 400 mg/kg, which corresponds to a child blood lead level of 5 µg/dL.

Based on the HHRA, lead and PCBs are the only Site-related soil contaminants that pose unacceptable human health risks. However, lead, zinc, and PCBs pose ecological risks based on the Step 3A food chain models. Ecological risk-based RGs were developed for lead and zinc in soil for the open field/waste disposal area of the Matteo property. However, the ecological risk-based RGs developed for lead and zinc in the Step 3A ecological risk assessment are lower than the background values for the Site; therefore, the background values for lead and zinc, 128 and 106 mg/kg, respectively, are selected as the RGs for surface soil (0 to 1 feet bgs) for the open field/waste disposal area. The RG for PCBs in surface soil is the NJDEP NRDCSRS of 1 mg/kg. The RG for antimony is the NJDEP NRDCSRS of 450 mg/kg. The NJDEP NRDCSRS are protective of both non-residential use at the Site and ecological risk in the open field/waste disposal area of the Matteo property. The NJ NRDCSRS are applicable to soil at depths below 1 foot based on current and anticipated land use.

Groundwater at the Site is classified as Class IIA, suitable for drinking water use. Although the groundwater is not currently utilized as a source of potable water, there are three wells on or near the Site that could potentially be used for drinking water in the future and may be impacted by Site-related contamination. Elevated concentrations of contaminants, such as lead, that are present in limited areas of the shallow aquifer are generally co-located with some areas of battery casing waste. EPA anticipates that these limited areas of elevated concentrations in groundwater will be addressed by the selected remedial alternative and will confirm this through monitoring after implementation of the source/soil remedy. These analyses, including the potential need for additional remedial actions to address any remaining groundwater contamination will be documented in a future decision document. Additionally, remediation of sediment and surface water will be evaluated as part of a future decision document for OU3.

DESCRIPTION OF REMEDIAL ALTERNATIVES

The FS identifies and evaluates remedial action alternatives. RAOs were developed for the Site, and then technologies were identified and screened based on overall implementability, effectiveness, and cost. Remedial alternatives consisting of one or more technologies were assembled and analyzed in detail with respect to seven of the nine criteria for remedy selection under CERCLA. The remaining criteria, state and community acceptance, are addressed below.

CERCLA Section 121(b)(1), 42 U.S.C. §9621(b)(1), mandates that remedial actions be protective of human health and the environment, be cost effective, and use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which use, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a Site. The NCP establishes an expectation that treatment will be used to address the principal threats posed by a Site wherever practicable (40 C.F.R. Section 300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to other media or acts as a source for direct exposure.

For this Site, the battery casing waste exhibits elevated concentrations of lead and is characteristically hazardous (D-008 for lead). Collectively, battery casings mixed with municipal waste, soil and sediment are considered source materials because these materials serve as a continued source of contamination to other media through wind entrainment, stormwater runoff, inundating tidal water and infiltration from precipitation. Therefore, these source materials are considered principal threat waste. In developing remedial alternatives, treatment and containment approaches were considered. EPA did not identify a treatment technology for the principal threat waste at this Site that would address the waste, which consists of broken battery casings mixed with solid waste, soil and sediment. Because this waste is heterogenous, and contains very high levels of lead and PCBs, it is not amenable to the available types of treatment technologies (e.g. solidification or stabilization). In addition, due to the waste's location within and on the banks of Hessian Run, a tributary to the Delaware River and a wetland, capping in place is not appropriate, and no alternatives that include capping of the principal threat waste in place were considered.

CERCLA Section 121(d), 42 U.S.C. §9621(d), specifies that a remedial action must require a level or standard of control of the hazardous substances, pollutants, and contaminants which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4), 42 U.S.C. §9621(d)(4).

Remedial alternatives for the Site are summarized below. Capital costs are those expenditures that are required to construct a remedial alternative. O&M costs are those post-construction costs necessary to ensure or verify the continued effectiveness of a remedial alternative and are estimated on an annual basis. Present worth is the amount of money which, if invested in the current year, would be sufficient to cover all the costs over time associated with a project, calculated using a discount rate of seven percent and up to a 30-year time interval. Construction time is the time required to construct and implement the alternative and does not include the time required to design the remedy or procure contracts for design and construction.

Description of Common Elements among Remedial Alternatives

Five alternatives were developed including a "No Action" alternative. The No Action alternative provides a baseline for comparison with the other active remedial alternatives. Because no remedial activities would be implemented under the No Action alternative, long-term human health and environmental risks would remain the same as those identified in the BHHRA and SLERA, except for any changes due to incidental natural attenuation. There are no capital, maintenance or monitoring costs associated with the No Action alternative.

Alternatives 2 through 5 would include the following common elements:

- Pre-design investigation;
- Remedial design;
- Excavation and off-site disposal of source materials;
- Restoration of the shoreline of Hessian Run;
- ICs as needed;
- Excavation and off-Site disposal of source materials and contaminated soil from the property formerly utilized by Mira Trucking;
- Connection to city water for the on-Site residence, the water supply for the current commercial facility on the Site, and a nearby commercial property, if the connection has not been previously made;
- Excavation and off-Site disposal of lead-contaminated soil at the rental home area and residential property P002;
- Long-term monitoring of sediments/surface water and groundwater; and,
- Five-year reviews.

Description of the Remedial Alternatives

Alternative 1: No Action

Capital Cost	$0
Annual O&M Cost	$0
Present Worth Cost	$0
Time Frame	0 months

The NCP requires EPA to consider the No-Action alternative. Under this alternative, no additional actions would be taken. Contaminated soil and battery waste would remain in its current location and the potential for migration of contaminants would not be reduced or eliminated. Environmental monitoring would not be performed. In addition, no further restrictions on land-use would be pursued. Current Site exposures and risks would remain.

Alternative 2: Excavation, Stabilization, Construction of a Landfill for On-Site Containment of Source Material, Capping of Soils, Asphalt Cap over Scrapyard

Capital Cost	$ 33,339,000
Annual O&M Cost	$ 435,000
Present Worth Cost	$ 38,463,000
Time Frame	3 to 3.5 years

Under Alternative 2, source materials at the Matteo property would be excavated, dewatered as necessary, then placed in an on-Site engineered containment cell to be located above the 100-year floodplain. The containment cell would be constructed as a RCRA Subtitle C landfill with a bottom liner to prevent leaching, a leachate collection system, and an impermeable cover to minimize infiltration. The only on-Site area above the floodplain that could potentially accommodate the volume of waste is next to the Willow Woods property and the scrapyard area of the Site. To minimize the height of the containment cell, the area would first be excavated. It is estimated that the containment cell would cover ten acres and be at an elevation of six feet above the surrounding area.

In order to excavate the source materials along the bank of Hessian Run, a temporary berm, dam or sheet piling would be installed to block tidal water from entering the excavation area. Dewatering of the excavation area would be conducted as necessary when excavation would be performed below the water table. Contaminated soils exceeding the RGs for lead in the open field/waste disposal area and contaminated soil from the rental home area would be excavated, stabilized as necessary, and consolidated on top of the contaminated area in the open field/waste disposal area, within the floodplain. The remaining contaminated area exceeding the RGs in the open field/waste disposal area would be covered using imported clean fill and top soil. Soil erosion control measures would be implemented.

Contaminated soil at the scrapyard area is currently partially capped. During the remedial action, all remaining contaminated areas would be covered with asphalt or similar material. A stormwater management system would also be designed and installed to minimize the impact of stormwater runoff from the asphalt to the surrounding areas.

The shoreline along Hessian Run would be restored for slope stability and erosion controls. A minimum of one foot of clean fill would be placed to cover the excavated area after source materials are removed. Post-excavation sampling would be performed to assure cleanup standards were met after source material removal. After restoration, much of this area would be naturally inundated with tidal water.

A monitoring program would be developed and implemented to assess the effect removing source material would have on groundwater and surface water/sediment over time. Routine inspection and maintenance of the engineered containment cell and caps would be performed. Five-year Reviews would be required to determine if the remedy continued to be protective of human health and the environment over time. As contaminated material would remain on-Site under this alternative above residential standards, institutional controls in the form of a deed notice restricting future land use would be required.

Alternative 3: Excavation, Off-Site Disposal of Source Materials, Stabilization and Capping of Contaminated Soils, Asphalt Cap over Scrapyard

Capital Cost	$65,835,000
Annual O&M Cost	$124,000
Present Worth Cost	$67,098,000
Time Frame	2.5 to 3 years

Alternative 3 is similar to Alternative 2, except that the approximately 56,200 CY of source materials, including the five-acre pile of casings found along the banks of Hessian Run, would be excavated and disposed of off-Site as opposed to being contained on-Site in an engineered containment cell. Therefore, inspection and maintenance for an on-Site RCRA Subtitle C containment cell would not be necessary in Alternative 3 as compared to Alternative 2. The contaminated soils exceeding RGs that are not source material would be consolidated and stablized as appropriate and capped in the open field/waste disposal area, as in Alternative 2. The remaining components would be identical to Alternative 2.

The shoreline along Hessian Run would be restored for slope stability and erosion controls. A minimum of one foot of clean fill would be placed to cover the excavated area after source materials are removed. Post-excavation sampling would be performed to assure cleanup standards were met after source material removal. After restoration, much of this area would be naturally inundated with tidal water.

The source materials, which include battery casings and waste, soils, and sediment mixed with battery casings, would be shipped off-Site to be treated as necessary and disposed of in a RCRA Subtitle C landfill.

A monitoring program would be developed and implemented to assess the effect that removing source material would have on groundwater and sediment over time. Routine inspection and maintenance would be performed. Five-year reviews would be required to determine if the remedy continued to be protective of human health and the environment over time. As contaminated material would remain in place under this alternative above residential standards, institutional controls in the form of a deed notice restricting future land use would be required.

Alternative 4: Excavation and Off-Site Disposal of Source Materials and Contaminated Soils, and Asphalt Cap over Scrapyard

Capital Cost	$71,460,000
Annual O&M Cost	$85,000
Present Worth Cost	$72,245,000
Time Frame	3 to 3.5 years

Under Alternative 4, all source materials and contaminated soils exceeding RGs in all areas, other than the scrapyard area, would be excavated and disposed of off-Site. An estimated 63,800 CY of source materials located on the Matteo property and the former Mira Trucking property in this alternative would be addressed as described in Alternative 3. In addition, 24,850 CY of contaminated soils that are not considered source material located in the open field/waste disposal area, the rental home area and residential property P002 would also be excavated and disposed of off-Site at a Subtitle D landfill, if non-hazardous, a Subtitle C landfill if hazardous, or a Toxic Substances Control Act (TSCA) disposal facility for PCB TSCA waste, rather than covered in place, as in Alternative 3. The excavation of source material along Hessian Run would be performed in the same manner as described in Alternative 2. Excavation and off-Site disposal in other areas, would follow standard procedures.

Contaminated soil at the scrapyard area would be capped with asphalt or similar material as described under Alternative 2. Inspection and maintenance of a cap in the open field/waste disposal area would not be necessary under Alternative 4 since no cap would be present. The remaining components would be the same as Alternative 3.

Alternative 5: Excavation and Off-Site Disposal of Source Material and all Contaminated Soils

Capital Cost	$82,032,000
Annual O&M Cost	$ 50,000
Present Worth Cost	$82,383,000
Time Frame	3 to 3.5 years

Under Alternative 5, all contaminated materials at the Site exceeding RGs would be excavated and disposed of at appropriate off-Site facilities. This alternative is similar to Alternative 4, but includes additional excavation of approximately 14,800 CY of contaminated soils in the scrapyard area, rather than capping of that material. Other components would be the same as for Alternative 4. All excavated soil and source materials would be excavated and shipped off-Site for disposal at a Subtitle D landfill if non-hazardous, a Subtitle C landfill if hazardous, or a TSCA disposal facility for PCB TSCA waste, as appropriate. Long-term inspection and maintenance of the Site would not be necessary under Alternative 5 as no waste material would be left in place above RGs. As contaminated material would remain in place under this alternative above residential standards, institutional controls in the form of a deed notice restricting future land use would be required.

COMPARATIVE ANALYSIS OF ALTERNATIVES

This section includes a comparative analysis of the five alternatives developed for OU1. In selecting the remedy, EPA considered the factors set out in Section 121 of CERCLA, 42 U.S.C. § 9621, by conducting a detailed analysis of the viable remedial response measures pursuant to the NCP, 40 CFR 300.430(e)(9), EPA's *Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA*, OSWER Directive 9355.3-01, and EPA's *A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents*, OSWER 9200.1-23.P. The detailed analysis consisted of an assessment of the individual response measures against each of nine evaluation criteria and a comparative analysis focusing upon the relative performance of each response measure against the criteria. A comparative analysis of these alternatives, based upon the nine evaluation criteria noted below, follows.

Threshold Criteria

The first two remedy selection criteria are known as "threshold criteria" because they are the minimum requirements that each response measure must meet in order to be eligible for selection as a remedy.

Overall Protection of Human Health and the Environment

"Overall Protection of Human Health and the Environment" determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Alternative 1, No Action, would not meet the RAOs and would not be protective of human health and the environment since no actions would be taken. Waste and soils highly contaminated with lead and other contaminants would remain in place and would continue to pose unacceptable risks to human health and the environment. Because this alternative does not meet the threshold criterion, it is not considered further.

For Alternatives 2, 3, 4 and 5, RAOs would be met over time and would provide protection to human health and the environment through different degrees of containment, off-Site disposal, ICs, and long-term monitoring.

Alternative 2 would require the most maintenance over time to assure its protectiveness, as it would include a hazardous waste landfill containing principal threat waste located near a residential neighborhood and the 100-year floodplain. It also includes capping of contaminated material within the floodplain, which could require significant maintenance over time due to future flooding.

Alternatives 3 and 4 require less maintenance compared to Alternative 2, with Alternative 3 requiring maintenance of capped waste both in the floodplain (open field/waste disposal area) and in an upland area (beneath the current scrapyard), and Alternative 4 only requiring maintenance of capped waste in the upland area (under the current scrapyard). Both alternatives would require ICs to assure long-term protectiveness.

Alternative 5 would require no maintenance to remain protective, as it includes excavation and disposal of all waste material exceeding RGs off-Site.

Alternatives 2 through 5 would all require a deed notice limiting future use to assure protectiveness over time.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)
Section 121(d) of CERCLA and NCP §300.430(f)(1)(ii)(B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate federal and state requirements, standards, criteria, and limitations which are collectively referred to as "ARARs," unless such ARARs are waived under CERCLA section §121(d)(4).

ARARs for the Site include the RCRA, TSCA and New Jersey Residential and Non-Residential Direct Contact Soil Remediation Standards. In addition, EPA's memorandum "Updated Scientific Considerations for Lead in Soil Cleanups" dated December 22, 2016, is a requirement to be considered.

Alternative 2 would include the creation of a hazardous waste landfill for untreated principal threat waste (battery casings and associated soils). This would be consistent with RCRA and TSCA requirements for PCBs.

Alternatives 2, 3, 4 and 5 could meet the RGs, which are based on chemical specific ARARs (NJDEP NRDCSRS and RDCSRS). Alternatives 3, 4 and 5 include excavation and off-Site disposal of principal threat waste in compliance with RCRA Land Disposal Restrictions.

<u>Primary Balancing Criteria</u>
The next five criteria are known as "primary balancing criteria." These criteria are factors by which tradeoffs between response measures are assessed so that the best options will be chosen, given Site-specific data and conditions.

Long-Term Effectiveness and Permanence
Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

Alternatives 2, 3, 4 and 5 would provide long-term protectiveness and permanence; however, each alternative would require varying degrees of long-term maintenance and controls in order to remain protective.

Alternative 2 would require the most engineering controls to remain effective over time, as it includes on-Site capping of principal threat and all other soil contamination exceeding RGs.

Excavation and off-Site disposal of the principal threat waste (battery casings) from the Site, included in Alternatives 3, 4 and 5, would make it much easier to achieve long-term effectiveness compared to Alternative 2, since this source material would not be contained on Site, and would not require regular inspection and maintenance to assure protection over time.

Alternatives 3 and 4 would include excavation and off-Site disposal of principal threat wastes and other contaminated soils exceeding RGs. However, Alternative 3 leaves capped waste in the floodplain, requiring potentially significant maintenance and engineering controls to assure protectiveness over the long term. Alternative 4 does not leave any capped waste in the floodplain and offers more long-term effectiveness compared to Alternative 3. The adequacy and reliability of the caps required under Alternatives 2, 3 and 4 depend on routine inspection and maintenance, as well as the enforcement of use restrictions over time.

Alternative 5 has the greatest degree of long-term effectiveness as it removes all soil contamination exceeding RGs from the Site and does not require maintenance, though institutional controls would be required limiting future use of areas not cleaned up to residential standards.

Reduction of Toxicity, Mobility, or Volume Through Treatment
Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy.

Alternative 2 would reduce mobility of principal threat waste and contaminated soils through containment of the source materials in a landfill and through capping other contaminated soils in place. Further, soils with the highest lead contamination (greater than 800 mg/kg) would be stabilized on-Site to further limit migration. No treatment is included in this alternative, and it offers no reduction of toxicity or volume of contaminated source materials and soils.

In Alternatives 3, 4 and 5, the reduction of toxicity, mobility, and volume of source material on-Site would be achieved by the removal of the battery casings and associated source material for off-Site disposal. Although treatment is not a principal element of these alternatives, based on sampling performed to date, some of the contaminated soil may require treatment prior to land disposal at an off-Site facility. Off-Site treatment, if required, would reduce the toxicity of the battery casing waste and contaminated soil prior to land disposal.

Alternative 3, and to a lesser degree Alternative 4, would include on-Site capping of contaminated soils, which reduces the mobility, but not the toxicity or volume. Alternative 3 would include on-Site capping of all soil contamination exceeding RGs (excluding battery casings, which would be disposed of off-Site) and includes some stabilization of contaminated soils (with lead levels greater than 800 ppm) prior to landfilling, which would further decrease mobility. Alternative 4 only includes a cap over contaminated soils exceeding RGs in the scrapyard area and would remove all other contaminated soils exceeding RGs from the Site.

Alternative 5 would be the most effective in reducing toxicity, mobility and volume of contamination at the Site as all contaminated material would be treated and/or disposed of off-Site.

Short-Term Effectiveness
Short-term effectiveness addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community and the environment during construction and operation of the remedy until cleanup levels are achieved.

Alternative 2 would have the most short-term impacts, as it includes the construction of a containment cell for hazardous waste near the scrapyard area and Willow Woods, a manufactured home community adjacent to the Matteo property. The construction of this containment cell is complex and would raise the surface elevation in the area by about six feet, which would significantly change the topography. Drainage would be managed in a way that would minimize impacts to Willow Woods and the scrapyard area.

There would be minimal short-term impacts to the local community and workers for Alternatives 3, 4 and 5 because the associated excavation, capping and stabilization activities would occur on the Matteo property and on the former Mira Trucking property, and would not involve the construction of a containment cell for principal threat waste, as in Alternative 2.

Alternatives 2, 3, 4 and 5 are all expected to take approximately three years to implement. All of the alternatives would generate dust and noise, which would be controlled to minimize impact to the Willow Woods community. In addition, there would be short-term impacts related to the removal of the source materials and contaminated soils off-Site under Alternatives 3, 4 and 5. However, transport of material from the Site is not expected to pose significant issues as the Site is located near major highways.

Implementability
Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered.

All alternatives are implementable. Services, materials and experienced vendors are readily available for all of the alternatives. During remedial design, Site-specific design parameters for the selected alternative would be developed. Alternative 2 would be the most difficult to implement as it would include constructing a containment cell and moving a substantial volume (approximately 56,200 CY) of source materials from the shoreline of Hessian Run to the cell, which would be located in close proximity to Willow Woods. Long-term inspection and maintenance of the containment cell would be challenging and resource intensive, but also critical to assure long-term protection of human health and the environment.

Alternative 3 would involve the excavation and off-Site disposal of source material which is principal threat waste. In addition, under this alternative, soils with high levels of lead contamination would be stabilized and placed under a cap with lesser contaminated soils exceeding RGs. Several capped areas would be located within the floodplain, making the maintenance of the caps challenging.

Alternative 4 would involve excavation and off-Site disposal of all contaminated soils exceeding RGs except those underlying the active scrapyard, which would be capped in place. This alternative is relatively easy to implement, using standard excavation and transportation options. Coordination with the owner of the scrapyard would be required to address impacts on the operations there. Alternative 5 would be similarly implementable as Alternative 4, with more disruption to scrapyard activities during excavation of that area.

In accordance with CERCLA, no permits would be required for on-Site work (although such activities would comply with substantive requirements of otherwise-required permits).

Cost
Includes estimated capital and operation and maintenance costs, and net present-worth values.

The estimated capital cost, operation and maintenance (O&M), and present worth costs are discussed in detail in EPA's FFS. The cost estimates are based on the best available information. The estimated capital, O&M present-worth cost over a thirty-year period, and total present-worth costs for each of the alternatives are as follows:

Alternative	Capital Cost	O&M	Present Worth Cost
1	$0	$0	$0
2	$33,339,000	$435,000	$38,463,000
3	$65,835,000	$124,000	$67,098,000
4	$71,460,000	$85,000	$72,245,000
5	$82,032,000	$50,000	$82,383,000

The highest operation and maintenance cost are related to Alternative 2, and then Alternative 3 related to managing capped areas on Site and within the floodplain. Depending on flooding patterns, these costs are difficult to estimate over time and could increase. Alternative 4 includes maintenance only of the capped area under the scrapyard, which is outside the floodplain, and Alternative 5 has no capped areas to maintain. While Alternative 4 costs more than Alternative 3 (approximately $5 million, or 7% of the total cost of Alternative 4), it would remove significantly more contaminated soil and requires significantly less operation and maintenance.

All alternatives include costs for long-term sampling of groundwater, public water connection for the properties with private wells, excavation of soils from the residential properties on-Site and excavation of soils on the former Mira Trucking property.

Modifying Criteria
The final two evaluation criteria are called "modifying criteria" because new information or comments from the state or the community on the Proposed Plan may modify the preferred response measure or cause another response measure to be considered.

State Acceptance
Indicates whether based on its review of the RI/FS reports and the Proposed Plan, the state supports, opposes, and/or has identified any reservations with the selected response measure.

NJDEP concurs with the selected remedy. A letter of concurrence is attached in Appendix V.

Community Acceptance
Summarizes the public's general response to the response measures described in the Proposed Plan and the RI/FS reports. This assessment includes determining which of the response measures the community supports, opposes, and/or has reservations about.

EPA solicited input from the community on the alternatives developed and proposed for the Site. The Proposed Plan for the Site was released for public comment on July 3, 2019. The comment period closed on August 2, 2019. EPA held a public meeting on July 17, 2019, to present the preferred alternative and the other alternatives discussed in the Proposed Plan. Oral comments were recorded from attendees at the public meeting. A limited number of written comments were received during the public comment period. The Responsiveness Summary located in Appendix III addresses all comments received during the public comment period. In general, public comments did not express significant concerns regarding EPA's proposed Alternative 4.

PRINCIPAL THREAT WASTES

Principal threat wastes are identified by the NCP (40 CFR 300.430(a)(iii)(A)) as source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur.

For this Site, the battery casing waste exhibits elevated concentrations of lead and is characteristically hazardous (D-008 for lead). Collectively, battery casings mixed with municipal waste, soil and sediment are considered source materials because these materials serve as a continued source of contamination to other media through wind entrainment, stormwater runoff, inundating tidal water and infiltration from precipitation. Therefore, these source materials are considered principal threat waste.

Approximately 56,200 CY of battery casings mixed with soil and sediment and municipal waste originally placed along the shore of Hessian Run act as the source of lead contamination to surface soil, subsurface soil, groundwater, surface water and sediment and therefore are considered principal threat waste. Additionally, approximately 7,600 CY of battery casings and soil classified as principal threat waste are present at the former Mira Trucking property.

SELECTED REMEDY

Based upon consideration of the results of Site investigations, the requirements of CERCLA, the detailed analysis of the remedial alternatives and public comments, EPA has determined that Alternative 4 is the appropriate remedy for the OU1 portion of the Site. This remedy best satisfies the requirements of CERCLA Section 121 and the NCP's nine evaluation criteria for remedial alternatives at 40 CFR § 300.430(e)(9). The remedy includes the following components:

- Excavation and off-Site disposal of source materials;
- Excavation and off-Site disposal of all contaminated soils in the open field/waste disposal area, the rental home area, the property formerly occupied by Mira Trucking and the residential property P002;
- Restoration following excavation;
- Restoration of the shoreline of Hessian Run;
- Capping of contaminated soil in the active scrapyard facility with appropriate maintenance of the cap;
- Connection to city water for several properties with private wells;
- Institutional Controls as needed; and
- Long-term monitoring of groundwater and surface water/sediment.

It is anticipated that the contaminated soil at the former Mira Trucking property will be addressed under a removal action. Any remaining components of the selected remedy that apply to the former Mira Trucking property (e.g., the implementation of institutional controls, long-term monitoring of groundwater) and that are not addressed by the removal action would be addressed as part of the OU1 remedial action.

Summary of Rationale for the Selected Remedy

The selected remedy is protective of human health and the environment, meets the RAOs established for the OU1 portion of the Site, and is acceptable to the community. Under the selected remedy principal threat wastes/source materials would be removed from OU1. Alternative 4 is the alternative with the highest level of removal of contaminated soil from the undeveloped portions of the Site, while contaminated soils underlying and in close proximity to the active scrapyard would be capped. Contamination within the 100-year flood zone would be removed from the Site, obviating the need for long-term maintenance of a cap in a flood-prone area. Contaminated areas outside the scrapyard would be restored to provide habitat in an ecologically sensitive area.

While the selected remedy will be protective, it will not achieve levels that allow for unrestricted use, except in the rental home area and residential property 002. Therefore, institutional controls in the form of deed notices restricting the future use of the other areas of the Matteo property, and the former Mira Trucking property, will be required. Five-year reviews will be conducted, since contamination will remain above levels that allow for unrestricted use and unlimited exposure.

Description of the Selected Remedy

Based on an evaluation of all the alternatives, EPA, in consultation with NJDEP, has selected Alternative 4 to address OU1, which consists of the Matteo property (scrapyard area, rental home area, and open field/waste disposal area), the former Mira Trucking property and residential property P002 and Hessian Run. All source materials and contaminated soils exceeding RGs in all areas, other than the scrapyard area, will be excavated and disposed of off-site. An estimated 63,800 CY of source materials which include battery casings and waste, soils, and sediment mixed with battery casings, located on the Matteo property and the former Mira Trucking property will be excavated and shipped off-site to be treated as necessary and disposed of in a

RCRA Subtitle C landfill. In addition, 24,850 CY of contaminated soils that are not considered source material located in the open field/waste disposal area, the rental home area and residential property P002 will be excavated and disposed of off-site at a Subtitle D landfill, if non-hazardous, a Subtitle C landfill if hazardous, or a TSCA disposal facility.

Contaminated soil at the scrapyard area would be capped with asphalt or similar material, with a stormwater management system to minimize the impact of stormwater runoff.

Source material along Hessian Run will be excavated using a barrier to block tidal water from entering the excavation area and dewatering if excavating is performed below the water table. The shoreline along Hessian Run would be restored for slope stability and erosion controls. A minimum of one foot of clean fill would be placed to cover the excavated area after source materials are removed. Post-excavation sampling would be performed to assure cleanup standards were met after source material removal. After restoration, much of this area would be naturally inundated with tidal water.

A monitoring program will be developed and implemented to assess the effect that removing source material would have on groundwater and sediment over time. Routine inspection and maintenance will be performed. Five-year reviews will be required to determine if the remedy continues to be protective of human health and the environment over time. As contaminated material will remain in place under this remedy above residential standards, except at the rental home area and residential property P002, institutional controls in the form of a deed notice restricting future land use will be required.

Summary of Estimated Remedy Costs
The total estimated present worth cost for the selected remedy is $72,245,000. Details of the cost estimates for all alternatives are presented in the FS Report. This is an engineering cost estimate that is expected to be within the range of plus 50 percent to minus 30 percent of the actual project cost. Changes to the cost estimates are likely to occur as a result of new information and data collected during the engineering design of the remedy.

Expected Outcomes of the Selected Remedy
The selected remedy actively addresses lead, antimony, zinc, and PCB contamination in soil at OU1 of the Site. The results of the risk assessment indicate that lead and PCBs pose an unacceptable human health risk and that lead and zinc pose an unacceptable risk to ecological receptors at the Site. The response action selected in this ROD will address the contaminated soils exceeding the RGs and, thereby, will eliminate the unacceptable risks associated with these exposure pathways, and facilitate the residential and/or commercial use of the OU1 properties, and restore habitat in an environmentally sensitive area. EPA will re-evaluate groundwater, surface water, and sediment following remedial activities at OU1 to determine in further action is necessary for those media.

Green Remediation
Consistent with EPA Region 2's Clean and Green policy, EPA will evaluate the use of sustainable technologies and practices with respect to implementation of the selected remedy.

STATUTORY DETERMINATIONS

As previously noted, CERCLA Section 121(b)(1) mandates that a remedial action must be protective of human health and the environment, cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. CERCLA Section 121(b)(1) also establishes a preference for remedial actions that employ treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants, or contaminants at a Site. CERCLA Section 121(d) further specifies that a remedial action must attain a degree of cleanup that satisfies ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4). For the reasons discussed below, EPA has determined that the selected remedy meets the requirements of CERCLA Section 121.

Protection of Human Health and the Environment

The selected remedy, Alternative 4, will protect human health and the environment through removal, off-Site treatment, if necessary, and disposal. The selected remedy will eliminate significant direct-contact risks to human health and the environment associated with source materials and contaminated soil on the OU1 areas. This action will result in the reduction of exposure levels to risk levels within EPA's generally accepted risk range of 10^{-4} to 10^{-6} for carcinogens and below a HI of 1 for non-carcinogens. Implementation of the selected remedy will not pose short-term risks outside EPA's generally accepted risk ranges.

Compliance with ARARs

The selected remedy complies with chemical-specific, location-specific and action-specific ARARs. A complete list of the ARARs and TBCs for the selected remedy is presented in Tables 19 through 21 in Appendix II.

Cost-Effectiveness

A cost-effective remedy is one whose costs are proportional to its overall effectiveness (40 C.F.R. § 300.430(f)(1)(ii)(D)). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence, reduction in toxicity, mobility, and volume through treatment, and short-term effectiveness). Overall effectiveness was then compared to costs to determine cost-effectiveness.

Each of the alternatives underwent a detailed cost analysis. In that analysis, capital and annual O&M costs were estimated and used to develop present-worth costs. In the present-worth cost analysis, annual operation and maintenance costs were calculated for the estimated life of each alternative. The total estimated present worth cost for implementing the selected remedy is $72,245,000.

Based on the comparison of overall effectiveness to cost, the selected remedy meets the statutory requirement that Superfund remedies be cost effective (40 C.F.R. § 300.430(f)(1)(ii)(D)) in that it represents reasonable value for the money to be spent. The overall effectiveness of the selected remedy has been determined to be proportional to the costs, and the selected remedy therefore represents reasonable value for the money to be spent.

Utilization of Permanent Solutions and Alternative Treatment Technologies
EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site. Of those alternatives that are protective of human health and the environment and comply with ARARs (or provide a basis for invoking a waiver), EPA has determined that the selected remedy provides the best balance of trade-offs in terms of the five balancing criteria, while also considering the statutory preference for treatment as a principal element and state and community acceptance.

The selected remedy will provide adequate long-term control of risks to human health and the environment through excavation and off-Site disposal of principal threat waste and contaminated soils, along with capping in the scrapyard area, institutional controls and monitoring. The selected remedy does not present short-term risks different from the other alternatives.

Preference for Treatment as a Principal Element
The selected remedy results in the removal of battery casing waste and contaminated soil from OU1. Excavation activities will provide for an immediate reduction in the volume of battery casing waste and contaminated soil from the Matteo property. Although treatment is not a principal element of the remedy, based on sampling performed to date, some of the contaminated soil may require treatment prior to land disposal at an off-Site facility. Off-Site treatment, if required, would reduce the toxicity of the battery casing waste and contaminated soil prior to land disposal. Based on the heterogenicity of the waste, treatment of the material on-Site prior to off-Site disposal is feasible.

Five-Year Review Requirements
Because the selected remedy for OU1 will result in hazardous substances, pollutants or contaminants remaining on-Site above levels that allow for unlimited use and unrestricted exposure in the open field/waste disposal area, the scrapyard area, and the former Mira Trucking property, statutory reviews will be conducted every five years after remedial action is initiated. Five-year reviews will ensure that the selected remedy is, or will be, protective of human health and the environment.

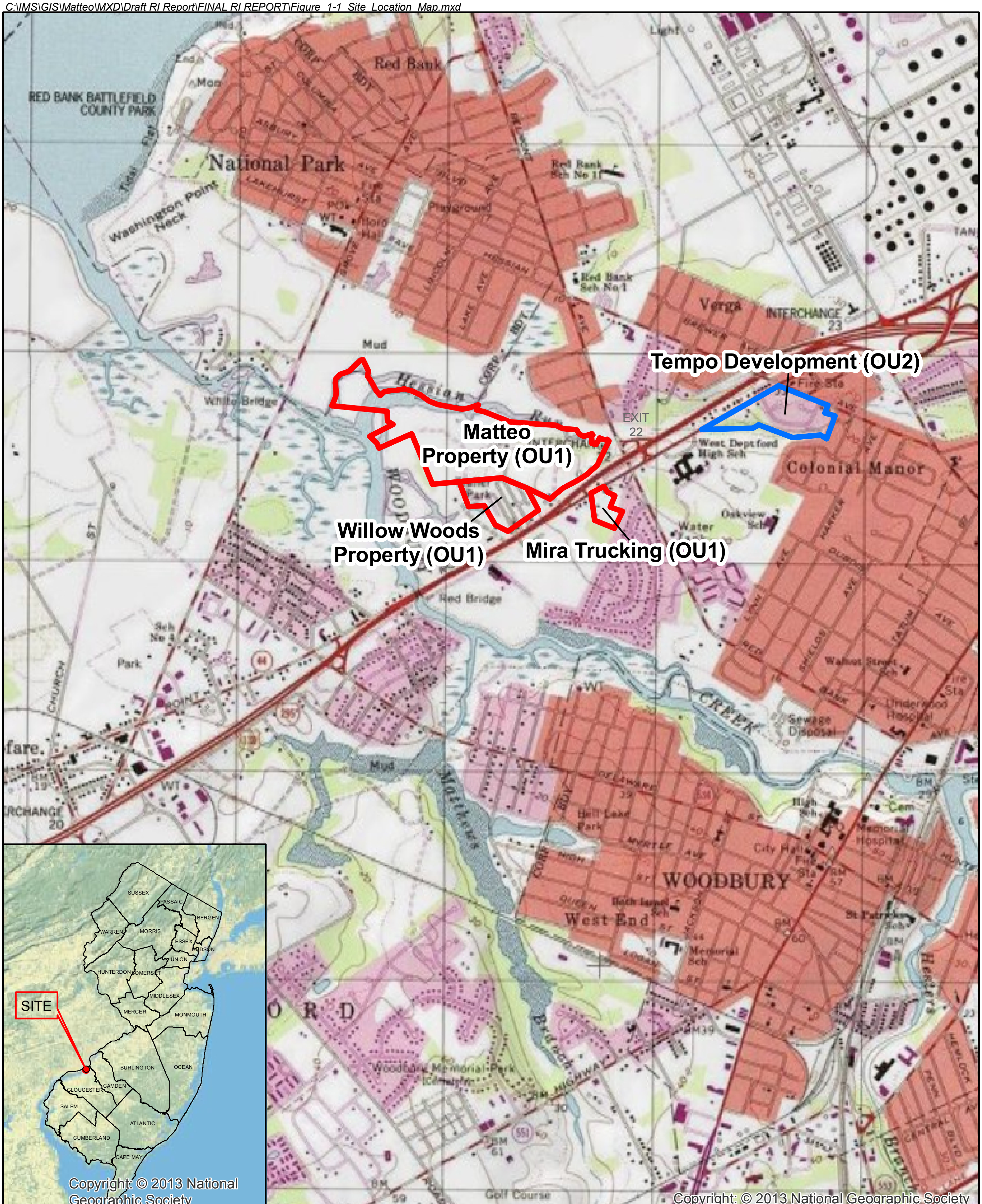
DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan for the OU1 portion of the Site was released on July 3, 2019. The Proposed Plan identified Alternative 4 as the preferred alternative for remediating the contamination at OU1.

EPA considered all comments at the public meeting on July 17, 2019 and reviewed all written comments submitted during the public comment period and has determined that no significant changes to the remedy, as originally identified in the Proposed Plan, are necessary or appropriate.

Appendix I
Figures

C:\IMS\GIS\Matteo\MXD\Draft RI Report\FINAL RI REPORT\Figure_1-1_Site_Location_Map.mxd



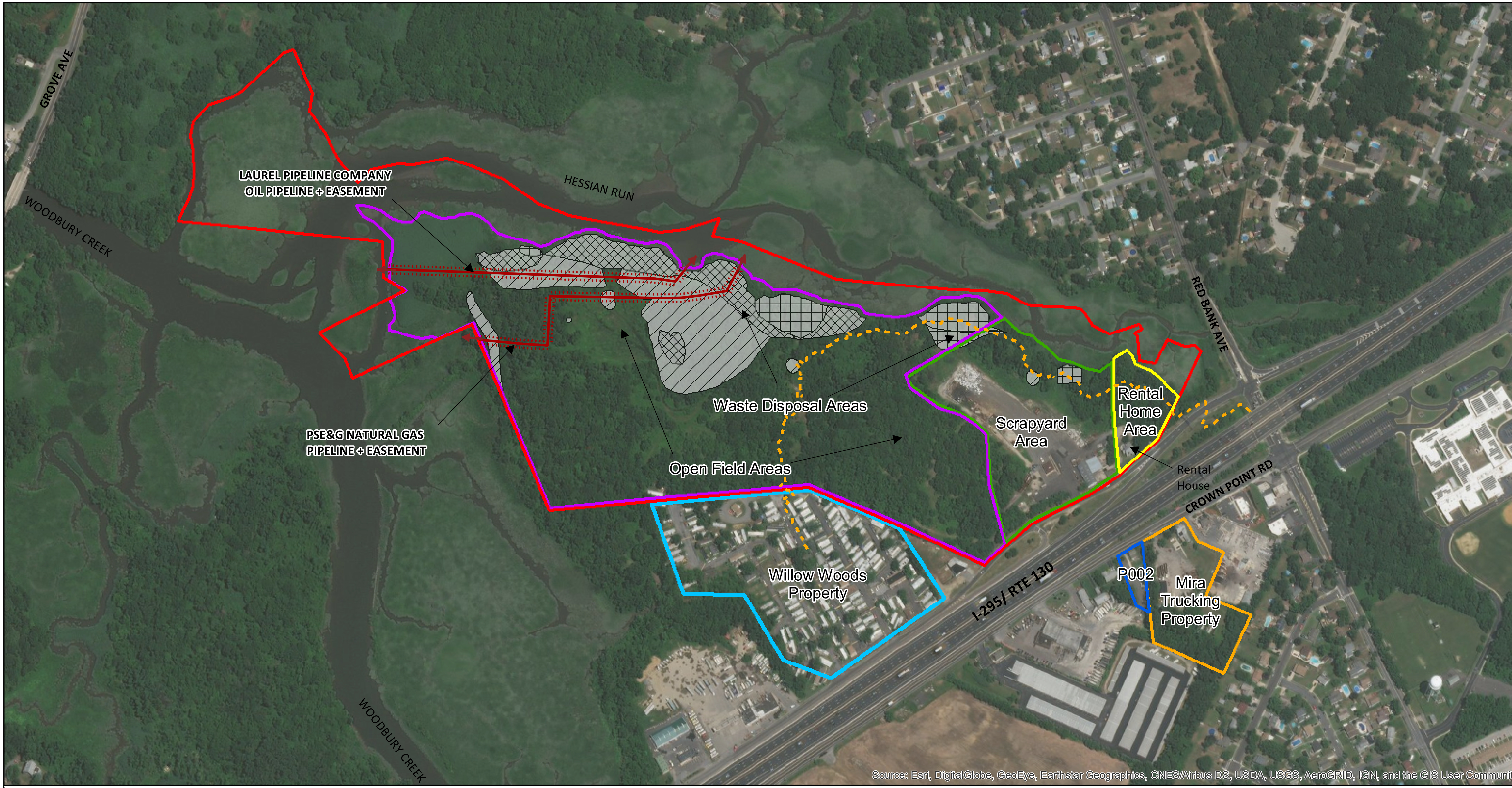
Source: USGS 7.5 Minute Quadrangle, Woodbury, NJ

N

0 500 1,000 2,000 3,000 Feet

CDM Smith

Figure 1
Site Location Map
Matteo & Sons, Inc. Site
Thorofare, NJ



Matteo Property
Scrapyard Area
Open Field/Waste Disposal Area
Rental Home Area
Willow Woods Property
Mira Trucking Property
Residential Property P002

Delineated Waste Disposal Areas
Battery Casings and Waste
Battery Casings
Municipal Waste
Approximate Extent of 100-Year Flood Event
Utility Line

N

0 200 400 800 Feet

1 inch = 400 feet

Figure 2
Site Plan
Matteo & Sons, Inc. Site
Thorofare, NJ

CDM Smith

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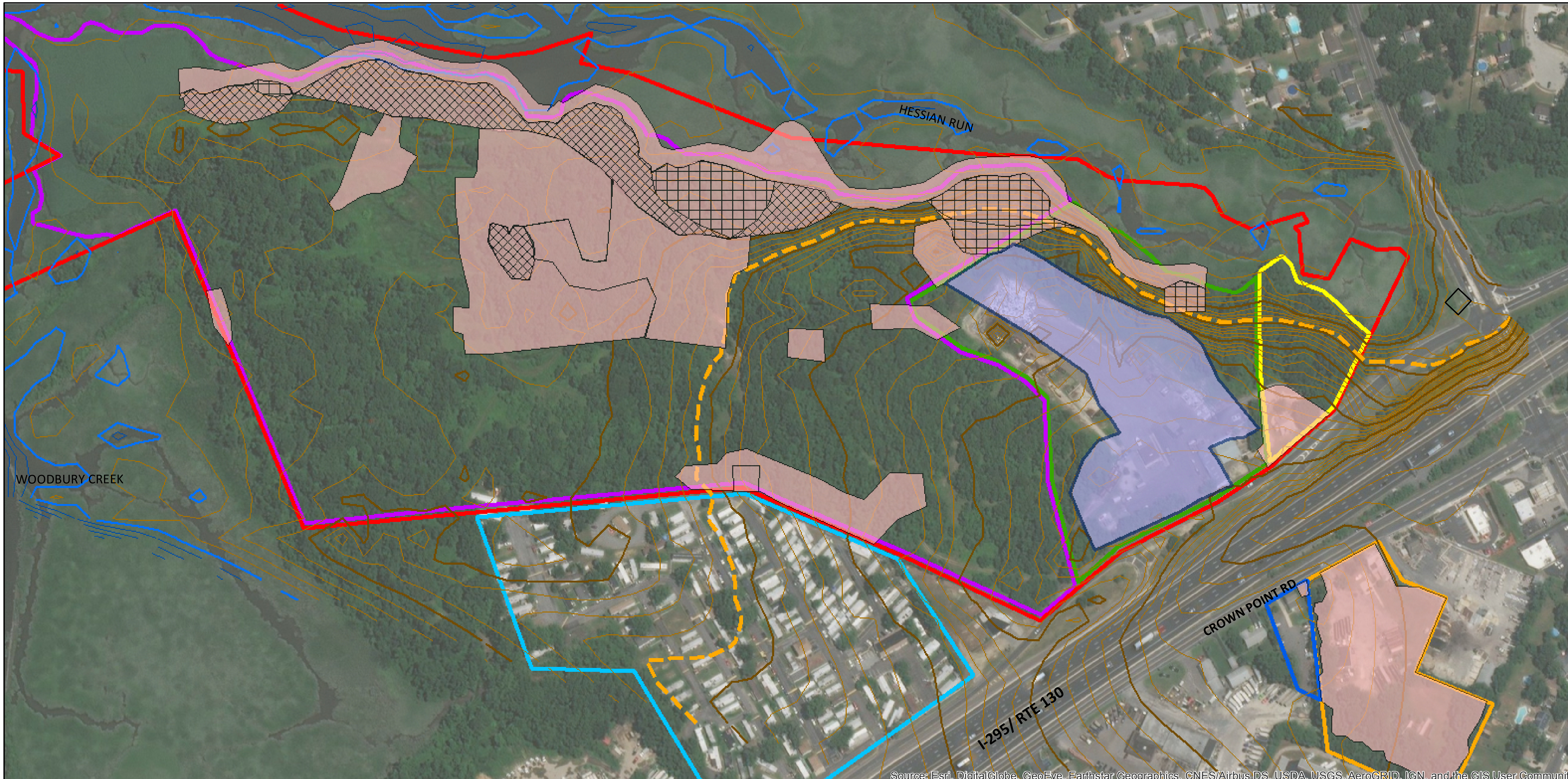

Matteo Property
Scrapyard Area
Open Field/Waste Disposal Area
Rental Home Area
Willow Woods Property
Mira Trucking Property
Residential Property P002

Source Materials

Battery Casings
Battery casings mixed with waste
Battery casings mixed with sediment

Topography (5 ft contours)
Topography (1 ft contours)
Mean Sea Level (msl)
Bathymetry (1 ft contours)
Bathymetry (5 ft contours)
Extent of 100- Year Flood Event (9 feet amsl)

Acronyms

ECO - ecological
PCB - polychlorinated biphenyl
PRG - preliminary remediation goal
OFWD - Open field/ waste disposal area
RH - Rental home area
SY - Scrapyard area

Remedial Alternative Areas

Areas to be excavated and disposed of offsite (include source materials, and OFWD, Mira Trucking, and RH area soils with lead or PCBs > PRGs)

Area of Asphalt Cap (includes SY area soils with lead and PCB contamination)

N

0 125 250 500 Feet

1 inch = 250 feet

Figure 3
Conceptual Layout for Selected Remedy
Matteo & Sons, Inc. Site
Thorofare, NJ

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Appendix II
Tables

Table 1
Scrapyard Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-Inorganics																
Aluminum	1940		11800	J	mg/kg	SB-101	0	2	7	7	6000	1	78000	0	NL	N/A
Antimony	0.54	J	25.2	J	mg/kg	SB-101	0	2	5	7	0.27	5	31	0	450	0
Arsenic	1.5		6.1	J	mg/kg	SB-103	0	2	7	7	0.67	7	0.4	7	19	0
Barium	12.8	J	155		mg/kg	SB-107	0	2	5	7	330	0	16000	0	59000	0
Beryllium	0.18	J	0.23	J	mg/kg	SB-107	0	2	3	7	0.7	0	16	0	140	0
Cadmium	0.55		11.3		mg/kg	SB-101	0	2	5	7	0.36	5	78	0	78	0
Calcium	213	J	30100	J	mg/kg	SB-101	0	2	7	7	NL	0	NL	N/A	NL	N/A
Chromium	2.8		153	J	mg/kg	SB-101	0	2	7	7	26	1	NL	N/A	NL	N/A
Cobalt	0.78		11.3		mg/kg	SB-101	0	2	7	7	13	0	1600	0	590	0
Copper	3.3		4070	J	mg/kg	SB-101	0	2	7	7	28	5	3100	1	45000	0
Cyanide	0.59	J	0.59	J	mg/kg	SB-107	0	2	1	7	1.33	0	1600	0	23000	0
Iron	2850	J	89300	J	mg/kg	SB-101	0	2	7	7	55000	0	NL	N/A	NL	N/A
Lead	33.5	J	1200	J	mg/kg	SB-101	0	2	7	7	11	7	400	3	800	1
Magnesium	281	J	7460		mg/kg	SB-107	0	2	7	7	NL	0	NL	N/A	NL	N/A
Manganese	36.9	J	674		mg/kg	SB-101	0	2	7	7	65	4	11000	0	5900	0
Mercury	0.035	J	2.9	J	mg/kg	SB-101	0	2	5	7	0.00051	2	23	0	65	0
Nickel	2		218	J	mg/kg	SB-101	0	2	7	7	38	2	1600	0	23000	0
Potassium	173	J	466	J	mg/kg	SB-107	0	2	3	7	NL	0	NL	N/A	NL	N/A
Silver	0.21	J	1.4		mg/kg	SB-101	0	2	3	7	1	0	390	0	5700	0
Vanadium	4		15.9		mg/kg	SB-101	0	2	7	7	7.8	2	78	0	1100	0
Zinc	11.2		8760	J	mg/kg	SB-101	0	2	7	7	46	5	23000	0	110000	0
Matteo-Pesticides-PCBs																
4,4'-DDD	25	NJ	25	NJ	ug/kg	SB-101	0	2	1	7	21	1	3000	0	13000	0
4,4'-DDE	100	NJ	1900	NJ	ug/kg	SB-107	0	2	2	7	21	2	2000	1	9000	0
4,4'-DDT	6.2	J	32000	J	ug/kg	SB-107	0	2	4	7	21	2	2000	1	8000	1
alpha-Chlordane	2.2		8.3		ug/kg	SB-101	0	2	2	7	50	0	200	0	1000	0
Aroclor 1248	480	J	480	J	ug/kg	SB-101	0	2	1	7	200	1	200	1	1000	0
Aroclor 1260	20	J	200000		ug/kg	SB-107	0	2	5	7	200	2	200	2	1000	1
beta-BHC	5.3	J	5.3	J	ug/kg	SB-101	0	2	1	7	2	1	400	0	2000	0
delta-BHC	690	J	690	J	ug/kg	SB-107	0	2	1	7	300	1	0	0	NL	N/A
Dieldrin	8.2		2400	J	ug/kg	SB-107	0	2	2	7	3	2	40	1	200	1
Endosulfan I	5.1	NJ	7.3	NJ	ug/kg	SB-101	0	2	2	7	119	0	470000	0	6800000	0
Endrin	780	J	780	J	ug/kg	SB-107	0	2	1	7	10.1	1	23000	0	340000	0
Heptachlor Epoxide	2.5	J	1600	J	ug/kg	SB-107	0	2	3	7	10	2	70	1	300	1

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Matteo and Sons, Inc. Site
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Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-SemiVoas																
Acenaphthene	57	J	79	J	ug/kg	SB-101	0	2	2	7	29000	0	3400000	0	37000000	0
Acenaphthylene	68	J	93	J	ug/kg	SB-102	0	2	3	7	29000	0	NL	N/A	300000000	0
				J	ug/kg	SB-107	0	2								
Acetophenone	71	J	110	J	ug/kg	SB-101	0	2	3	7	2000	0	2000	0	5000	0
Anthracene	56	J	290		ug/kg	SB-102	0	2	4	7	29000	0	17000000	0	30000000	0
Benzaldehyde	92	J	92	J	ug/kg	SB-107	0	2	1	7	6100000	0	6100000	0	68000000	0
Benzo(a)anthracene	210	J	610		ug/kg	SB-107	0	2	4	7	150	4	600	3	2000	0
Benzo(a)pyrene	180	J	630		ug/kg	SB-101	0	2	4	7	15	4	200	4	200	3
Benzo(b)fluoranthene	270		820		ug/kg	SB-101	0	2	4	7	150	4	600	3	2000	0
Benzo(g,h,i)perylene	160	J	570		ug/kg	SB-107	0	2	4	7	1100	0	380000000	0	30000000	0
Benzo(k)fluoranthene	210	J	870		ug/kg	SB-107	0	2	4	7	1100	0	6000	0	23000	0
Bis(2-ethylhexyl)phtha	160	J	930		ug/kg	SB-107	0	2	4	7	925	1	35000	0	140000	0
Butylbenzylphthalate	400		920		ug/kg	SB-107	0	2	2	7	239	2	1200000	0	14000000	0
Carbazole	64	J	82	J	ug/kg	SB-101	0	2	2	7	24000	0	24000	0	96000	0
Chrysene	240		890		ug/kg	SB-107	0	2	4	7	1100	0	62000	0	230000	0
Dibenzo(a,h)anthracen	69	J	230	J	ug/kg	SB-107	0	2	4	7	15	4	200	2	200	2
Dibenzofuran	34	J	51	J	ug/kg	SB-102	0	2	2	7	72000	0	NL	N/A	NL	N/A
Dimethylphthalate	52	J	72	J	ug/kg	SB-107	0	2	2	7	734000	0	NL	N/A	NL	N/A
Di-n-butylphthalate	48	J	200	J	ug/kg	SB-107	0	2	3	7	200000	0	6100000	0	68000000	0
Fluoranthene	340		1100		ug/kg	SB-101	0	2	4	7	1100	2	2300000	0	24000000	0
					ug/kg	SB-107	0	2								
Fluorene	68	J	93	J	ug/kg	SB-102	0	2	2	7	29000	0	2300000	0	24000000	0
Hexachlorobenzene	120	J	120	J	ug/kg	SB-107	0	2	1	7	199	0	300	0	1000	0
Indeno(1,2,3-cd)pyren	160	J	540		ug/kg	SB-107	0	2	4	7	150	4	600	0	2000	0
Naphthalene	27	J	27	J	ug/kg	SB-101	0	2	1	7	3800	0	6000	0	17000	0
Phenanthrene	110	J	880		ug/kg	SB-102	0	2	4	7	29000	0	NL	N/A	300000000	0
Pyrene	300		1200		ug/kg	SB-107	0	2	4	7	1100	2	1700000	0	18000000	0
Matteo-TOC-PH																
pH	6.3		8.1		pH Units	SB-105	0	2	5	5	NL	N/A	NL	N/A	NL	N/A
Total organic carbon	540		15000		mg/kg	SB-102	0	2	5	5	NL	N/A	NL	N/A	NL	N/A
Matteo-VOAs																
2-Butanone	5.7	J	5.7	J	ug/kg	SB-104	0	2	1	7	900	0	3100000	0	44000000	0
cis-1,3-Dichloropropen	2.9	J	2.9	J	ug/kg	SB-102	0	2	1	7	5	0	2000	0	7000	0
Tetrachloroethene	11	J+	11	J+	ug/kg	SB-101	0	2	1	7	5	1	2000	0	5000	0
Trichloroethene	2.4	J	2.4	J	ug/kg	SB-101	0	2	1	7	10	0	7000	0	20000	0

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Matteo-Geotechnical																
Moisture contact	6.7		9.8		%	SB-102	0	2	4	6	NL	N/A	NL	N/A	NL	N/A

Notes:
Highlight indicates exceedance.
Q - qualifier
N - Presumptive evidence of compound
J - Estimated value
J+ - Value estimated high
EMPC - Estimated maximum potential contamination
mg/kg - milligram per kilogram
µg/kg - microgram per kilogram
ng/kg - nanogram per kilogram
RDCSSC - Residential Direct Contact Soil Screening Criteria
NRDCSSC - Non-Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 2
Scrapyard Subsurface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-Inorganics																
Aluminum	1150		4610		mg/kg	SB-103	2	4	21	21	6000	0	78000	0	NL	N/A
Antimony	0.21	J	6.9	J	mg/kg	SB-101	2	4	3	21	0.27	2	31	0	450	0
Arsenic	0.32	J	4.3	J	mg/kg	SB-104	2	4	21	21	0.67	15	19	0	19	0
Barium	3.2	J	60.2		mg/kg	SB-107	2	4	16	21	330	0	16000	0	59000	0
Beryllium	0.22	J	0.27	J	mg/kg	SB-103	2	4	2	21	0.7	0	16	0	140	0
Cadmium	0.21	J	7.1		mg/kg	SB-101	2	4	5	21	0.36	3	78	0	78	0
Calcium	188	J	1790	J	mg/kg	SB-101	2	4	9	21	NL	N/A	NL	N/A	NL	N/A
Chromium	3.1		30	J	mg/kg	SB-101	2	4	21	21	26	1	NL	N/A	NL	N/A
Cobalt	0.49	J	3.9		mg/kg	SB-101	2	4	21	21	13	0	1600	0	590	0
Copper	1.3		535	J	mg/kg	SB-101	2	4	21	21	28	2	3100	0	45000	0
Cyanide	0.43	J	0.43	J	mg/kg	SB-107	2	4	1	21	1.33	0	1600	0	23000	0
Iron	1630	J	21100	J	mg/kg	SB-101	2	4	21	21	55000	0	NL	N/A	NL	N/A
Lead	1.3	J	1860	J	mg/kg	SB-101	2	4	21	21	11	6	400	1	800	1
Magnesium	206	J	700		mg/kg	SB-103	2	4	21	21	NL	N/A	NL	N/A	NL	N/A
Manganese	9.2		172		mg/kg	SB-101	2	4	21	21	65	3	11000	0	5900	0
Mercury	0.22		1.9	J	mg/kg	SB-101	2	4	2	21	0.00051	2	23	0	65	0
Nickel	1.2	J	35.1	J	mg/kg	SB-101	2	4	21	21	38	0	1600	0	23000	0
Potassium	194	J	386	J	mg/kg	SB-104	8	12	15	21	NL	N/A	NL	N/A	NL	N/A
Silver	0.35	J	0.41	J	mg/kg	SB-101	2	4	2	21	1	0	390	0	5700	0
Vanadium	3.6		12.4		mg/kg	SB-104	8	12	21	21	7.8	7	78	0	1100	0
Zinc	4.1		6210	J	mg/kg	SB-101	2	4	21	21	46	4	23000	0	110000	0
Matteo-Pesticides-PCBs																
4,4'-DDD	7.7	NJ	94	J	ug/kg	SB-101	4	8	3	21	21	2	3000	0	13000	0
4,4'-DDE	3.6	NJ	780	NJ	ug/kg	SB-107	2	4	6	21	21	3	2000	0	9000	0
4,4'-DDT	6.5		5100	J	ug/kg	SB-107	2	4	9	21	21	4	2000	1	8000	0
alpha-Chlordane	2.2		7.5		ug/kg	SB-101	2	4	2	21	50	0	200	0	1000	0
Aroclor 1254	110		2700	J	ug/kg	SB-101	4	8	4	21	200	3	200	3	1000	1
Aroclor 1260	26	J	260000		ug/kg	SB-107	2	4	12	21	200	7	200	7	1000	3
Aroclor 1268	270	JN	270	JN	ug/kg	SB-102	8	12	1	21	200	1	200	1	1000	0
beta-BHC	2.8	NJ	2.8	NJ	ug/kg	SB-101	2	4	1	21	2	1	400	0	2000	0
delta-BHC	7.6	J	160	J	ug/kg	SB-107	2	4	2	21	300	0	NL	N/A	NL	N/A
Dieldrin	4.7	J	1200	J	ug/kg	SB-107	2	4	4	21	3	4	40	1	200	1
Endrin	7.5	J	280	NJ	ug/kg	SB-107	2	4	3	21	10.1	2	23000	0	340000	0
Endrin aldehyde	3.8	J	14	NJ	ug/kg	SB-107	12	16	3	21	10.5	1	NL	N/A	NL	N/A
gamma-BHC (Lindane)	2.5	J	2.5	J	ug/kg	SB-101	4	8	1	21	2	1	400	0	2000	0
gamma-Chlordane	2.9	NJ	22	J	ug/kg	SB-101	2	4	2	21	50	0	200	0	1000	0
Heptachlor	5.4		29	J	ug/kg	SB-107	2	4	3	21	5.98	2	100	0	700	0
Heptachlor Epoxide	2	NJ	790	J	ug/kg	SB-107	2	4	6	21	10	4	70	1	300	1
Methoxychlor	19	NJ	560	J	ug/kg	SB-107	2	4	2	21	19.9	1	390000	0	5700000	0
Matteo-SemiVoas																

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2,3,4,6-Tetrachlorophenol	250	NJ	250	NJ	ug/kg	SB-107	2	4	1	21	199	1	NL	N/A	NL	N/A
2-Methylnaphthalene	25	J	330		ug/kg	SB-106	2	4	3	21	3240	0	230000	0	2400000	0
4-Chloroaniline	50	J	50	J	ug/kg	SB-106	2	4	1	21	1100	0	NL	N/A	NL	N/A
4-Nitroaniline	100	J	100	J	ug/kg	SB-107	2	4	1	21	21900	0	NL	N/A	NL	N/A
Acenaphthene	120	J	160	J	ug/kg	SB-101	2	4	2	21	29000	0	3400000	0	37000000	0
Acenaphthylene	27	J	58	J	ug/kg	SB-101	4	8	3	21	29000	0	NL	N/A	300000000	0
Acetophenone	64	J	170	J	ug/kg	SB-106	2	4	5	21	2000	0	2000	0	5000	0
Anthracene	23	J	330		ug/kg	SB-101	2	4	5	21	29000	0	17000000	0	30000000	0
Benzo(a)anthracene	24	J	1500		ug/kg	SB-101	2	4	8	21	150	4	600	2	2000	0
Benzo(a)pyrene	48	J	1100		ug/kg	SB-101	2	4	6	21	15	6	200	3	200	3
Benzo(b)fluoranthene	67	J	1800		ug/kg	SB-101	2	4	7	21	150	4	600	2	2000	0
Benzo(g,h,i)perylene	38	J	740		ug/kg	SB-101	2	4	7	21	1100	0	380000000	0	30000000	0
Benzo(k)fluoranthene	46	J	1100		ug/kg	SB-101	2	4	6	21	1100	1	6000	0	23000	0
Bis(2-ethylhexyl)phthalate	40	J	890		ug/kg	SB-101	2	4	8	21	925	0	35000	0	140000	0
Butylbenzylphthalate	110	J	410		ug/kg	SB-101	4	8	4	21	239	2	1200000	0	14000000	0
Carbazole	46	J	110	J	ug/kg	SB-101	2	4	3	21	24000	0	24000	0	96000	0
				J	ug/kg	SB-101	4	8								
Chrysene	26	J	1300		ug/kg	SB-101	2	4	8	21	1100	1	62000	0	230000	0
Dibenzo(a,h)anthracene	31	J	330		ug/kg	SB-101	2	4	4	21	15	4	200	2	200	2
Dibenzofuran	56	J	71	J	ug/kg	SB-101	4	8	2	21	72000	0	NL	N/A	NL	N/A
Dimethylphthalate	50	J	180	J	ug/kg	SB-101	4	8	2	21	734000	0	NL	N/A	NL	N/A
Di-n-butylphthalate	42	J	240		ug/kg	SB-101	2	4	3	21	200000	0	6100000	0	68000000	0
Fluoranthene	69	J	2200		ug/kg	SB-101	2	4	7	21	1100	2	2300000	0	24000000	0
Fluorene	48	J	140	J	ug/kg	SB-101	4	8	3	21	29000	0	2300000	0	24000000	0
Hexachlorobenzene	220		220		ug/kg	SB-101	2	4	1	21	199	1	300	0	1000	0
Indeno(1,2,3-cd)pyrene	47	J	830		ug/kg	SB-101	2	4	6	21	150	3	600	1	2000	0
Naphthalene	31	J	120	J	ug/kg	SB-106	2	4	3	21	3800	0	6000	0	17000	0
Phenanthrene	36	J	1200		ug/kg	SB-101	4	8	7	21	29000	0	NL	N/A	300000000	0
Pyrene	75	J	2000		ug/kg	SB-101	2	4	7	21	1100	2	1700000	0	18000000	0
Matteo-TOC-PH																
pH	5.2		7.6		pH Units	SB-102	4	8	6	6	NL	N/A	NL	N/A	NL	N/A
Total Organic Carbon	570		17000		mg/kg	SB-101	2	4	6	6	NL	N/A	NL	N/A	NL	N/A

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Matteo-Geotechnical																
Dry Unit Weight	103.9		113		pcf	SB-103	4	8	4	4	NL	N/A	NL	N/A	NL	N/A
Moisture Content	8.7		17.8		%	SB-105	4	8	8	8	NL	N/A	NL	N/A	NL	N/A
Porosity	33		38		%	SB-105	0	4	4	4	NL	N/A	NL	N/A	NL	N/A
Specific Gravity	2.64		2.69		sg	SB-103	4	8	4	4	NL	N/A	NL	N/A	NL	N/A

Notes:
Highlight indicates exceedance.
Q - qualifier
N - Presumptive evidence of compound
J - Estimated value
J+ - Value estimated high
mg/kg - milligram per kilogram
µg/kg - microgram per kilogram
RDCSSC - Residential Direct Contact Soil Screening Criteria
NRDCSSC - Non-Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 3
Open Field Waste Disposal Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-Inorganics																
Aluminum	1250		11900		mg/kg	SB-109	0	2	19	19	6000	1	78000	0	NL	N/A
Antimony	0.22	J	18.6		mg/kg	SB-110	0	2	11	19	0.27	9	31	0	450	0
Arsenic	1.3		8	J	mg/kg	SB-109	0	2	19	19	0.67	19	19	0	19	0
Barium	9.2		149	J	mg/kg	SB-109	0	2	12	19	330	0	16000	0	59000	0
Beryllium	0.19	J	0.31	J	mg/kg	SB-117	0	2	3	19	0.7	0	16	0	140	0
Cadmium	0.14	J	9.5		mg/kg	SB-109	0	2	7	19	0.36	3	78	0	78	0
Calcium	167	J	8910		mg/kg	SB-109	0	2	15	19	NL	N/A	NL	N/A	NL	N/A
Chromium	2.5	J	39.9	J	mg/kg	SB-109	0	2	19	19	26	1	NL	N/A	NL	N/A
Cobalt	0.37	J	4.4		mg/kg	SB-110	0	2	19	19	13	0	1600	0	590	0
Copper	2.8	J	292	J	mg/kg	SB-109	0	2	19	19	28	3	3100	0	45000	0
Cyanide	0.85		0.85		mg/kg	SB-116	0	2	1	19	1.33	0	1600	0	23000	0
Iron	2280	J	85300	J	mg/kg	SB-109	0	2	19	19	55000	2	NL	N/A	NL	N/A
Lead	7.3	J	10100	J	mg/kg	SB-110	0	2	19	19	11	17	400	3	800	3
Magnesium	169	J	829		mg/kg	SB-109	0	2	18	19	NL	N/A	NL	N/A	NL	N/A
Manganese	16.2		427	J	mg/kg	SB-109	0	2	19	19	65	8	11000	0	5900	0
Mercury	0.079	J	0.23		mg/kg	SB-109	0	2	6	19	0.00051	6	23	0	65	0
Nickel	1.1	J	64.4		mg/kg	SB-110	0	2	19	19	38	2	1600	0	23000	0
Potassium	214	J	325	J	mg/kg	SS-116	0	2	2	19	NL	N/A	NL	N/A	NL	N/A
Silver	0.14	J	0.91		mg/kg	SB-109	0	2	5	19	1	0	390	0	5700	0
Sodium	277	J	277	J	mg/kg	SB-109	0	2	1	19	NL	N/A	NL	N/A	NL	N/A
Vanadium	3.9		146		mg/kg	SB-117	0	2	19	19	7.8	6	78	1	1100	0
Zinc	9.3	J	13400		mg/kg	SB-109	0	2	19	19	46	4	23000	0	110000	0
Matteo-Pesticides-PCBs																
4,4'-DDE	26	NJ	42	NJ	ug/kg	SB-110	0	2	2	8	21	2	2000	0	9000	0
4,4'-DDT	4.6	NJ	250	J	ug/kg	SB-110	0	2	3	8	21	2	2000	0	8000	0
Aroclor 1248	3400	NJ	3400	NJ	ug/kg	SB-110	0	2	1	25	200	1	200	1	1000	1
Aroclor 1254	36		1200	J	ug/kg	SS-106	0	2	11	25	200	7	200	7	1000	2
Aroclor 1260	28	J	3000		ug/kg	SB-110	0	2	14	25	200	8	200	8	1000	1
beta-BHC	2.9	NJ	2.9	NJ	ug/kg	SB-111	0	2	1	8	2	1	400	0	2000	0
delta-BHC	72	J	72	J	ug/kg	SB-110	0	2	1	8	300	0	0	0	NL	N/A
Dieldrin	12	J	32	NJ	ug/kg	SB-110	0	2	2	8	3	2	40	0	200	0
Endrin	12	J	12	J	ug/kg	SB-110	0	2	1	8	10.1	1	23000	0	340000	0
gamma-Chlordane	54	J	54	J	ug/kg	SB-111	0	2	1	8	50	1	200	0	1000	0
Heptachlor	5.6	NJ	5.6	NJ	ug/kg	SB-110	0	2	1	8	5.98	0	100	0	700	0
Heptachlor Epoxide	15		120	J	ug/kg	SB-110	0	2	2	8	10	2	70	1	300	0

Table 3
Open Field Waste Disposal Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-SemiVoas																
1,1'-Biphenyl	36	J	150	J	ug/kg	SB-111	0	2	2	7	47000	0	3100000	0	34000000	0
2-Methylnaphthalene	68	J	170	J	ug/kg	SB-111	0	2	2	7	3240	0	230000	0	2400000	0
Acenaphthene	36	J	62	J	ug/kg	SB-110	0	2	2	7	29000	0	3400000	0	37000000	0
Acenaphthylene	160	J	160	J	ug/kg	SB-117	0	2	1	7	29000	0	NL	N/A	300000000	0
Acetophenone	120	J	400		ug/kg	SB-111	0	2	2	7	2000	0	2000	0	5000	0
Anthracene	66	J	150	J	ug/kg	SB-117	0	2	3	7	29000	0	17000000	0	30000000	0
Benzaldehyde	42	J	320	J+	ug/kg	SB-111	0	2	3	7	6100000	0	6100000	0	68000000	0
Benzo(a)anthracene	19	J	1300	J+	ug/kg	SB-111	0	2	6	7	150	2	600	1	2000	0
Benzo(a)pyrene	35	J	440		ug/kg	SB-117	0	2	3	7	15	3	200	1	200	1
Benzo(b)fluoranthene	23	J	1000		ug/kg	SB-111	0	2	6	7	150	3	600	2	2000	0
Benzo(g,h,i)perylene	26	J	370		ug/kg	SB-117	0	2	4	7	1100	0	3.8E+08	0	30000000	0
Benzo(k)fluoranthene	71	J	700		ug/kg	SB-111	0	2	3	7	1100	0	6000	0	23000	0
Bis(2-ethylhexyl)phthalate	100	J	420		ug/kg	SB-110	0	2	3	7	925	0	35000	0	140000	0
Butylbenzylphthalate	48	J	48	J	ug/kg	SB-110	0	2	1	7	239	0	1200000	0	14000000	0
Carbazole	77	J	77	J	ug/kg	SB-117	0	2	1	7	24000	0	24000	0	96000	0
Chrysene	27	J	980	J+	ug/kg	SB-111	0	2	6	7	1100	0	62000	0	230000	0
Dibenzo(a,h)anthracene	40	J	140	J	ug/kg	SB-117	0	2	2	7	15	2	200	0	200	0
Dibenzofuran	27	J	54	J	ug/kg	SB-110	0	2	2	7	72000	0	NL	N/A	NL	N/A
Di-n-butylphthalate	52	J	190	J	ug/kg	SB-117	0	2	2	7	200000	0	6100000	0	68000000	0
Fluoranthene	28	J J	210		ug/kg	SB-110	0	2	6	7	1100	0	2300000	0	24000000	0
Fluorene	48	J	210		ug/kg	SB-111	0	2	3	7	29000	0	2300000	0	24000000	0
Indeno(1,2,3-cd)pyrene	51	J	340		ug/kg	SB-117	0	2	3	7	150	1	600	0	2000	0
Naphthalene	61	J	190		ug/kg	SB-111	0	2	2	7	3800	0	6000	0	17000	0
N-Nitrosodiphenylamine	200		200		ug/kg	SB-111	0	2	1	7	400	0	99000	0	390000	0
Phenanthrene	51	J	1000		ug/kg	SB-111	0	2	4	7	29000	0	NL	N/A	300000000	0
Phenol	140	J	140	J	ug/kg	SB-111	0	2	1	7	8000	0	18000000	0	210000000	0
Pyrene	27	J	540	J+	ug/kg	SB-111	0	2	6	7	1100	0	1700000	0	18000000	0
Matteo-TOC-PH																
pH	5.4	J	6.2		pH Units	SS-101	0	2	6	6	NL	N/A	NL	N/A	NL	N/A
Total Organic Carbon	1500		5800		mg/kg	SS-110	0	2	6	6	NL	N/A	NL	N/A	NL	N/A
Matteo-VOAs																
1,1-Dichloroethene	2.8	J	2.8	J	ug/kg	SB-111	0	2	1	7	8	0	11000	0	150000	0
Tetrachloroethene	27	J+	27	J+	ug/kg	SB-111	0	2	1	7	5	1	2000	0	5000	0
Toluene	2	J	2	J	ug/kg	SB-111	0	2	1	7	7000	0	6300000	0	91000000	0
Trichloroethene	7	J+	7	J+	ug/kg	SB-111	0	2	1	7	10	0	7000	0	20000	0
Matteo-Geotechnical																

Table 3
Open Field Waste Disposal Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Moisture Content	9		16.2		%	SS-119	0	2	5	5	NL	N/A	NL	N/A	NL	N/A

Notes:
Highlight indicates exceedance.
Q - qualifier
N - Presumptive evidence of compound
J - Estimated value
J+ - Value estimated high
EMPC - Estimated maximum potential contamination
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram
ng/kg - nanogram per kilogram
RDCSSC - Residential Direct Contact Soil Screening
NRDCSSC - Non-Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 4
Open Field Waste Disposal Subsurface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-Inorganics																
Aluminum	1020		5120		mg/kg	SB-108	2	4	21	21	6000	0	78000	0	NL	N/A
Antimony	0.27	J	465		mg/kg	SB-110	2	4	14	21	0.27	14	31	1	450	1
Arsenic	0.73	J	75.4	J	mg/kg	SB-118	8	12	21	21	0.67	21	19	3	19	3
Barium	3	J	78.6	J	mg/kg	SB-111	2	4	21	21	330	0	16000	0	59000	0
Beryllium	0.28	J	1		mg/kg	SB-118	4	8	6	21	0.7	3	16	0	140	0
Cadmium	0.12	J	2.6		mg/kg	SB-110	2	4	7	21	0.36	2	78	0	78	0
Calcium	174	J	1880		mg/kg	SB-110	2	4	9	21	NL	N/A	NL	N/A	NL	N/A
Chromium	3.5	J	48.2		mg/kg	SB-118	4	8	21	21	26	2	NL	N/A	NL	N/A
Cobalt	0.48	J	3.9	J	mg/kg	SB-118	8	12	21	21	13	0	1600	0	590	0
Copper	1.5	J	205		mg/kg	SB-110	2	4	21	21	28	1	3100	0	45000	0
Iron	2810	J	23600	J	mg/kg	SB-118	4	8	21	21	55000	0	NL	N/A	NL	N/A
Lead	1.8	J	94100	J	mg/kg	SB-110	2	4	21	21	11	7	400	4	800	3
Magnesium	179	J	631		mg/kg	SB-108	8	12	17	21	NL	N/A	NL	N/A	NL	N/A
Manganese	11.2	J	84.5		mg/kg	SB-110	4	8	21	21	65	1	11000	0	5900	0
Mercury	0.023	J	0.57		mg/kg	SB-110	2	4	4	21	0.00051	4	23	0	65	0
Nickel	1.4	J	10.3	J	mg/kg	SB-118	8	12	21	21	38	0	1600	0	23000	0
Potassium	186	J	1040		mg/kg	SB-118	8	12	14	21	NL	N/A	NL	N/A	NL	N/A
Silver	0.074	J	1.5		mg/kg	SB-110	2	4	2	21	1	1	390	0	5700	0
Thallium	0.33	J	0.33	J	mg/kg	SB-110	2	4	1	21	0.78	0	5	0	79	0
Vanadium	3.7	J	55.2		mg/kg	SB-118	8	12	21	21	7.8	13	78	0	1100	0
Zinc	7.7	J	514		mg/kg	SB-110	2	4	21	21	46	6	23000	0	110000	0
Matteo-Pesticides-PCBs																
4,4'-DDE	7	NJ	13	NJ	ug/kg	SB-111	2	4	3	12	21	0	2000	0	9000	0
4,4'-DDT	6.8	J	39	J	ug/kg	SB-110	2	4	3	12	21	2	2000	0	8000	0
alpha-Chlordane	8	NJ	8	NJ	ug/kg	SB-110	2	4	1	12	50	0	200	0	1000	0
Aroclor 1248	78	J	620	J	ug/kg	SB-110	2	4	2	26	200	1	200	1	1000	0
Aroclor 1254	35	J	270000	J	ug/kg	SB-113	7.5	8	9	26	200	6	200	6	1000	4
Aroclor 1260	20	J	540000	J	ug/kg	SB-113	7.5	8	13	26	200	9	200	9	1000	4
Aroclor 1268	860	J	860	J	ug/kg	SB-111	4	8	1	26	200	1	200	1	1000	0
beta-BHC	3.1	J	3.1	J	ug/kg	SB-111	2	4	1	12	2	1	400	0	2000	0
delta-BHC	8.8	J	8.8	J	ug/kg	SB-110	2	4	1	12	300	0	0	0	NL	N/A
Dieldrin	6	NJ	13	J	ug/kg	SB-110	2	4	3	12	3	3	40	0	200	0
gamma-Chlordane	9.8	NJ	9.8	NJ	ug/kg	SB-110	2	4	1	12	50	0	200	0	1000	0
Heptachlor Epoxide	9.6		17	J	ug/kg	SB-110	2	4	2	12	10	2	70	0	300	0

Table 4
Open Field Waste Disposal Subsurface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Matteo-SemiVoas																
1,1'-Biphenyl	43	J	550		ug/kg	SB-111	2	4	3	21	47000	0	3100000	0	34000000	0
2,3,4,6-Tetrachlorophenol	81	NJ	81	NJ	ug/kg	SB-111	4	8	1	21	199	0	0	0	NL	N/A
2-Methylnaphthalene	44	J	1800		ug/kg	SB-111	2	4	3	21	3240	0	230000	0	2400000	0
Acenaphthene	34	J	1000		ug/kg	SB-111	2	4	3	21	29000	0	3400000	0	37000000	0
Acenaphthylene	18	J	18	J	ug/kg	SB-117	2	4	1	21	29000	0	0	0	300000000	0
Acetophenone	68	J	290		ug/kg	SB-111	2	4	4	21	2000	0	2000	0	5000	0
Anthracene	47	J	1300		ug/kg	SB-111	2	4	3	21	29000	0	17000000	0	30000000	0
Benzaldehyde	70	J	70	J	ug/kg	SB-110	2	4	1	21	6100000	0	6100000	0	68000000	0
Benzo(a)anthracene	41	J	2100		ug/kg	SB-111	2	4	5	21	150	1	600	1	2000	1
Benzo(a)pyrene	60	J	1000	J-	ug/kg	SB-111	2	4	4	21	15	1	200	1	200	1
Benzo(b)fluoranthene	57	J	580	J-	ug/kg	SB-111	2	4	5	21	150	2	600	1	2000	0
Benzo(g,h,i)perylene	41	J	240	J-	ug/kg	SB-111	2	4	5	21	1100	0	380000000	0	30000000	0
Benzo(k)fluoranthene	37	J	730	J-	ug/kg	SB-111	2	4	4	21	1100	0	6000	0	23000	0
Bis(2-ethylhexyl)phthalate	47	J	1400		ug/kg	SB-118	8	12	6	21	925	1	35000	0	140000	0
Carbazole	340		340		ug/kg	SB-111	2	4	1	21	24000	0	24000	0	96000	0
Chrysene	60	J	1500		ug/kg	SB-111	2	4	5	21	1100	1	62000	0	230000	0
Dibenzo(a,h)anthracene	48	J	91	J	ug/kg	SB-111	2	4	2	21	15	2	200	0	200	0
Dibenzofuran	38	J	1100		ug/kg	SB-111	2	4	3	21	72000	0	0	0	NL	N/A
Diethylphthalate	45	J	45	J	ug/kg	SB-111	2	4	1	21	88000	0	49000000	0	550000000	0
Di-n-butylphthalate	120	J	120	J	ug/kg	SB-108	4	8	2	21	200000	0	6100000	0	68000000	0
Fluoranthene	47	J	2800		ug/kg	SB-111	2	4	5	21	1100	1	2300000	0	24000000	0
Fluorene	43	J	880		ug/kg	SB-111	2	4	3	21	29000	0	2300000	0	24000000	0
Indeno(1,2,3-cd)pyrene	33	J	270	J-	ug/kg	SB-111	2	4	5	21	150	1	600	0	2000	0
Naphthalene	120	J	1200		ug/kg	SB-111	2	4	3	21	3800	0	6000	0	17000	0
N-Nitrosodiphenylamine	140	J	140	J	ug/kg	SB-111	2	4	1	21	400	0	99000	0	390000	0
Phenanthrene	57	J	3800		ug/kg	SB-111	2	4	4	21	29000	0	NL	N/A	300000000	0
Pyrene	61	J	2200		ug/kg	SB-111	2	4	5	21	1100	1	1700000	0	18000000	0
Matteo-TOC-PH																
pH	4.6		7	J	pH Units	SB-110	4	8	10	10	NL	N/A	NL	N/A	NL	N/A
Total Organic Carbon	600		53000		mg/kg	SB-110	0	4	10	10	NL	N/A	NL	N/A	NL	N/A
Matteo-VOAs																
Acetone	130		130		ug/kg	SB-108	2	4	1	10	2500	0	70000000	0	NL	N/A
Matteo-Geotechnical																
Dry Unit Weight	61.1		114.8		pcf	SB-119	0	4	13	13	NL	N/A	NL	N/A	NL	N/A
Moisture Content	13.3		17.7		%	SB-116	4	8	13	13	NL	N/A	NL	N/A	NL	N/A
Porosity	30		68		%	SB-110	0	4	10	10	NL	N/A	NL	N/A	NL	N/A
Specific Gravity	2.63		3.07		sg	SB-110	0	4	10	10	NL	N/A	NL	N/A	NL	N/A

Table 4
Open Field Waste Disposal Subsurface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria	NJDEP NRSDCSS Criteria	No. of Exceedances of NJDEP NRDCSSC Criteria
Wet Unit Weight	11.5		109.4		pcf	SB-110	4	8	5	5	NL	N/A	NL	N/A	NL	N/A

Notes:
Highlight indicates exceedance.
Q - qualifier
J - Estimated value
J- - Value estimated low
mg/kg - milligram per kilogram
ug/kg - microgram per kilogram
pcf - pounds per cubic foot
RDCSSC - Residential Direct Contact Soil Screening
NRDCSSC - Non-Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 5
Willow Woods Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria
Matteo-Inorganics														
Aluminum	1570	J	4060		mg/kg	WW-SB-207	0	2	10	10	6000	0	78000	0
Antimony	0.21	J	0.57	J	mg/kg	WW-SB-208	0	2	5	10	0.27	3	31	0
Arsenic	0.63		14.8		mg/kg	WW-SB-202	0	2	9	10	0.67	8	19	0
Barium	7.8	J	18.2		mg/kg	WW-SB-209	0	2	9	10	330	0	16000	0
Cadmium	0.12	J	0.42	J	mg/kg	WW-SB-205	0	2	4	10	0.36	1	78	0
Calcium	383	J	1230		mg/kg	WW-SB-205	0	2	8	10	NL	N/A	NL	N/A
Chromium	2.1		13.3		mg/kg	WW-SB-207	0	2	9	10	26	0	NL	N/A
Cobalt	0.48	J	0.89		mg/kg	WW-SB-205	0	2	9	10	13	0	1600	0
Copper	2.4	J	10.2	J	mg/kg	WW-SB-205	0	2	9	10	28	0	3100	0
Iron	4420	J	16500		mg/kg	WW-SB-207	0	2	10	10	55000	0	NL	N/A
Lead	10.3		75.5		mg/kg	WW-SB-205	0	2	9	10	11	8	400	0
Magnesium	185	J	561		mg/kg	WW-SB-210	0	2	10	10	NL	N/A	N/A	0
Manganese	20.1		73.6	J	mg/kg	WW-SB-208	0	2	9	10	65	3	11000	0
Mercury	0.024	J	0.12		mg/kg	WW-SB-209	0	2	2	10	0.00051	2	23	0
Nickel	1.3	J	6.5	J	mg/kg	WW-SB-205	0	2	9	10	38	0	1600	0
Potassium	188	J	903		mg/kg	WW-SB-207	0	2	6	10	NL	N/A	NL	N/A
Vanadium	3.1		20.9		mg/kg	WW-SB-207	0	2	9	10	7.8	1	78	0
Zinc	8.4		55.3		mg/kg	WW-SB-205	0	2	9	10	46	1	23000	0
Matteo-Pesticides-PCBs														
4,4'-DDE	10	J+	10	J	ug/kg	WW-SB-208	0	2	1	10	21	0	2000	0
4,4'-DDT	7.4	J	8.4		ug/kg	WW-SB-208	0	2	2	10	21	0	2000	0
alpha-Chlordane	6.3	NJ	6.6	J	ug/kg	WW-SB-201	0	2	2	10	50	0	200	0
Aroclor 1260	110		110		ug/kg	WW-SB-205	0	1.5	1	10	200	0	200	0
Dieldrin	5.7	J	5.7	J	ug/kg	WW-SB-205	0	1.5	1	10	3	1	40	0
Endosulfan Sulfate	8.8		8.8		ug/kg	WW-SB-205	0	1.5	1	10	35.8	0	470000	0
Endrin aldehyde	6.2		6.2		ug/kg	WW-SB-205	0	1.5	1	10	10.5	0	0	0
gamma-Chlordane	2.1	J	5.6	J	ug/kg	WW-SB-203	0	2	3	10	50	0	200	0
Heptachlor	4.3		4.3		ug/kg	WW-SB-205	0	1.5	1	10	5.98	0	100	0
Matteo-SemiVoas														
Acenaphthene	37	J	37	J	ug/kg	WW-SB-203	0	2	1	10	29000	0	3400000	0
Acetophenone	60	J	60	J	ug/kg	WW-SB-210	0	2	1	10	2000	0	2000	0
Anthracene	28	J	97	J	ug/kg	WW-SB-203	0	2	7	10	29000	0	17000000	0
Benzaldehyde	120	J	120	J	ug/kg	WW-SB-204	0	2	1	10	6100000	0	6100000	0
Benzo(a)anthracene	71	J	620		ug/kg	WW-SB-201	0	2	8	10	150	6	600	1
Benzo(a)pyrene	100	J	670		ug/kg	WW-SB-201	0	2	8	10	15	8	200	7
Benzo(b)fluoranthene	47	J	1100	J	ug/kg	WW-SB-201	0	2	9	10	150	8	600	5
					ug/kg	WW-SB-205	0	1.5						
Benzo(g,h,i)perylene	110	J	570		ug/kg	WW-SB-205	0	1.5	8	10	1100	0	3.8E+08	0
Benzo(k)fluoranthene	73	J	630	J	ug/kg	WW-SB-205	0	1.5	8	10	1100	0	6000	0
Bis(2-ethylhexyl)phthalate	50	J	360		ug/kg	WW-SB-201	0	2	5	10	925	0	35000	0
Carbazole	43	J	92	J	ug/kg	WW-SB-203	0	2	4	10	24000	0	24000	0
Chrysene	77	J	920		ug/kg	WW-SB-201	0	2	9	10	1100	0	62000	0
Dibenzo(a,h)anthracene	38	J	160	J	ug/kg	WW-SB-201	0	2	7	10	15	7	200	2
				J	ug/kg	WW-SB-205	0	1.5						

Table 5
Willow Woods Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria
Di-n-butylphthalate	54	J	65	J	ug/kg	WW-SB-201	0	2	7	10	200000	0	6100000	0
				J	ug/kg	WW-SB-204	0	2						
Fluoranthene	43	J	1400		ug/kg	WW-SB-205	0	1.5	10	10	1100	3	2300000	0
Fluorene	46	J	46	J	ug/kg	WW-SB-203	0	2	1	10	29000	0	2300000	0
Indeno(1,2,3-cd)pyrene	89	J	480		ug/kg	WW-SB-205	0	1.5	8	10	150	6	600	0
Phenanthrene	58	J	950		ug/kg	WW-SB-203	0	2	9	10	29000	0	NL	N/A
Pyrene	40	J	1500		ug/kg	WW-SB-201	0	2	10	10	1100	3	1700000	0
Matteo-VOAs														
Acetone	10	J	10	J	ug/kg	WW-SB-204	0	2	1	10	2500	0	70000000	0

Notes:
Highlight indicates exceedance.
Q - qualifier
N - Presumptive evidence of compound
J - Estimated value
J+ - Value estimated high
mg/kg - milligram per kilogram
µg/kg - microgram per kilogram
RDCSSC - Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 6
Willow Woods Subsurface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria
Matteo-Inorganics														
Aluminum	1720	J	5750		mg/kg	WW-SB-207	2	4	7	7	6000	0	78000	0
Arsenic	0.26	J	8.2		mg/kg	WW-SB-202	2	3	7	7	0.67	5	19	0
Barium	6		15.9		mg/kg	WW-SB-207	2	4	7	7	330	0	16000	0
Beryllium	0.27	J	0.27	J	mg/kg	WW-SB-209	2	4	1	7	0.7	0	16	0
Calcium	235	J	458	J	mg/kg	WW-SB-210	2	4	5	7	NL	N/A	NL	N/A
Chromium	2.7		20.5		mg/kg	WW-SB-207	2	4	7	7	26	0	NL	N/A
Cobalt	0.42	J	2.2		mg/kg	WW-SB-201	2	4	7	7	13	0	1600	0
Copper	1.3	J	3.6	J	mg/kg	WW-SB-209	2	4	7	7	28	0	3100	0
Iron	4920		15300		mg/kg	WW-SB-207	2	4	7	7	55000	0	NL	N/A
Lead	1.9	J	8.4		mg/kg	WW-SB-209	2	4	7	7	11	0	400	0
Magnesium	211	J	532	J	mg/kg	WW-SB-203	2	4	7	7	NL	N/A	NL	N/A
Manganese	16.9		41.1		mg/kg	WW-SB-201	2	4	7	7	65	0	11000	0
Nickel	1.4	J	2.1	J	mg/kg	WW-SB-208	2	4	7	7	38	0	1600	0
Potassium	209	J	1160		mg/kg	WW-SB-207	2	4	4	7	NL	N/A	NL	N/A
Vanadium	2.8	J	28.4		mg/kg	WW-SB-207	2	4	7	7	7.8	3	78	0
Zinc	6		11.5		mg/kg	WW-SB-201	2	4	7	7	46	0	23000	0
Matteo-SemiVoas														
Bis(2-ethylhexyl)phthalate	38	J	38	J	ug/kg	WW-SB-201	2	4	1	7	925	0	35000	0
Di-n-butylphthalate	56	J	110	J	ug/kg	WW-SB-203	2	4	6	7	200000	0	6100000	0
Matteo-VOAs														
Acetone	7.4	J	7.4	J	ug/kg	WW-SB-202	2	3	1	7	2500	0	7E+07	0

Notes:
Highlight indicates exceedance.
Q - qualifier
N - Presumptive evidence of compound
J - Estimated value
mg/kg - milligram per kilogram
µg/kg - microgram per kilogram
RDCSSC - Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 7
Rental Home Area Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria
Matteo-Inorganics														
Aluminum	2640		5080		mg/kg	RHA-SS-4	0	2	10	10	6000	0	78000	0
Antimony	0.9		3.2		mg/kg	RHA-SS-8	0	2	4	10	0.27	4	31	0
Arsenic	1.5		3.7		mg/kg	RHA-SS-7	0	2	10	10	0.67	10	19	0
Barium	20.9		110		mg/kg	RHA-SS-7	0	2	10	10	330	0	16000	0
Beryllium	0.13	J	0.46		mg/kg	RHA-SS-2	0	2	10	10	0.7	0	16	0
Cadmium	0.11	J	0.67		mg/kg	RHA-SS-7	0	2	10	10	0.36	3	78	0
Calcium	366	J	26300		mg/kg	RHA-SS-2	0	2	10	10	NL	0	0	0
Chromium	6.4		40.2		mg/kg	RHA-SS-2	0	2	10	10	26	1	0	0
Cobalt	1.2		2.6		mg/kg	RHA-SS-7	0	2	10	10	13	0	1600	0
Copper	7.9		82.2		mg/kg	RHA-SS-8	0	2	10	10	28	5	3100	0
Iron	5960		13300		mg/kg	RHA-SS-10	0	2	10	10	55000	0	0	0
Lead	64.5		763		mg/kg	RHA-SS-8	0	2	10	10	11	10	400	2
Magnesium	402		7270		mg/kg	RHA-SS-2	0	2	10	10	NL	0	0	0
Manganese	60.5		722		mg/kg	RHA-SS-2	0	2	10	10	65	8	11000	0
Mercury	0.059	J	0.58		mg/kg	RHA-SS-8	0	2	10	10	0.00051	10	23	0
Nickel	4.1		15		mg/kg	RHA-SS-8	0	2	10	10	38	0	1600	0
Potassium	214	J	793		mg/kg	RHA-SS-10	0	2	10	10	NL	0	0	0
Selenium	0.11	J	0.44	J	mg/kg	RHA-SS-7	0	2	10	10	0.52	0	390	0
Sodium	33.9	J	167	J	mg/kg	RHA-SS-5	0	2	10	10	NL	0	0	0
Thallium	0.03	J	0.084	J	mg/kg	RHA-SS-7	0	2	10	10	0.78	0	5	0
Vanadium	7.7		21.5		mg/kg	RHA-SS-10	0	2	10	10	7.8	9	78	0
Zinc	33.5		139		mg/kg	RHA-SS-8	0	2	10	10	46	8	23000	0
Matteo-Pesticides-PCBs														
4,4'-DDE	10	J	10	J	ug/kg	RHA-SS-7	0	2	1	10	21	0	2000	0
4,4'-DDT	4.6		18	J	ug/kg	RHA-SS-8	0	2	3	10	21	0	2000	0
Aldrin	2.2	J-	2.2	J-	ug/kg	RHA-SS-10	0	2	1	10	3.32	0	40	0
alpha-BHC	2.2	NJ	2.2	NJ	ug/kg	RHA-SS-10	0	2	1	10	2	1	100	0
alpha-Chlordane	14	NJ	78	NJ	ug/kg	RHA-SS-7	0	2	2	10	50	1	200	0
Aroclor 1254	39	NJ	210	J	ug/kg	RHA-SS-8	0	2	2	10	200	1	200	1
Aroclor 1260	58		180	J	ug/kg	RHA-SS-8	0	2	4	10	200	0	200	1
Dieldrin	3.6		4.7	J	ug/kg	RHA-SS-7	0	2	2	10	3	2	40	0
Endrin Ketone	14	J-	14	J-	ug/kg	RHA-SS-10	0	2	1	10	18000	0	0	0
gamma-Chlordane	2.1	J-	67		ug/kg	RHA-SS-7	0	2	4	10	50	1	200	0
Heptachlor Epoxide	4.8		7.2		ug/kg	RHA-SS-7	0	2	2	10	10	0	70	0
Matteo-SemiVoas														
2-Methylnaphthalene	150	J	2100	J	ug/kg	RHA-SS-10	0	2	2	10	3240	0	230000	0
Acenaphthene	9700	J-	9700	J-	ug/kg	RHA-SS-10	0	2	1	10	29000	0	3400000	0
Acenaphthylene	62	J	4100	J	ug/kg	RHA-SS-10	0	2	3	10	29000	0	0	0
Acetophenone	64	J	150	J	ug/kg	RHA-SS-8	0	2	4	10	2000	0	2000	0
Anthracene	34	J	49000	J-	ug/kg	RHA-SS-10	0	2	4	10	29000	1	1.7E+07	0
Benzo(a)anthracene	27	J	130000		ug/kg	RHA-SS-10	0	2	9	10	150	3	600	1
Benzo(a)pyrene	29	J	79000		ug/kg	RHA-SS-10	0	2	9	10	15	9	200	4
Benzo(b)fluoranthene	41	J	110000	J	ug/kg	RHA-SS-10	0	2	9	10	150	4	600	1
Benzo(g,h,i)perylene	49	J	34000		ug/kg	RHA-SS-10	0	2	7	10	1100	1	3.8E+08	0
Benzo(k)fluoranthene	50	J	63000		ug/kg	RHA-SS-10	0	2	6	10	1100	1	6000	1
Bis(2-ethylhexyl)phthalate	43	J	2600		ug/kg	RHA-SS-7	0	2	6	10	925	2	35000	0

Table 7
Rental Home Area Surface Soil Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	Matteo RI Soil Criteria	No. of Exceedances of RI Soil Criteria	NJDEP RSDCSS Criteria	No. of Exceedances of NJDEP RDCSSC Criteria
Carbazole	20000	J-	20000	J-	ug/kg	RHA-SS-10	0	2	1	10	24000	0	24000	0
Chrysene	35	J	110000		ug/kg	RHA-SS-10	0	2	9	10	1100	1	62000	1
Dibenzo(a,h)anthracene	40	J	23000		ug/kg	RHA-SS-10	0	2	3	10	15	3	200	1
Dibenzofuran	38	J	5600	J-	ug/kg	RHA-SS-10	0	2	2	10	72000	0	0	0
Di-n-butylphthalate	59	J	80	J	ug/kg	RHA-SS-7	0	2	9	10	200000	0	6100000	0
Fluoranthene	39	J	190000	J-	ug/kg	RHA-SS-10	0	2	10	10	1100	1	2300000	0
Fluorene	51	J	12000	J-	ug/kg	RHA-SS-10	0	2	2	10	29000	0	2300000	0
Indeno(1,2,3-cd)pyrene	45	J	35000		ug/kg	RHA-SS-10	0	2	6	10	150	1	600	1
Naphthalene	74	J	3200	J	ug/kg	RHA-SS-10	0	2	2	10	3800	0	6000	0
Phenanthrene	39	J	120000	J-	ug/kg	RHA-SS-10	0	2	8	10	29000	1	0	0
Pyrene	41	J	180000		ug/kg	RHA-SS-10	0	2	10	10	1100	1	1700000	0

Notes:
Highlight indicates exceedance.
Q - qualifier
N - Presumptive evidence of compound
J - Estimated value
J- - Value estimated low
mg/kg - milligram per kilogram
µg/kg - microgram per kilogram
RDCSSC - Residential Direct Contact Soil Screening Criteria
NL - not listed
N/A - not applicable
NV - no value

Table 8
Groundwater Screening Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	Start depth (ft bgs)	End depth (ft bgs)	No. of Detects	No. of Samples	RI GW Criteria	No. of Exceedances
Matteo-Inorganics-water												
Aluminum	9.9	J	28100		ug/l	GW-09	2	6	59	82	200	29
Antimony	0.82	J	1.6	J	ug/l	GW-07	116	120	8	82	6	0
Arsenic	0.65	J	171		ug/l	GW-10	51	55	78	82	3	37
Barium	3.9	J	1390		ug/l	GW-06	11	15	81	82	2000	0
Beryllium	0.48	J	10.4		ug/l	GW-06	11	15	10	82	1	6
Cadmium	0.4	J	4.6		ug/l	GW-09	2	6	11	82	4	2
Calcium	1920	J	81600		ug/l	GW-09	2	6	81	82	0	0
Chromium	0.79	J	783		ug/l	GW-02	49	53	57	82	70	7
Cobalt	0.6	J	300		ug/l	GW-09	2	6	79	82	100	1
Copper	0.91	J	280		ug/l	GW-09	2	6	37	82	1300	0
Iron	282		137000		ug/l	GW-02	49	53	81	82	300	80
Lead	0.32	J	188		ug/l	GW-09	2	6	26	82	5	11
Magnesium	635		31400		ug/l	GW-11	15	19	82	82	0	0
Manganese	35.3		6890		ug/l	GW-09	2	6	82	82	50	78
Mercury	0.16	J	0.32		ug/l	GW-05	5	9	30	82	2	0
Nickel	1.2		173		ug/l	GW-06	11	15	81	82	100	4
Potassium	1800		12800		ug/l	GW-09	2	6	82	82	0	0
Selenium	2.5	J	3.5	J	ug/l	GW-12	6	10	2	82	40	0
Sodium	1640		83900		ug/l	GW-11	54	58	82	82	50000	5
Vanadium	2	J	500		ug/l	GW-03	21	25	25	82	0	0
Zinc	1.6	J	3760		ug/l	GW-13	36	40	80	82	2000	3
Matteo-VOAs-water												
1,2,4-Trichlorobenzene	0.39	J	0.39	J	ug/l	GW-07	76	80	86	1	9	0
1,2-Dichloropropane	0.37	J	0.37	J	ug/l	GW-13	26	30	86	1	1	0
2-Butanone	2.1	J	1600		ug/l	GW-11	64	68	86	24	300	2
2-Hexanone	4.2	J	6.1		ug/l	GW-09	31	35	86	4	300	0
4-Methyl-2-pentanone	8.8		8.8		ug/l	GW-09	2	6	86	1	0	0
Acetone	3.7	J	370		ug/l	GW-11	64	68	86	33	6000	0
Benzene	0.2	J	1.5		ug/l	GW-02	19	23	86	10	1	5
					ug/l	GW-07	116	120				
Bromodichloromethane	0.62		0.62		ug/l	GW-04	56	60	86	1	1	0
Carbon Disulfide	0.2	J	2.1		ug/l	GW-07	116	120	86	10	700	0
Chlorobenzene	0.21	J	0.21	J	ug/l	GW-02	13	17	86	1	50	0
Chloroform	0.32	J	2.6		ug/l	GW-04	56	60	86	11	70	0
Chloromethane	0.43	J	0.43	J	ug/l	GW-09	2	6	86	1	0	0
cis-1,2-Dichloroethene	0.33	J	33		ug/l	GW-01	61	65	86	30	70	0
Ethylbenzene	0.15	J	0.15	J	ug/l	GW-07	26	30	86	1	700	0
m,p-Xylene	0.22	J	0.57		ug/l	GW-07	26	30	86	3	0	0
Methyl tert-Butyl Ether	0.35	J	1.3	J	ug/l	GW-08	20	24	86	4	70	0
Methylene Chloride	0.28	J	0.31	J	ug/l	GW-08	10	14	86	3	3	0
				J	ug/l	GW-08	40	44				
o-Xylene	0.14	J	0.14	J	ug/l	GW-07	26	30	86	1	0	0
Tetrachloroethene	0.3	J	5.7		ug/l	GW-04	56	60	86	10	1	4
Toluene	0.11	J	0.16	J	ug/l	GW-08	50	54	86	2	600	0
Trichloroethene	0.34	J	2.2		ug/l	GW-04	56	60	86	10	1	1
Vinyl Chloride	0.65		43		ug/l	GW-07	66	70	86	15	1	11

Notes:
Highlight indicates exceedance.
Q - qualifier
J - Estimated value
µg/l - microgram per liter
NL - not listed
N/A - not applicable

Table 9
Shallow Monitoring Well Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	No. of Detects	No. of Samples	RI GW Criteria	No. of Exceedances	Background Minimum Detection	Q	Background Maximum Detection	Q	Unit
Matteo-Inorganics-water (dissolved)															
Aluminum	5	J	384		µg/l	MW-06	13	17	200	2	7.9	J	7.9	J	ug/l
Antimony	2.2		389		µg/l	MW-18S	4	17	6	1			ND		
Arsenic	0.21	J	13.4	J	µg/l	MW-15S	17	17	3	4	2.1	J	2.1	J	ug/l
Barium	6.4	J	221		µg/l	MW-16S	17	17	2000	0	15.7		15.7		ug/l
Beryllium	0.26	J	0.26	J	µg/l	MW-04	1	17	1	0			ND		
Cadmium	0.63		0.76		µg/l	MW-04	4	17	4	0			ND		
Calcium	2390		215000		µg/l	MW-16S	17	17	NL	N/A	17400		17400		ug/l
Chromium	0.58	J	2.7		µg/l	MW-06	9	17	70	0	1.5	J	1.5	J	ug/l
Cobalt	0.29	J	4.6		µg/l	MW-04	15	17	100	0	3.3		3.3		ug/l
Copper	0.83	J	18.6		µg/l	MW-06	13	17	1300	0	2.3		2.3		ug/l
Iron	27.3	J	7440		µg/l	MW-14S	13	17	300	9	84.8	J	84.8	J	ug/l
Lead	0.21	J	43.3		µg/l	MW-05	9	17	5	1	3.2		3.2		ug/l
Magnesium	760		16200	J	µg/l	MW-13S	17	17	NL	N/A	3380		3380		ug/l
Manganese	0.79	J	592		µg/l	MW-16S	17	17	50	5	111		111		ug/l
Mercury	0.16		0.38		µg/l	MW-09	17	17	2	0	0.16		0.16		ug/l
Nickel	0.43	J	14.1		µg/l	MW-04	17	17	100	0	4.5		4.5		ug/l
Potassium	1170	J	27400	J	µg/l	MW-13S	17	17	NL	N/A	4190	J	4190	J	ug/l
Selenium	1.1	J	1.5	J	µg/l	MW-01	3	17	40	0	1.4	J	1.4	J	ug/l
Sodium	1290		17800	J	µg/l	MW-05	17	17	50000	0	15000		15000		ug/l
Vanadium	1.3	J	1.9	J	µg/l	MW-06	3	17	NL	N/A			ND		
Zinc	3.1		1890		µg/l	MW-04	16	17	2000	0	5.6		5.6		ug/l
Matteo-Inorganics-water (total)															
Aluminum	11.1	J	1700		µg/l	MW-15S	17	17	200	8	48.9		48.9		ug/l
Antimony	2.4		400		µg/l	MW-18S	5	17	6	1			ND		
Arsenic	0.39	J	13.9	J	µg/l	MW-15S	17	17	3	8	1.4	J	1.4	J	ug/l
Barium	6.9	J	223	J	µg/l	MW-16S	17	17	2000	0	15.3		15.3		ug/l
Beryllium	0.3	J	0.3	J	µg/l	MW-04	1	17	1	0			ND		
Cadmium	0.6		1.5		µg/l	MW-04	4	17	4	0			ND		
Calcium	2520		215000	J	µg/l	MW-16S	17	17	NL	N/A	17600		17600		ug/l
Chromium	0.6	J	4.6		µg/l	MW-06	14	17	70	0	2.7		2.7		ug/l
Cobalt	0.29	J	7.9		µg/l	MW-04	15	17	100	0	3.2		3.2		ug/l
Copper	1.1	J	40.6		µg/l	MW-05	16	17	1300	0	2.1		2.1		ug/l
Cyanide	2.2	J	3.6	J	µg/l	MW-05	2	17	100	0	4.5	J	4.5	J	ug/l
Iron	77.3	J	10200		µg/l	MW-15S	17	17	300	13	223		223		ug/l
Lead	0.31	J	573	J	µg/l	MW-05	17	17	5	3	8.4		8.4		ug/l
Magnesium	788		17500		µg/l	MW-13S	17	17	NL	N/A	3360		3360		ug/l
Manganese	3.2	J	595	J	µg/l	MW-16S	17	17	50	6	107		107		ug/l
Mercury	0.15		0.22		µg/l	MW-14S	14	17	2	0	0.19		0.19		ug/l
Nickel	0.43	J	23.3	J	µg/l	MW-04	17	17	100	0	4.3		4.3		ug/l
Potassium	1230	J	30600	J	µg/l	MW-13S	17	17	NL	N/A	4260	J	4260	J	ug/l
Selenium	1.5	J	1.5	J	µg/l	MW-01	1	17	40	0	1.2	J	1.2	J	ug/l
Sodium	1290		19400		µg/l	MW-15S	17	17	50000	0	15000		15000		ug/l

Table 9
Shallow Monitoring Well Results Statistics
Matteo and Sons, Inc. Site
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Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	No. of Detects	No. of Samples	RI GW Criteria	No. of Exceedances	Background Minimum Detection	Q	Background Maximum Detection	Q	Unit
Vanadium	1.1	J	7.3		µg/l	MW-03	8	17	NL	N/A	ND				
Zinc	3.6		3880	J	µg/l	MW-04	17	17	2000	1	6.2		6.2		ug/l
Matteo-Pesticides-PCBs															
4,4'-DDD	0.0028	J	0.0028	J	ug/l	MW-05	1	17	0.1	14	ND				
4,4'-DDE	0.0079	J	0.0079	J	ug/l	MW-05	1	17	0.1	14	ND				
4,4'-DDT	0.0026	J	0.0093	J	ug/l	MW-05	3	17	0.1	12	ND				
alpha-Chlordane	0.0057	J	0.0057	J	ug/l	MW-02	1	17	0.5	0	ND				
Dieldrin	0.0009	J	0.0073	J	ug/l	MW-02	2	17	0.03	14	ND				
Endosulfan II	0.0015	J	0.014	J	ug/l	MW-05	2	17	40	0	ND				
gamma-Chlordane	0.0017	J	0.0027	J	ug/l	MW-02	3	17	0.5	0	ND				
Methoxychlor	0.0019	J	0.0025	J	ug/l	MW-03	2	17	40	0	ND				
Matteo-VOAs															
1,1-Dichloroethene	0.16	J	0.16	J	ug/l	MW-05	1	17	1	0	ND				
1,4-Dioxane	0.26	J	0.55	J	ug/l	MW-10	8	17	10	1	ND				
Carbon Disulfide	0.16	J	0.16	J	ug/l	MW-03	1	17	700	0	ND				
cis-1,2-Dichloroethene	0.1	J	0.1	J	ug/l	MW-05	1	17	70	0	ND				
Tetrachloroethene	0.3	J	1.3		ug/l	MW-21S	2	17	1	1	21	J	21	J	ug/l
Trichloroethene	0.11	J	0.11	J	ug/l	MW-05	1	17	1	0	0.5	J	0.5	J	ug/l
Vinyl Chloride	1.2		1.2		ug/l	MW-05	1	17	1	1	ND				
Matteo-SemiVOAs															
Anthracene	0.053	J	0.053	J	ug/l	MW-09	1	17	2000	0	ND				
Benzo(a)pyrene	0.012	J	0.012	J	ug/l	MW-05	1	17	0.1	15	ND				
Bis(2-ethylhexyl)phthalate	0.4	J	0.4	J	ug/l	MW-17S	1	17	3	15	ND				
Fluoranthene	0.0061	J	0.036	J	ug/l	MW-05	4	17	300	0	ND				
Pentachlorophenol	0.04	J	0.04	J	ug/l	MW-01	1	17	0.3	2	ND				
Phenanthrene	0.0072	J	0.019	J	ug/l	MW-05	5	17	100	0	ND				
Pyrene	0.03	J	0.03	J	ug/l	MW-05	1	17	200	0	ND				
Matteo-TOC-PH															
Total Organic Carbon	1.6		14		mg/l	MW-13S	18	17	NL	NA	1.8		1.8		mg/l
Matteo-Wet Chemistry															
Ammonia	0.067		1		mg/l	MW-21S	11	17	NL	NA	1		1		mg/l
Bromide	0.051		3.6		mg/l	MW-21S	12	17	NL	NA	3.6		3.6		mg/l
Chloride	2.3		34		mg/l	MW-18S	18	17	NL	NA	21		21		mg/l
Ethane	2.9		2.9		ug/l	MW-16S	1	17	NL	NA	ND				
Methane	2.2		9600		ug/l	MW-16S	9	17	NL	NA	ND				
Nitrogen, Total Kjeldahl	0.073		1.8		mg/l	MW-11S	13	17	NL	NA	0.95		0.95		mg/l
Nitrogen, Total Kjeldahl	0.12		1.6		mg/l	MW-16S	18	17	NL	NA	0.14		0.14		mg/l
Orthophosphate	0.011		0.18		mg/l	MW-06	13	17	NL	NA	ND				
Sulfate	3		96		mg/l	MW-16S	18	17	NL	NA	24		24		mg/l
Sulfide	0.011		4.2		mg/l	MW-16S	7	17	NL	NA	ND				
Total Alkalinity	1.4		370		mg/l	MW-16S	18	17	NL	NA	36		36		mg/l
Total Dissolved Solids	32		480		mg/l	MW-13S MW-16S	18	17	NL	NA	120		120		mg/l

Table 9
Shallow Monitoring Well Results Statistics
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Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	No. of Detects	No. of Samples	RI GW Criteria	No. of Exceedances	Background Minimum Detection	Q	Background Maximum Detection	Q	Unit
Total Suspended Solids	10		110		mg/l	MW-15S	9	17	NL	NA	ND				

Notes:
Highlight indicates exceedance.
Q - qualifier
J - Estimated value
mg/l - milligram per liter
µg/l - microgram per liter
NL - not listed
N/A - not applicable
ND - non-detect

Table 10
Deep Monitoring Well Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	No. of Detects	No. of Samples	RI GW Criteria	No. of Exceedances
Matteo-Inorganics-water (dissolved)										
Aluminum	4.6	J	246		µg/l	PW-2	10	18	200	1
Antimony	3.1		3.1		µg/l	MW-06D	1	18	6	0
Arsenic	0.15	J	77.3	J	µg/l	MW-13D	18	18	3	12
Barium	6.5	J	199		µg/l	MW-22D	16	18	2000	0
Calcium	158	J	53500		µg/l	MW-20D	18	18	NL	NA
Chromium	0.5	J	2.1		µg/l	MW-07D	10	18	70	0
Cobalt	0.29	J	2.5		µg/l	MW-10D	9	18	100	0
Copper	0.47	J	1.8	J	µg/l	PW-2	4	18	1300	0
Iron	110	J	71900		µg/l	MW-13D	17	18	300	16
Lead	0.2	J	0.28	J	µg/l	PW-2	4	18	5	0
Magnesium	29	J	12100	J	µg/l	MW-14D	18	18	NL	NA
Manganese	0.68	J	986		µg/l	MW-13D	18	18	50	13
Mercury	0.15		0.36		µg/l	MW-07D	18	18	2	0
Nickel	0.4	J	2.3		µg/l	MW-14D	17	18	100	0
Potassium	626		6350	J	µg/l	MW-22D	18	18	NL	NA
Sodium	17200		198000		µg/l	PW-2	18	18	50000	3
Vanadium	1.4	J	1.4	J	µg/l	MW-06D	1	18	NL	NA
Zinc	1.5	J	31.3		µg/l	PW-2	18	18	2000	0
Matteo-Inorganics-water (total)										
Aluminum	8.5	J	1370	J	µg/l	MW-11D	17	18	200	7
Antimony	2.9		2.9		µg/l	MW-06D	1	18	6	0
Arsenic	0.48	J	76	J	µg/l	MW-13D	17	18	3	13
Barium	7.5	J	202		µg/l	MW-22D	16	18	2000	0
Beryllium	0.45	J	0.45	J	µg/l	MW-20D	1	18	1	0
Calcium	59.1	J	58000		µg/l	MW-20D	18	18	NL	NA
Chromium	1.1	J	5.8		µg/l	MW-14D	14	18	70	0
Cobalt	0.3	J	2.8		µg/l	MW-10D	12	18	100	0
Copper	0.61	J	7.1		µg/l	MW-16D	11	18	1300	0
Cyanide	2.2	J	2.5	J	µg/l	MW-25D	2	18	100	0
Iron	38.3	J	62300		µg/l	MW-13D	18	18	300	16
Lead	0.39	J	12.2		µg/l	MW-06D	18	18	5	1
Magnesium	361	J	11600		µg/l	MW-14D	17	18	NL	NA
Manganese	0.69	J	816	J	µg/l	MW-13D	18	18	50	13
Mercury	0.16		0.28	J	µg/l	MW-17D	16	18	2	0
Nickel	0.35	J	4.6		µg/l	MW-14D	17	18	100	0
Potassium	581	J	5970	J	µg/l	MW-22D	18	18	NL	NA
Sodium	18500		146000		µg/l	PW-2	18	18	50000	3
Vanadium	1.1	J	10.5		µg/l	MW-06D	13	18	NL	NA
Zinc	2		87.9	J	µg/l	PW-1	18	18	2000	0
Matteo-Pesticides-PCBs										
4,4'-DDT	0.0005	J	0.0015	J	ug/l	MW-16D	2	18	0.1	14
alpha-BHC	0.0014	J	0.0014	J	ug/l	MW-16D	1	18	0.02	17
Endosulfan II	0.0019	J	0.0019	J	ug/l	MW-16D	1	18	40	0

Table 10
Deep Monitoring Well Results Statistics
Matteo and Sons, Inc. Site
Thorofare, New Jersey

Chemical	Minimum Detection	Q	Maximum Detection	Q	Unit	Location of Maximum Concentration	No. of Detects	No. of Samples	RI GW Criteria	No. of Exceedances
Methoxychlor	0.0025	J	0.0025	J	ug/l ug/l	MW-18D PW-1	2	18	40	0
Matteo-VOAs										
1,1-Dichloroethene	0.15	J	0.15	J	ug/l	MW-25D	1	18	1	0
1,4-Dioxane	0.21	J	4.1		ug/l	MW-18D	16	18	10	0
Carbon Disulfide	0.12	J	0.12	J	ug/l	MW-22D	1	18	700	0
Chlorobenzene	0.23	J	0.56		ug/l	MW-15D	2	18	50	0
cis-1,2-Dichloroethene	0.29	J	21		ug/l	MW-25D	10	18	70	0
Methyl tert-Butyl Ether	0.36	J	2		ug/l	MW-21D	2	18	70	0
Tetrachloroethene	3.9	J-	3.9	J-	ug/l	MW-19D	1	18	1	1
Trichloroethene	0.074	J	0.32	J	ug/l	MW-19D	5	18	1	0
Vinyl Chloride	0.15	J	36		ug/l	MW-20D	9	18	1	5
Matteo-SemiVOAs										
2-Nitrophenol	0.31	J	0.31	J	ug/l	PW-2	1	18	0	0
Bis(2-ethylhexyl)phthala	0.45	J	0.68	J	ug/l	MW-17D	4	18	3	14
Caprolactam	1.3	J	1.3	J	ug/l	PW-1	1	18	5000	0
Fluoranthene	0.0054	J	0.0054	J	ug/l	MW-15D	1	19	300	0
Phenanthrene	0.005	J	0.0057	J	ug/l	MW-21D	2	18	100	0
Phenol	0.66	J	1.9	J	ug/l	MW-07D	3	18	2000	0
Matteo-TOC-PH										
Total Organic Carbon	1.2		5.4		mg/l	PW-2	17	18	NL	NA
PH	5.63		9.13		pH Units	PW-2	18	18	NL	NA
Matteo-Wet Chemistry										
Ammonia	0.055		2.5		mg/l	MW-22D	17	17	NL	NA
Bromide	0.064		0.18		mg/l	PW-2	18	18	NL	NA
Chloride	24		52		mg/l	MW-17D	18	18	NL	NA
Ethane	2.4		4.6		ug/l	MW-22D	2	2	NL	NA
Ethene	4.5		4.5		ug/l	MW-20D	1	1	NL	NA
Ferrous Iron	0.44		32.1		mg/l	MW-14D	16	16	NL	NA
Methane	4.2		5500		ug/l	MW-13D	16	16	NL	NA
Nitrogen, Total Kjeldahl	0.053		0.09		mg/l	MW-10D	9	9	NL	NA
Nitrogen, Total Kjeldahl	0.12		1.5		mg/l	MW-21D	18	18	NL	NA
Orthophosphate	0.012		0.13		mg/l	MW-19D	11	11	NL	NA
Sulfate	20		86		mg/l	MW-14D	15	15	NL	NA
Sulfide	0.011		0.034		mg/l	PW-1	4	4	NL	NA
Total Alkalinity	5.9		530		mg/l	PW-2	18	18	NL	NA
Total Dissolved Solids	94		730		mg/l	PW-2	18	18	NL	NA
Total Organic Carbon	1.2		5.4		mg/l	PW-2	17	17	NL	NA
Total Suspended Solids	14		160		mg/l	MW-20D	16	16	NL	NA

Notes:
Highlight indicates exceedance.
Q - qualifier
J - Estimated value
mg/l - milligram per liter
µg/l - microgram per liter
NL - not listed
NA - not applicable

CDM Smith

Table 11
Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Surface Soil (0-2 ft bgs)

Exposure Point	Chemical of Concern[1]	Concentration Detected (Qualifier)		Concentration Units	Frequency of Detection	Exposure Point Concentration[2] (EPC)	Exposure Point Concentration Units	Statistical Measure
		Min	Max					
Scrapyard Area	Aroclor 1260	0.02 (J)	200	mg/kg	5/7	200	mg/kg	Maximum Concentration

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Surface and Subsurface Soils (0-10 ft bgs)

Exposure Point	Chemical of Concern[1]	Concentration Detected (Qualifier)		Concentration Units	Frequency of Detection	Exposure Point Concentration[2] (EPC)	Exposure Point Concentration Units	Statistical Measure
		Min	Max					
Matteo Property	Aroclor 1254	0.035(J)	270 (J)	mg/kg	26/89	27.9	mg/kg	95% KM (Chebyshev) UCL
	Aroclor 1260	0.02 (J)	540 (J)	mg/kg	48/89	65.5	mg/kg	97.5% KM (Chebyshev) UCL

Scenario Timeframe: Current/Future
Medium: Groundwater
Exposure Medium: Groundwater

Tap Water - Matteo Property	Antimony	2.4	400	ug/L	6/35	90.2	µg/l	97.5% Chebyshev (Mean, Sd) UCL

Footnotes:

(1) Lead was also identified as a site-related COC; the medium-specific EPCs for lead can be found in Tables 7 and 8.

(2) The UCLs were calculated using EPA's ProUCL software (Version 5); when available, UCLs were used as EPCs.

Definitions:

EPC = Exposure Point Concentration
ft bgs = feet below ground surface
J = estimated value (qualifier)
mg/kg = milligrams per kilogram
µg/l = micrograms per liter
UCL = upper confidence limit of mean

Summary of Chemicals of Concern and Medium-Specific Exposure Point Concentrations

This table presents the chemicals of concern (COCs) along with exposure point concentrations (EPCs) for each of the COCs detected in site media (*i.e.*, the concentration used to estimate the exposure and risk from each COC). The table includes the range of concentrations detected for each COC, as well as the frequency of detection (*i.e.*, the number of times the chemical was detected in the samples collected at the site), the EPC and how it was derived.

Table 12
Selection of Exposure Pathways

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soil	Surface Soil (0-2 ft bgs)	Scrapyard Area	Site Worker	Adult	Ingestion Dermal Inhalation	Quant	Workers may come into contact with contaminants in surface soil and/or inhale particulates and/or volatile chemicals while working at the site.
			Mira Trucking	Site Worker	Adult	Ingestion Inhalation		Workers may come into contact with contaminants in surface soil and/or inhale particulates while working at the site. Workers at Mira Trucking were specifically evaluated for lead exposure in the top 6 inches of soil using the Adult Lead Model. Dermal exposure is not a component of this model as lead is poorly absorbed through the skin.
			Open Field/Waste Disposal Area	Trespasser	Adolescent (6-18 yrs)	Ingestion Dermal Inhalation	Quant	Trespassers may come into contact with contaminants in surface soil and/or inhale particulates and/or volatile chemicals while visiting the site. The adolescent exposure scenario provides a conservative basis for evaluating potential exposures to adults. Thus, adolescents were selected as potential receptors for quantitative evaluation. Adults were qualitatively evaluated in the risk assessment.
					Adult		Qual	
				Recreational User	Adolescent (6-18 yrs)	Ingestion Dermal Inhalation	Quant	Recreational users may come into contact with contaminants in surface soil and/or inhale particulates and/or volatile chemicals while visiting the site. Adolescents were selected as potential receptors for quantitative evaluation. Adults were qualitatively evaluated in the risk assessment.
					Adult		Qual	
			Rental Home Area	Resident	Adult and Child (0-6 yrs)	Ingestion Dermal Inhalation	Quant	Residents may come into contact with contaminants in surface soil and/or inhale fugitive dust and volatile chemicals.
			Willow Woods	Resident	Adult and Child (0-6 yrs)	Ingestion Dermal Inhalation	Quant	Residents may come into contact with contaminants in surface soil and/or inhale fugitive dust and volatile chemicals.
			Property P002	Resident	Child (0-6 yrs)	Ingestion Inhalation	Quant	Residents may come into contact with contaminants in surface soil and/or inhale fugitive dusts. Residential children were specifically evaluated as the msot sensitive receptor for lead in the top 2 inches of soil using the Integrated Exposure Uptake Biokinetic Model. Dermal exposure is not a component of this model as lead is poorly absorbed through the skin.
	Groundwater	Groundwater	Matteo Property[1]	Resident	Adult and Child (0-6 yrs)	Ingestion Dermal Inhalation	Quant	Residents currently have the potential to use groundwater as drinking water.
Future	Soil	Surface Soil (0-2 ft bgs)	Matteo Property[1]	Resident	Adult and Child (0-6 yrs)	Ingestion Dermal Inhalation	Quant	Residents may come into contact with contaminants in surface soil and/or inhale fugitive dust and volatile chemicals.
		Surface and Subsurface Soil (0-10 ft bgs)	Matteo Property[1]	Construction Worker	Adult	Ingestion Dermal Inhalation	Quant	Construction workers may come into contact with contaminants in soil and/or inhale particulates and/or volatile chemicals while working at the site.
			Willow Woods	Construction Worker	Adult	Ingestion Dermal Inhalation	Quant	Construction workers may come into contact with contaminants in soil and/or inhale particulates and/or volatile chemicals while working at the site.

Footnotes:
(1) This includes the Scrapyard Area, Open Field/Waste Disposal Area and the Rental Home Area.

Definitions:
ft bgs = feet below ground surface
Quant = quantitative risk analysis performed
Qual = qualitative risk analysis performed

Summary of Selection of Exposure Pathways

This table describes the exposure pathways associated with the varying media (*i.e* ., soil and groundwater) that were evaluated in the risk assessment along with the rationale for the inclusion of each pathway. Exposure media, exposure points, and characteristics of receptor populations are also included.

Table 13
Noncancer Toxicity Data Summary

Pathway: Ingestion/Dermal

Chemicals of Concern	Chronic/ Subchronic	Oral RfD Value	Oral RfD Units	Absorp. Efficiency (Dermal)	Adjusted RfD for Dermal[1]	Adj. Dermal RfD Units	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD Target Organ	Dates of RfD
Antimony	Chronic	4.0E-04	mg/kg-day	0.15	6.0E-05	mg/kg-day	Longevity/Blood	1000	IRIS	1/31/1987
Lead[2]	Chronic	NA	mg/kg-day	1	NA	mg/kg-day	See Footnote 2	NA	NA	NA
Aroclor 1254	Chronic	2.0E-05	mg/kg-day	1	2.0E-05	mg/kg-day	Eye/Finger Nail/Immune System	300	IRIS	10/1/1994
Aroclor 1260[3]	Chronic	2.0E-05	mg/kg-day	1	2.0E-05	mg/kg-day	Eye/Finger Nail/Immune System	300	IRIS	NA

Pathway: Inhalation

Chemicals of Concern	Chronic/ Subchronic	Inhalation RfC	Inhalation RfC Units	Inhalation RfD (If available)	Inhalation RfD Units (If available)	Primary Target Organ	Combined Uncertainty /Modifying Factors	Sources of RfD Target Organ	Dates of RfC
Antimony	Chronic	NA	mg/m^3	NA	NA	NA	NA	NA	NA
Lead[2]	Chronic	NA	mg/m^3	NA	NA	NA	NA	NA	NA
Aroclor 1254	Chronic	NA	mg/m^3	NA	NA	NA	NA	NA	NA
Aroclor 1260	Chronic	NA	mg/m^3	NA	NA	NA	NA	NA	NA

Footnotes:

(1) Adjusted RfD for Dermal = Oral RfD x Oral Absorption Efficiency for Dermal (RAGS E, 2004)

(2) Risks and hazards from lead exposure are not evaluated in the same manner as the other contaminants; See Table 7 for the summary of risks resulting from lead exposure

(3) Based on Aroclor 1254

Definitions:

IRIS = Integrated Risk Information System, U.S. EPA

mg/m^3 = milligrams per cubic meter

mg/kg-day = milligrams per kilogram per day

NA = not available

RfC = reference concentration

RfD = reference dose

Summary of Toxicity Assessment

This table provides noncarcinogenic risk information relevant to the contaminants of concern at the Site. Toxicity data are provided for the ingestion, dermal and inhalation routes of exposure.

Table 14
Cancer Toxicity Data Summary

Pathway: Ingestion/ Dermal

Chemical of Concern	Oral Cancer Slope Factor	Units	Adjusted Cancer Slope Factor (for Dermal)	Slope Factor Units	Weight of Evidence/ Cancer Guideline	Source	Date
Antimony	NA	$(mg/kg\text{-}day)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	NA	NA	NA
Lead[1]	NA	$(mg/kg\text{-}day)^{-1}$	NA	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	11/1/1993
Aroclor 1254[2]	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	10/1/1996
Aroclor 1260[2]	2.0E+00	$(mg/kg\text{-}day)^{-1}$	2.0E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	10/1/1996

Pathway: Inhalation

Chemical of Concern	Unit Risk	Units	Inhalation Cancer Slope Factor	Slope Factor Units	Weight of Evidence/ Cancer Guideline	Source	Date
Antimony	NA	$(\mu g/m^3)^{-1}$	NA	NA	NA	NA	NA
Lead[1]	NA	$(\mu g/m^3)^{-1}$	NA	NA	NA	NA	NA
Aroclor 1254[2]	5.7E-04	$(\mu g/m^3)^{-1}$	NA	NA	B2	IRIS	10/1/1996
Aroclor 1260[2]	5.7E-04	$(\mu g/m^3)^{-1}$	NA	NA	B2	IRIS	10/1/1996

Footnotes:

(1) Risks and hazards from lead exposure are not evaluated in the same manner as the other contaminants; See Table 7 for the summary of risks resulting from lead exposure.

(2) Based on high risk and persistent polychlorinated biphenyls

Definitions:

IRIS = Integrated Risk Information System, U.S. EPA

NA = not available

$(\mu g/m^3)^{-1}$ = per micrograms per cubic meter

$(mg/kg\text{-}day)^{-1}$ = per milligrams per kilogram per day

EPA Weight of Evidence (EPA, 1986):

B2 = Probable Human Carcinogen - based on sufficient evidence of carcinogenicity in animals and inadequate or no evidence in humans

Summary of Toxicity Assessment

This table provides carcinogenic risk information relevant to the contaminants of concern at the Site. Toxicity data are provided for the ingestion, dermal and inhalation routes of exposure.

Table 15
Risk Characterization Summary - Noncarcinogens

Scenario Timeframe: Current/Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical Of Concern	Primary target Organ	Noncarcinogenic Hazard Quotient			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Surface Soil	Surface Soil	Scrapyard Area	Aroclor 1260	Eye/Finger Nail/Immune System	10	9	NA	19
							Soil Hazard Index Total[1] =	**20**
							Receptor Hazard Index[1] =	**20**
							Eyes HI=	**19**
							Finger Nail HI=	**19**
							Immune system HI=	**19**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical Of Concern	Primary target Organ	Noncarcinogenic Hazard Quotient			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Surface Soil	Surface Soil	Matteo Property[2]	Aroclor 1260	Eye/Finger Nail/Immune System	24	9	NA	33
							Soils Hazard Index Total[1] =	**42**
Groundwater	Groundwater	Matteo Property[2]	Antimony	Longevity/Blood	15	0.3	NA	15
							Groundwater Hazard Index Total[1] =	**27**
							Receptor Hazard Index[1] =	**69**
							Eyes HI=	**50**
							Finger Nail HI=	**50**
							Immune system HI=	**51**
							Blood HI=	**16**
							Longevity HI=	**15**

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical Of Concern	Primary target Organ	Noncarcinogenic Hazard Quotient			
					Ingestion	Dermal	Inhalation	Exposure Routes Total
Soil	Surface and Subsurface Soil	Matteo Property[2]	Aroclor 1254	Eye/Finger Nail/Immune System	2	1	NA	3
			Aroclor 1260	Eye/Finger Nail/Immune System	4	2	NA	6
							Soils Hazard Index Total[1] =	**9**
							Receptor Hazard Index[1] =	**9**
							Eyes HI=	**9**
							Finger Nail HI=	**9**
							Immune system HI=	**9**

Footnotes:
(1) The HI represents the summed HQs for all chemicals of potential concern at the site, not just those requiring remedial action (i.e., the chemicals of concern [COCs]) which are shown in this table.
(2) This includes the Scrapyard Area, Open Field/Waste Disposal Area and the Rental Home Area.

Definitions:
HI = Hazard Index
NA = not available

Table 16
Risk Characterization Summary - Carcinogens

Scenario Timeframe: Current/Future
Receptor Population: Site Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical Of Concern	Carcinogenic Risk			
				Ingestion	Dermal	Inhalation	Exposure Routes Total
Soil	Surface Soil	Scrapyard Area	Aroclor 1260	1.0E-04	1.0E-04	8.0E-06	3.0E-04
						Soil Risk Total[1]=	**3.0E-04**
						Total Risk[1]=	**3.0E-04**

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical Of Concern	Carcinogenic Risk			
				Ingestion	Dermal	Inhalation	Exposure Routes Total
Soil	Surface Soil	Matteo Property[2]	Aroclor 1260	1.0E-04	5.0E-05	5.0E-10	2.0E-04
						Soil Risk Total[1]=	**4.0E-03**
						Total Risk[1]=	**4.0E-03**

Footnotes:
(1) Total Risk values represent cumulative estimates from exposure to all chemicals of potential concern (COPCs) at the site, not just those requiring remedial action (*i.e* , the chemicals of concern [COCs]) which are shown in this table.
(2) This includes the Scrapyard Area, Open Field/Waste Disposal Area and the Rental Home Area.

Table 17
Risk Characterization Summary - Qualitative Lead Screening (Matteo Site[1])
Medium-Specific Exposure Point Concentration and Resultant Risks

Scenario Timeframe: Current/Future
Receptor Population: Site Worker

Exposure Area	Exposure Media	Lead EPC[2]	Screening Level	Units	Basis for Screening Level Value	Lead Risk[3]
Scrapyard Area	Surface Soil	415	800	mg/kg	EPA R2 Industrial Soil Screening Level	Yes[5]

Scenario Timeframe: Current/Future
Receptor Population: Trespasser

Exposure Area	Exposure Media	Lead EPC[2]	Screening Level	Units	Basis for Screening Level Value	Lead Risk[3]
Open Field/Waste Disposal Area	Surface Soil	1,153	400	mg/kg	EPA R2 Residential Soil Screening Level	Yes

Scenario Timeframe: Current/Future
Receptor Population: Recreational User

Exposure Area	Exposure Media	Lead EPC[2]	Screening Level	Units	Basis for Screening Level Value	Lead Risk[3]
Open Field/Waste Disposal Area	Surface Soil	1,153	400	mg/kg	EPA R2 Residential Soil Screening Level	Yes

Scenario Timeframe: Current
Receptor Population: Resident

Exposure Area	Exposure Media	Lead EPC[2]	Screening Level	Units	Basis for Screening Level Value	Lead Risk[3]
Willow Woods	Surface Soil	25.8	200	mg/kg	EPA R2 Residential Soil Screening Level	No
Rental Home Area	Surface Soil	281	400	mg/kg	EPA R2 Residential Soil Screening Level	Yes[6]

Scenario Timeframe: Future
Receptor Population: Resident

Exposure Area	Exposure Media	Lead EPC[2]	Screening Level	Units	Basis for Screening Level Value	Lead Risk[3]
Matteo Property[4]	Surface Soil	767	400	mg/kg	EPA R2 Residential Soil Screening Level	Yes
	Groundwater	18.5	15	µg/l	EPA MCL	Yes

Scenario Timeframe: Future
Receptor Population: Construction Worker

Exposure Area	Exposure Media	Lead EPC[2]	Screening Level	Units	Basis for Screening Level Value	Lead Risk[3]
Willow Woods	Surface/Subsurface Soil	17	800	mg/kg	EPA R2 Industrial Soil Screening Level	No
Matteo Property[4]	Surface/Subsurface Soil	1,707	800	mg/kg	EPA R2 Industrial Soil Screening Level	Yes

Table 17
Risk Characterization Summary - Qualitative Lead Screening (Matteo Site[1])
Medium-Specific Exposure Point Concentration and Resultant Risks

Footnotes:

(1) This table addresses lead risks at the Matteo property located at 1708 U.S Highway 130 (Crown Point Road), West Deptford, New Jersey as evaluated during the Baseline Human Health Risk Assessment.

(2) The lead EPC in soil was the arithmetic mean of all samples collected from a given soil depth interval.

(3) Lead risks were qualitatively determined by comparing the EPCs in site media to screening levels developed using the Integrated Exposure Uptake Biokinetic model (IEUBK) and Adult Lead Model (ALM) based on EPA guidance.

(4) This includes the Scrapyard Area, Open Field/Waste Disposal Area and the Rental Home Area.

(5) This EPC was based on delineation data collected during the EPA RI. The average concentration incorporating data from both the New Jersey Department of Envrionmental Protection (NJDEP) and EPA RI is 2,573 mg/kg, which exceeds the EPA industrial soil screening level.

(6) Although this EPC is below the residential screening level used in the risk assessment, blood lead modeling using a target blood lead level of 5 ug/dL results in risk above EPA thresholds (see Table 8).

Definitions:

EPC = Exposure Point Concentration
MCL = Maximum Contaminant Level
mg/kg = milligrams per kilogram
µg/l = micrograms per liter
EPA R2 = EPA Region 2

Table 18
Risk Characterization Summary - Quantative Lead Risks[1]
Medium-Specific Exposure Point Concentration and Resultant Risks

Scenario Timeframe: Current/Future
Receptor Population: Site Worker

Exposure Area	Exposure Media	Lead EPC[2]	EPC Units	Geometric Mean Blood Lead Level	Lead Risk[3]
Mira Trucking	Soil (0-6 inches)	4,100	mg/kg	15	61%

Scenario Timeframe: Current/Future
Receptor Population: Resident

Exposure Area	Exposure Medium	Lead EPC[2]	EPC Units	Geometric Mean Blood Lead Level	Lead Risk[3]
Property P002	Soil (0-2 inches)	266	mg/kg	3.5	22%
Rental Home Area	Soil (0-2 feet)	281	mg/kg	3.7	25%

Footnotes:
(1) This table includes results from the streamlined risk evaluation for the Mira Trucking Property and an adjacent residence (Property P002) as part of the RI Addendum in addition to a supplemental assessment of lead found at the Rental Home Area during the EPA RI.
(2) The lead EPC in soil was the arithmetic mean of all samples collected from a given soil depth interval.
(3) Lead risks are expressed as the probability of having a blood lead level greater than 5 micrograms per deciliter (µg/dL); EPA's risk reduction goal is to limit the probability of a child's blood lead concentration exceeding 5 µg/dL to 5% or less.

Definitions:
EPC = Exposure Point Concentration
mg/kg = milligram per kilogram
µg/dL - microgram per deciliter

Table 19
Chemical-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Applicability
Federal	EPA Memorandum "Updated Scientific Consideration for Lead in Soil Cleanups" (OLEM Direction 9200.2-167) (December 22, 2016)	Guidance on development of residential lead cleanup criterion for Superfund sites using Integrated Exposure Uptake and Biokinetic models and current scientific conclusions to determine soil screening levels (such as 10 micrograms per deciliter [µg/dL] blood lead level for children).	TBC. The memorandum was considered in development of the cleanup level and the design of remediation at the residential properties
State	New Jersey Residential Direct Contact and Non-Residential Direct Contact Soil Remediation Standards (N.J.A.C. 7:26D-4)	Establishes standards for soil cleanups in the state of New Jersey.	ARAR. Both the Residential and Non Residential Direct Contact Soil Remediaion Standards for antimony, lead, PCBs and zinc are ARARs and are selected as remediation goals, for specific portions of the Site.

Acronyms:

ARAR - Applicable or Relevant and Appropriate Requirement
C.F.R. - Code of Federal Regulations
EPA - United States Environmental Protection Agency
MCL - Maximum Contaminant Level
OLEM - Office of Land and Emergency Management
N.J.A.C. - New Jersey Administrative Code
PRG - Preliminary Remediation Goal
RSL - Regional Screening Level
TBC - Advisories, Criteria, and Guidance To Be Considered
TSCA - Toxic Substances Control Act
µg/dL - micrograms per deciliter

Table 20
Location-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Required Action
Coastal Zone Regulations			
Federal	Section 10 of the Rivers and Harbors Act of 1899, 33 U.S.C. § 403, 33 C.F.R. Part 322	Governs coordination with the U.S. Army Corps of Engineers with regard to work at or below mean high water, including dredging, discharging dredged or fill materials at Hessian Run and wetland areas.	ARAR. On-site activities would be properly conducted to minimize adverse effects.
Federal	Coastal Zone Management Act (CZMA) (16 U.S.C.§ 1451, et seq.) Coastal Zone Management Act (Federal Consistency with Approved Coastal Management Programs regulations, 15 C.F.R. Part 930)	This act encourages states to develop coastal management plans to manage competing uses of and impacts to coastal resources, and to manage sources of nonpoint source pollution in coastal waters. The CZMA Federal Consistency Determination provisions require that any federal agency undertaking a project in the coastal zone of a state shall insure that the project is, to the maximum extent practicable, consistent with the enforceable policies of approved state management programs. Implemented through compliance with substantive requirements of New Jersey Waterfront Development Law and Coastal Zone Management Rules, N.J.A.C. 7:7.	ARAR. Remedy will comply to the extent practicable with substantive requiremnets of New Jersey Waterfront Development Law and Coastal Management Rules.
State	Coastal Zone Management Rules (N.J.A.C. 7:7E)	This program establishes standards for use and development of coastal resources.	ARAR. Remedy will be consistent, to the extent practicable, with these regulations.
Wetlands and Floodplains Standards and Regulations			
Federal	Statement of Procedures on Floodplain Management and Wetlands Protection (40 C.F.R. Part 6, Appendix A)	This Statement of Procedures sets forth Agency policy and guidance for carrying out the provisions of EO 11988 and EO 11990.	TBC. Wetland delineation and floodplain assessments will be performed as part of the remedy.
Federal	Policy on Floodplains and Wetlands Assessments for CERCLA Actions (OSWER Directive 9280.0-02, 1985)	Superfund actions must meet the substantive requirements of EO 11988, EO 11990, and 40 C.F.R. Part 6, Appendix A. This memorandum discusses situations that require preparation of a floodplains or wetlands assessment, and the factors that should be considered in preparing an assessment, for response actions taken pursuant to Section 104 or106 of CERCLA. For remedial actions, a floodplain/ wetlands assessment must be incorporated into the analysis conducted during the planning of the remedial action.	TBC. Wetland delineation and floodplain assessments will be performed as part of the remedy.

Table 20
Location-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Required Action
Federal	Floodplain Management (Executive Order 11988, as amended by Executive Order 13690)	Federal agencies are required to reduce the risk of flood loss, to minimize the impact of floods, and to restore and preserve the natural and beneficial values of floodplains.	ARAR. The potential effects of any action will be evaluated to ensure that the planning and decision making reflect consideration of flood hazards and floodplains management, including restoration and preservation of natural undeveloped floodplains. A floodplain assessment will be performed as part of the remedy.
Federal	Protection of Wetlands (Executive Order 11990)	Federal agencies are required to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands.	ARAR. A wetland assessment will be performed as part of the remedy.
State	New Jersey Freshwater Wetlands Protection Act Rules (N.J.S.A.13:981, N.J.A.C. 7:7A)	Regulates construction or other activities (including remedial action) that will have an impact on wetlands.	ARAR. Best management practices will be used to avoid or minimize adverse impact to aquatic habitat, consistent with substantive requirements of N.J.A.C. 7:7A.
State	New Jersey Flood Area Control Act Rules (N.J.A.C.7:13)	Regulates activities (including remedial action) within flood hazard areas that will impact stream carrying capacity or flow velocity to avoid increasing impacts of flood waters, to minimize degradation of water quality, protect wildlife and fisheries, and protect and enhance public health and welfare.	ARAR. A floodplain assessment will be performed as part of the remedy. In addition, any disturbance to the stream or riparian zone that occurs as part of the remedy will be restored.
Wildlife Habitat Protection Standards and Regulations			
Federal	Fish and Wildlife Coordination Act, 16 U.S.C. § 661-666c	Requires consideration of the effects of a proposed action on wetlands and areas affecting streams (including floodplains), as well as other protected habitats. Calls for federal agencies to consult with the United States Fish and Wildlife Service (USFWS) and the appropriate state agency with jurisdiction over wildlife resources prior to issuing permits or undertaking actions involving the modification of any body of water (including impoundment, diversion, deepening, or otherwise controlled or modified for any purpose).	ARAR. EPA will consult with USFS and the state.
Federal	Migratory Bird Treaty Act (16 U.S.C. 703 et seq.)	Prohibits the taking of protected migratory bird species, including individual birds or their nests or eggs, unless otherwise permitted.	ARAR. An assessment of protected migratory bird species will be conducted during the remedial design.

Table 20
Location-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Required Action
Federal	Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. § 1801, et seq.	Requires that federal agencies consult with NMFS on actions that may adversely affect essential fish habitat (EFH), defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”	Potential ARAR. The remedy will comply with substantive requirements of the Act. If there are no substantial impacts to EFH from the selected remedy, an EFH worksheet may need to be completed and submitted during the design or remedial action phase. However, if there are potential significant impacts to EFH from remedial action, an EFH assessment will need to be prepared.
Historic Preservation Standards and Regulations			
Federal	National Historic Preservation Act, 54 U.S.C. § 300101, *et seq.,* 36 C.F.R. Part 800	Establishes procedures to provide for preservation of historical and archeological data that might be destroyed through alteration of terrain as a result of a federal construction project or a federally licensed activity or program.	ARAR. The effects of remedial actions on historical and archeological data will be considered during the remedial design.

Acronyms:
ARAR - Applicable or Relevant and Appropriate Requirement
CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act
C.F.R. - Code of Federal Regulations
CZMA - Coastal Zone Management Act
EO - Executive Order
EFH - Essential Fish Habitat
EPA - United States Environmental Protection Agency
N.J.A.C. - New Jersey Administrative Code
N.J.S.A. - New Jersey Statutes Annotated
OSWER - Office of Solid Waste and Emergency Response
TBC - Advisories, Criteria, and Guidance To Be Considered
U.S.C. - United States Code
USFWS - United States Fish and Wildlife Service

Table 21
Action-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Required Action
General Site Remediation			
Federal	RCRA Identification and Listing of Hazardous Waste (40 C.F.R. Part 261.3 and 261.10)	Describes methods for identifying hazardous wastes and lists known hazardous wastes.	ARAR. Applicable to the identification of hazardous wastes that are generated, treated, stored, or disposed of during remedial activities.
Federal	RCRA Standards Applicable to Generators of Hazardous Waste (40 C.F.R. Part 262)	Standards applicable to generators of hazardous wastes.	Potential ARAR. These standards will be followed if any hazardous wastes are generated onsite.
State	New Jersey Technical Requirements for Site Remediation (N.J.A.C. 7:26E)	Provides technical requirements to investigate and remediate contamination at the Site.	Potential ARAR. Substantive provisions will be applied to any hazardous waste operation during remediation of the site.
State	New Jersey Hazardous Waste Regulations - Identification and Listing of Hazardous Waste (N.J.A.C. 7:26G-5)	Methods for identifying hazardous wastes and lists known hazardous wastes.	ARAR. This regulation will be applicable to the identification of hazardous wastes that are generated, treated, stored, or disposed of during remedial activities.
State	New Jersey Stormwater Management Rule (N.J.A.C. 7:8)	This regulation sets the requirements for stormwater management during construction including nonstructural stormwater management strategies, erosion control, and stormwater runoff quality standards.	ARAR. Substantive requirements will be met during construction.
State	New Jersey Soil Erosion and Sediment Control Act (N.J.A.C. 2:90, N.J.S.A. 4:24-39, et seq.)	Regulates construction that will potentially result in erosion of soil and sediment. Lists requirements including the submittal and approval of a plan for soil erosion and sediment control.	ARAR. The remedy will comply with substantive requirements of the Act.
State	New Jersey Noise Control (N.J.A.C. 7:29)	Regulates noise levels for certain types of activities such as commercial, industrial, community service and public service facilities. Relevant and appropriate for establishing allowable noise levels.	ARAR. This standard will be applied to remediation activities performed at the Site.
Transportation of Contaminated Materials			
Federal	Hazardous Material Transportation Act, 49 U.S.C. § 1801-1819, Department of Transportation Rules for Transportation of Hazardous Materials (49 C.F.R. Part 107, 171, 172, 177-179)	Applicable to the transportation of excavated material that is being managed as hazardous waste. Includes requirements for the packaging, labeling, manifesting, and transporting hazardous materials.	ARAR. Any company contracted to transport hazardous material from the Site will be required to comply with this regulation.
Federal	RCRA Standards Applicable to Transporters of Hazardous Waste (40 C.F.R. Part 263)	This regulation establishes standards for hazardous waste transporters.	ARAR. Any company contracted to transport hazardous material from the Site will be required to comply with this regulation.

Table 21
Action-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Required Action
Federal	TSCA-PCB Waste Disposal Records and Reports (40 C.F.R. Part 761, Subpart K)	This regulation establishes the responsibility of generators, transporters, and disposers of PCB waste in the handling, transportation, and management of the waste. Requires a manifest and record-keeping.	ARAR. Applicable to the transportation of TSCA-regulated PCB material from the Site.
State	New Jersey Transportation of Hazardous Materials (N.J.A.C. 16:49)	Regulates the shipping, packaging, marking, labeling, placarding, handling, and transportation of hazardous materials.	Applicable to the transport of hazardous material from the Site.
Excavation			
Federal	Clean Air Act - National Ambient Air Quality Standards (40 C.F.R. Part 50)	This regulation specifies maximum primary and secondary 24-hour concentrations for particulate matter. Fugitive dust emissions from site excavation activities must be maintained below 260 $\mu g/m^3$ (primary standard).	ARAR. Proper dust suppression methods such as water spray would be specified when implementing excavation.
Federal	40 C.F.R. Part 264, Subpart L	Provides requirements to design and operate waste piles including controlling wind dispersal of particulate matter and controlling surface water from running through the piles.	Performance standards would be specified for compliance.
Federal	Clean Water Act, Section 404, 33 U.S.C. § 1344, C.F.R. Part 230 (Section 404(b)(1) (Guidelines for Specification of Disposal Sites for Dredged or Fill Material)	Regulated the discharge of dredged and fill material into waters of the United States including wetlands.	ARAR. On-site activities would be properly conducted to minimize adverse effects.
Disposal of Contaminated Materials			
Federal	RCRA Land Disposal Restrictions (LDRs) (40 C.F.R. Part 268)	Identifies hazardous wastes restricted for land disposal and provides treatment standards for land disposal.	Hazardous wastes will be treated to meet disposal requirements.
Federal	TSCA Disposal Requirements (40 C.F.R. Part 268, Subpart D - Treatment Standards)	Soils contaminated above 50 ppm may also be disposed of in a chemical waste landfill.	There is soil with contamination greater than 50 ppm, therefore the remedial design will incorporate disposal requirements.
State	New Jersey Land Disposal Restrictions (LDRs) (N.J.A.C. 7:26G-11)	These regulations established standards for treatment and disposal of hazardous wastes.	Hazardous wastes must comply with the treatment and disposal standards.
Discharge to Surface Water			
Federal	Ambient Water Quality Criteria (40 C.F.R. § 131.36)	This regulation establishes toxics criteria for those states not complying with Clean Water Act Section	Potential ARAR. The criteria will be considered during the evaluation of discharge practices during the remedial action.
State	The New Jersey Pollutant Discharge Elimination System (NJPDES) (N.J.A.C. 7:14A)	Governs the discharge of any wastes into or adjacent to State waters that may alter the	The project will meet substantive NJPDES requirements for any surface water discharges.
Off-Gas Management			

Table 21
Action-Specific ARARs and TBCs
Matteo & Sons, Inc. Site
West Deptford Township, New Jersey

Regulatory Level	Citation	Requirement Synopsis	Required Action
Federal	Clean Air Act - National Ambient Air Quality Standards (40 C.F.R. Part 50)	This regulation provides air quality standards for particulate matter, lead, NO_2, SO_2, CO, and volatile organic matter.	During excavation of waste, air emissions will be properly controlled and monitored to comply with these standards.
Federal	Standards of Performance for New Stationary Sources (40 C.F.R. Part 60)	This regulation sets the general requirements for air quality for new stationary sources of air pollution.	During excavation of waste, air emissions will be properly controlled and monitored to comply with these standards.
Federal	National Emission Standards for Hazardous Air Pollutants (40 C.F.R. Part 61)	This regulation provides air quality standards for hazardous air pollutants.	During excavation of waste, air emissions will be properly controlled and monitored to comply with these standards.
State	New Jersey Air Pollution Control Act (N.J.A.C. 7:27)	This regulation includes rules that govern the emission of contaminants into the ambient atmosphere.	This standard will be applied to air emissions from remediation activities performed at the Site.
State	New Jersey Ambient Air Quality Standards (N.J.A.C. 7:27-13)	This standard provides the requirements for ambient air quality control.	This standard would apply to air emissions from remediation activities performed at the Site.

Acronyms:
AOC - area of contamination
ARAR - Applicable or Relevant and Appropriate Requirement
C.F.R. - Code of Federal Regulations
CO - Carbon monoxide
EPA - United States Environmental Protection Agency
FR - Federal Register
LDR - Land Disposal Restrictions
N.J.A.C. - New Jersey Administrative Code
N.J.S.A. - New Jersey Statutes Annotated
NJPDES - New Jersey Pollutant Discharge Elimination System
NO_2 - Nitrogen dioxide
NPDES - National Pollutant Discharge Elimination System
OSHA - Occupational Safety and Health Administration
OSWER - Office of Solid Waste and Emergency Response
RCRA - Resource Conservation and Recovery Act
SO_2 - Sulfur dioxide
TBC - Advisories, Criteria, and Guidance To Be Considered
TSCA - Toxic Substances Control Act

APPENDIX III
Responsiveness Summary

Responsiveness Summary
Record of Decision
Matteo & Sons, Inc. Site
Operable Unit 1
West Deptford Township, Gloucester County, New Jersey

INTRODUCTION

This Responsiveness Summary provides a summary of the public's significant comments and concerns regarding the Proposed Plan for Operable Unit One (OU1) of the Matteo & Sons, Inc. Superfund Site (Site) and the U.S. Environmental Protection Agency's (EPA's) responses to those comments and concerns. All comments summarized in this document have been considered in EPA's final selection of a remedial alternative for OU1 of the Site.

This Responsiveness Summary is divided into the following sections:

<u>Background of Community Involvement and Concerns</u> - This section provides the history of community involvement and concerns regarding OU1 of the Site.

<u>Comprehensive Summary of Major Questions, Comments, Concerns and Responses</u> - This section contains summaries of oral and written comments received by EPA at a July 17, 2019, public meeting and during the public comment period, and EPA's responses to those comments.

The last section of this Responsiveness Summary includes attachments which document public participation in the remedy selection process for this Site. They are as follows:

Attachment A contains the Proposed Plan that was distributed for public comment;

Attachment B contains the public notice that was published in the *South Jersey Times*;

Attachment C contains the transcript of the public meeting; and

Attachment D contains the written comments received during the public comment period.

BACKGROUND OF COMMUNITY INVOLVEMENT AND CONCERNS

On July 3, 2019, EPA released a Proposed Plan and supporting documentation for the remedial alternatives to the public for comment. EPA made these documents available to the public in the administrative record repositories maintained at the EPA Region 2 office (290 Broadway, New

York, New York) and the West Deptford Free Public Library, 420 Crown Point Road, West Deptford, New Jersey, and on-line at https://epa.gov/superfund/matteo-and-sons. EPA published a notice of availability regarding these supporting documents in the *South Jersey Times* on July 3, 2019. At the same time, EPA opened a public comment period that ran from July 3, 2019, through August 2, 2019. On July 17, 2019, EPA held a public meeting at the RiverWinds Community Center to inform local residents, officials, and other interested parties about the Superfund process, to present the preferred remedial alternative for the OU1 portion of the Site, solicit oral comments, and to respond to any questions.

A number of comments were received during the public meeting. In addition, two e-mail messages were received during the public comment period.

COMPREHENSIVE SUMMARY OF MAJOR QUESTIONS, COMMENTS, CONCERNS AND RESPONSES

Part 1: Oral Comments

This section provides a summary of oral comments received from the public during the public comment period and EPA's responses. A transcript of the public meeting held on July 17, 2019, is included in Attachment C to this Responsiveness Summary.

The oral comments are organized by topic:

• Willow Woods Residential Community
• Tempo Development, Operable Unit 2 (OU2)
• Former Mira Trucking Property
• Liability
• Miscellaneous

WILLOW WOODS RESIDENTIAL COMMUNITY

Oral Comment: A citizen expressed concern that there is contamination at the Willow Woods Residential Community. He asked if EPA could purchase his property. Citizens expressed concern about floods at Willow Woods.

Response: The Willow Woods property is a residential community of approximately 14.5 acres that is located adjacent to the southwestern border of the Matteo property. A chain-link fence extends across the southern property boundary between the Willow Woods property and the Matteo property. With regard to the soil contamination at this community, EPA collected soil samples in 2005 and 2006 to confirm and delineate the presence of lead in soil at the Willow

Woods property. In May and June of 2006, lead-contaminated soil was removed by James Matteo & Sons, Inc. (Matteo), the owner/operator of the scrapyard, under EPA's oversight. utilizing the New Jersey Department of Environmental Protection (NJDEP) residential cleanup standard of 400 mg/kg and disposed of off-site. Subsequent sampling confirmed soil was well below the NJDEP residential cleanup standard, with a maximum concentration of 75.5 mg/kg. Therefore, the cleanup was consistent with the remedial goals for OU1 and it is not necessary or appropriate for EPA to relocate residents or acquire homes in that community. EPA's Remedial Project Manager (RPM) subsequently relayed the concern about flooding to property owner representatives. In addition, the community is currently supplied with potable water from a municipal supply.

TEMPO DEVELOPMENT (OU2)

Oral Comment: What is the timeframe for cleanup activities at OU2?

Response: EPA will hold a separate meeting to discuss OU2 and to provide details regarding the status of the OU2 cleanup and to address questions and concerns from the residents. For further details on OU2, please contact Mr. Thomas Dobinson, Remedial Project Manager, U.S. EPA, 290 Broadway, 19th floor, New York, NY 10007, (212) 637-4176.

FORMER MIRA TRUCKING PROPERTY

Oral Comment: A number of concerns were expressed by a nearby resident related to the removal of a vegetative buffer which separated the property that was utilized by Mira Trucking from neighboring properties. The resident claims that their property has received damage from increased winds, potentially contaminated dust, and increased flooding.

Response: The OU1 remedy will remove lead contaminated soil from the former Mira Trucking property and eliminate the risk of lead-contaminated dust migrating to nearby properties. Additionally, once the contaminated soil is removed, a buffer will be constructed in accordance with West Deptford Township requirements.

LIABILITY

Oral Comment: One citizen asked if the Matteo family has any financial liability. Another citizen asked if EPA pursued cost recovery from insurance companies and could OU2 residents pursue cost recovery from insurance companies or other parties.

Response: A consent decree (CD) was approved and entered by the United States District Court for the District of New Jersey in January 2011. Based upon financial and insurance information, the United States determined that James Matteo & Sons, Inc. had limited financial ability to pay EPA's response costs incurred and to be incurred at the Site. The United States settled the case for $820,000 plus an additional sum for interest as well as other considerations such as access for remedial activities and the establishment of institutional controls. The CD requires Matteo to fully cooperate with all of EPA's future Superfund activities at the Site.

To date, EPA has identified no viable parties that are potentially responsible for OU2, nor is EPA currently aware of any available insurance coverage with respect to the Site.

MISCELLANEOUS

Oral Comment: A citizen stated that she agreed with EPA's preferred alternative.

Response: Noted.

Oral Comment: A citizen asked if there are potable wells near OU1 and, if so, have they been sampled; and what were the sampling results?

Response: The three potable wells on or adjacent to the Site do not appear to be affected by Site-related contaminants, as only aluminum and sodium were detected above the New Jersey Drinking Water Standards. Although these wells are not currently impacted by Site contamination, they are in close proximity to groundwater contamination and considered threatened. Therefore, the selected remedy includes connection to the public water supply for the properties served by private wells.

Oral Comment: Will the planned remediation include dust control?

Response: A Perimeter Air Monitoring Plan will be developed that includes dust control and comprehensive air monitoring during remediation.

Part 2: Written Comments

Written Comment # 1: EPA received an e-mail from a commenter who stated that she did not see an update for the OU2 properties in the latest update from EPA for the site. The commenter indicated that the cleanup at OU2 should precede the cleanup at OU1. Lastly, the commenter asked if the OU2 portion of the Site would be addressed at the July 17, 2019 public meeting.

Response to Written Comment #1: EPA's Project Manager for OU2, Thomas Dobinson, should be contacted directly for specific questions related to OU2. OU2 is ahead of OU1 in the EPA Superfund process and EPA's issuance of the Record of Decision for OU1 does not affect or impede progress at OU2 in any way. The intent of the July 17, 2019, meeting was to explain

EPA's Proposed Plan for OU1, and all of the other alternatives presented in the OU1 Feasibility Study, and to obtain any comments or questions on OU1.

Written Comment #2: A consultant sent EPA an e-mail for informational purposes on planned connections to city water, for two properties with private wells, to be funded by the NJDEP and West Deptford Township.

Response to Written Comment #2: The information is noted. EPA's selected remedy includes connection to city water for several properties with private wells. EPA will monitor the status of the NJDEP/Township project.

Attachment A
Proposed Plan

U.S. Environmental Protection Agency

Matteo & Sons, Inc. Superfund Site

Operable Unit 1

West Deptford Township, New Jersey

July 2019

EPA ANNOUNCES PROPOSED PLAN

This Proposed Plan describes the remedial alternatives considered for the first operable unit (OU 1) of the Matteo & Sons, Inc. Superfund Site (site) and identifies the preferred remedial alternative along with the rationale for the preference.

The Proposed Plan was developed by the United States Environmental Protection Agency (EPA), the lead agency for the site, in consultation with the New Jersey Department of Environmental Protection (NJDEP), the support agency. EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. § 9617(a) (CERCLA, commonly known as Superfund), and Sections 300.430(f) and 300.435(c) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The nature and extent of contamination at the site and the remedial alternatives summarized in this Proposed Plan are described in detail in the Final Remedial Investigation (RI) and Feasibility Study (FS) Reports which are included in the administrative record. EPA encourages the public to review these reports for a comprehensive understanding of the RI/FS conducted at the site.

EPA's preferred alternative for OU 1 is Alternative 4, which includes excavation, off-site disposal of source materials and contaminated soils, and an asphalt cap over the active scrapyard. This is the first of three OUs at this Superfund site. The remedy for the second OU, which addresses single-family, residential properties located in and adjacent to the Tempo Development in West Deptford, New Jersey (located within one mile of OU 1), is in the remedial design phase. The third and final OU will address any groundwater, surface water and sediment impacts.

MARK YOUR CALENDAR

Public Comment Period – July 3 to August 2, 2019

EPA will accept written comments on the Proposed Plan during the public comment period. Written comments should be addressed to:

Lawrence A. Granite, Project Manager
U.S. Environmental Protection Agency
290 Broadway, 19th Floor
New York, NY 10007
Email: granite.larry@epa.gov

For further information on Matteo & Sons, Inc. Superfund site OU 1, please contact Mr. Granite or

Natalie Loney
Public Affairs Specialist
U.S. Environmental Protection Agency
290 Broadway, 26th Floor
New York, NY 10007
Email: loney.natalie@epa.gov

Public Meeting – July 17, 2019 at 6:30 PM

EPA will hold a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study. Oral and written comments will also be accepted at the meeting. The meeting will be held at:

RiverWinds Community Center
1000 RiverWinds Drive
West Deptford, NJ 08086
EPA's website for the Matteo & Sons, Inc. Site:
https://www.epa.gov/superfund/matteo-and-sons

Community Role in the Selection Process

This Proposed Plan is being issued to inform the public of EPA's preferred alternative and to solicit public comments pertaining to the remedial alternatives evaluated, including the preferred alternative. Changes to the preferred alternative, or a change from the preferred alternative to another alternative(s), may be made if public comments or additional information indicate that such a change would result in a more appropriate remedial action. EPA is soliciting public comments on all of the alternatives considered in the Proposed Plan because EPA may select a remedy other than the preferred alternative. This Proposed Plan is available to the public for a public comment period that concludes on August 2, 2019.

A public meeting will be held during the public comment period to present the conclusions of the RI/FS, elaborate further on the basis for identifying the preferred alternative, and receive public comments. The public meeting will include a presentation by EPA of the preferred alternative and the other evaluated alternatives. Information on the public meeting and submitting written comments can be found in the "Mark Your Calendar" text box on page 1.

Comments received at the public meeting and during the comment period will be documented in a responsiveness summary section of a Record of Decision (ROD) in which EPA will select a remedy for OU 1. The ROD will explain the cleanup remedy selected and the basis for the selection.

Scope and Role of the Action

The site is being addressed as three operable units. OU 1, which is addressed by this Proposed Plan, primarily consists of the Matteo property (see Figure 1).

A September 2017 ROD addressed the remediation of single-family, residential properties located in and adjacent to the Tempo Development in West Deptford, New Jersey (OU 2). Therefore, this Proposed Plan does not address OU 2.

One additional OU, OU 3, to address groundwater and surface water/sediment, is anticipated. EPA wants to further assess those media, after the waste at OU 1 is removed, to determine if any action is warranted.

SITE BACKGROUND

Site Description

The Matteo & Sons Superfund Site (Figure 1), OU 1, is located at 1708 U.S. Highway 130 (Crown Point Road) in West Deptford Township, Gloucester County, New Jersey. The OU 1 study area is located in an industrialized area, along a busy highway. The study area consists of the Matteo property, nearby properties and portions of Hessian Run and Woodbury Creek. The study area has been divided into several areas based on site physical features, historical information and the locations of samples collected during the RI and previous investigations. These areas are described below:

- Matteo property – 82.5 acres of contiguous upland areas and adjacent mudflats located between the confluence of Woodbury Creek, Hessian Run, and U.S. Highway 130. The Matteo property includes the scrapyard area, the open field/waste disposal area, and the rental home area.
- Scrapyard area – The southeastern portion of the Matteo property that supports an active scrap metal recycling business is approximately 10 acres and largely paved or covered with crushed stone.
- Rental home area – This 2.3-acre property with a rental home owned by the Matteo family is separated from the scrapyard area by a chain-link fence and gate.
- Open field/waste disposal area – This area is approximately 53 acres and consists primarily of heavily vegetated, undeveloped land, including several distinct waste disposal areas.

- Tidal mudflats – The Matteo property also includes approximately 17.2 acres of tidal mudflats within Hessian Run that are below water at high tide.

- Mira Trucking – This property is across the street from the Matteo property and also contains a significant amount of battery casing waste which originated from the Matteo property. Mira Trucking formerly operated on the property to stage large trucks on the western and southern portions of the property. The property is approximately 4 acres in size.

- Willow Woods property – A manufactured-home community of approximately 14.5 acres, is adjacent to the southwestern border of the site.

- Woodbury Creek – A primary tributary of the Delaware River, which is south of the Matteo property, with deep narrow channels and extensive tidal flats along its northern and southern shores.

- Hessian Run – A tributary of Woodbury Creek adjacent to the northern boundary of the Matteo property, with its farthest upstream reaches just east of U.S. Highway 130. Hessian Run is primarily extensive tidal flats (mud flats) with small shallow channels (less than two to three feet below sea level) extending through the flats.

The western portion of the Matteo property (more than half of the property) is within the Federal Emergency Management Agency Special Flood Hazard Area, subject to inundation by a 100-year flood event.

Geology and Hydrology

Three geologic units are encountered at the site: from shallow to deep, they are the Cape May Formation, the Merchantville Formation and the Magothy Formation. The Merchantville Formation is considered an aquitard. It is encountered beneath the Cape May Formation in the eastern and southern portions of the site where it is approximately 20 feet thick. The formation thins and eventually pinches out in the western portion of the site. The Magothy Formation extends at least to the maximum drilled depth (approximately 100 feet below ground surface [bgs]).

Two groundwater flow systems are present at the site: a shallow perched flow system and a deep regional flow system. The perched flow system is observed from approximately five to fourteen feet bgs. The extent of this perched water zone mirrors the extent of the Merchantville Formation. Generally, the perched groundwater flows radially away from the topographically elevated scrapyard area. In the eastern portion of the site and along the northern shoreline, the perched groundwater flows north discharging to Hessian Run; the remainder flows toward the topographically lower western portion of the site where the Merchantville Formation is absent.

The deep regional flow system is described as a single hydrologic unit, referred to as the Potomac-Raritan-Magothy (PRM) aquifer system. The average horizontal hydraulic conductivity in the PRM is 13.6 feet/day. The regional deep groundwater flows to the southeast. The potable wells at the Matteo facility and the rental home currently pump water from this deep aquifer.

Site History

OU 1 primarily consists of an approximately 80-acre area which includes an active scrap metal recycling facility and an inactive landfill. Hessian Run is adjacent to its northern border. In 1968, the NJDEP identified an inactive incinerator at the property. In April 1971, NJDEP approved James Matteo & Sons, Inc.'s request to operate the incinerator to burn copper wire. In May of that year, the company submitted a plan to operate a "sweating fire box" to melt lead battery terminals for lead reclamation. This lead melting operation continued until approximately 1985. In 1972, NJDEP observed landfilling of crushed battery casings and household waste in an area of wetlands adjacent to Hessian Run. This operation was apparently performed in conjunction with the lead-melting operation, as there were several reports of battery waste incineration and subsequent on-site ash disposal. These land uses resulted in the contamination of soil, sediment and groundwater with lead, antimony and polychlorinated biphenyls (PCBs). EPA placed the Matteo & Sons, Inc. Site on the National Priorities List in September 2006.

Enforcement History

A consent decree (CD) in the civil action *United States of America v. James Matteo & Sons, Inc.* (Matteo), 1:10-cv-06405 (D.N.J.) was approved and entered by the United States District Court for the District of New Jersey in January 2011. Based upon financial and insurance information, the United States determined that James Matteo & Sons, Inc. had limited financial ability to pay EPA's response costs incurred and to be incurred at the site. As a result, the United States settled the case for $820,000 plus an additional sum for interest as well as other considerations such as access for remedial activities and the establishment of institutional controls (ICs). The CD requires Matteo to fully cooperate with all of EPA's future Superfund activities at the site.

PRINCIPAL THREATS

Approximately 56,200 cubic yards of battery casings mixed with soil and sediment and municipal waste originally placed along the shore of Hessian Run act as the source of lead contamination to surface soil, subsurface soil, groundwater, surface water and sediment. In addition, the soil immediately beneath the battery casings and waste mixed with battery casings was also found to contain high lead concentrations due to the leaking of acid and lead-containing chemicals from the battery casings. The sediment adjacent to the battery casings disposal area also contains scattered battery casings and high concentrations of lead. Approximately 11,000 cubic yards of battery casings are also present at the property formerly occupied by Mira Trucking.

Principal threat wastes are identified by the NCP (40 CFR 300.430) as source materials considered to be highly toxic or highly mobile that generally cannot be reliably contained or would present a significant risk to human health or the environment should exposure occur.

For this site, the battery casing waste exhibits elevated concentrations of lead and is characteristically hazardous (D-008 for lead). Collectively, battery casings mixed with municipal waste, soil and sediment are considered source materials because these materials serve as a continued source of contamination to other media through wind entrainment, stormwater runoff, inundating tidal water and infiltration from precipitation. Therefore, these source materials are considered principal threat waste.

NATURE AND EXTENT OF CONTAMINATION

In the open field/waste disposal area and the scrapyard area, the majority of approximately 19,500 cubic yards of soil with lead contamination exceeding the NJDEP non-residential direct contact soil remediation standard (NRDCSRS) of 800 milligrams per kilogram (mg/kg) is concentrated in the upper four feet of soils in and near the scrapyard area and is directly associated with the waste disposal areas along the shoreline of Hessian Run. The highest lead concentration in soil was 94,100 mg/kg at two to four feet bgs near the former incinerator in the northeastern corner of the open field/waste disposal area adjacent to the scrapyard area. In the four- to eight-foot bgs interval, lead contamination exceeded NRDCSRS at two locations immediately adjacent to the battery casing disposal areas. In the eight- to twelve-foot bgs interval, lead was below the NRDCSRS but exceeded the NJDEP impact to groundwater (IGW) criterion of 90 mg/kg at one location near the former incinerator in the northeastern corner of the open field/waste disposal area adjacent to the scrapyard area; none of the other deep soil samples exceeded the IGW criterion.

RI sampling following an EPA removal action at the Willow Woods residential community detected lead below the NJDEP Residential Direct Contact Soil Remediation Standard (RDCSRS) of 400 mg/kg. The average lead concentration is 25.8 mg/kg. At the rental home area, lead exceeded the RDCSRS in one sample which was located near the driveway to the scrapyard area.

Elevated concentrations of antimony and zinc were generally co-located with the lead contamination in the upper four feet of soils in the scrapyard area, whereas antimony and lead were elevated in the waste disposal areas. This pattern suggests that lead, antimony and zinc were related to the metal reclamation processes in the scrapyard area, while the lead and antimony are associated with the remaining battery casings/ash or other waste in the disposal areas.

Elevated concentrations of PCBs were found in the scrapyard area and in the open field/waste disposal area, with the majority of contamination in the upper four feet. High PCB concentrations greater than 200 mg/kg were detected at two locations, one in the scrapyard between ground surface and four feet bgs and one in the open field/waste disposal area between four and eight feet bgs. The NRDCSRS for total PCBs is 1 mg/kg.

Other inorganics, including arsenic, iron, manganese and vanadium, were also identified at elevated levels, but are likely concentrated in soil due to the presence of naturally-occurring glauconite in the Merchantville Formation found onsite. The primary constituents of the glauconitic soils are aluminum, calcium, iron, magnesium, potassium and sodium, but several studies have also shown it to be rich in trace elements such as antimony, arsenic, barium, beryllium, boron, cadmium, chromium, lead, manganese and vanadium. Polycyclic aromatic hydrocarbons (PAHs), specifically benzo(a)pyrene, were also detected at elevated concentrations in some areas of the site; however, the distribution pattern is not similar to the site-related metals or PCBs and was determined to be associated with urban soils. Only one sample contained PAH concentrations at significantly higher levels, but this sample was collected near the roadway at the rental home area. Therefore, the presence of these chemicals in soils is not considered to be related to past disposal practices onsite and instead due to urban runoff from the road.

Total lead concentrations exceeded the groundwater screening criterion of 5 micrograms per liter (µg/L) at five shallow wells, whereas dissolved lead only exceeded the criterion at one well that is screened within a battery casing disposal area, with total and dissolved lead concentrations as high as 573J and 43.3 µg/L, respectively. Compared to the lead levels observed in groundwater during a previous investigation, lead concentrations have significantly decreased.

Antimony exceeded the groundwater screening criterion of 6 µg/L at one shallow well not located within the battery casing disposal areas.

Tetrachloroethene, trichloroethene and vinyl chloride were detected in site groundwater monitoring wells, but no evidence was found of their historical or current use at the site. Tetrachloroethene and trichloroethene were detected in monitoring wells upgradient to the east of the site in the shallow perched aquifer. These chemicals, however, were not detected at concentrations exceeding the RI groundwater screening criteria in any of the monitoring wells on-site. Therefore, the chemicals are likely originating from an off-site contaminant source. Vinyl chloride is present in the deep regional aquifer with the highest levels off-site to the southeast. Vinyl chloride was detected in one of 17 shallow groundwater monitoring well samples, but not in any other media on-site, suggesting that the vinyl chloride plume is not associated with past disposal practices at the site.

The three potable wells on or adjacent to the site do not appear to be affected by site-related contaminants as only aluminum and sodium were detected above the New Jersey Drinking Water

Standards. Although these wells are not currently impacted by site contamination, they are in close proximity to groundwater contamination and considered threatened. Iron and manganese, in addition to other metals such as arsenic and aluminum, were detected at levels above RI groundwater screening criteria within groundwater monitoring wells onsite as well. These metals were, however, detected at higher levels in the deep regional aquifer in comparison to the shallow perched zone. This is likely caused by the anaerobic geochemistry of the deep aquifer and the presence of glauconitic soils of the Merchantville Formation. The distribution of these analytes does not indicate they are related to disposal practices at the site.

SUMMARY OF SITE RISKS

As part of the RI/FS, a baseline risk assessment was conducted to estimate the current and future effects of contaminants on human health and the environment. A baseline risk assessment is an analysis of the potential adverse human health and ecological effects of releases of hazardous substances from a site if no actions to mitigate such releases are taken, under current and future soil, groundwater, surface water and sediment uses. The baseline risk assessment includes a human health risk assessment (HHRA) and a Screening Level Ecological Risk Assessment (SLERA).

Human Health Risk Assessment

EPA conducted a four-step HHRA to assess site-related cancer risks and noncancer health hazards in the absence of any remedial action. The four-step process is comprised of: Hazard Identification, Exposure Assessment, Toxicity Assessment and Risk Characterization (refer to the text box "What is Human Health Risk and How is it Calculated").

The HHRA began with selecting COPCs in the various media (*i.e.*, soil, groundwater, surface water, and sediment) that could potentially cause adverse effects in exposed populations. COPCs are selected by comparing the maximum detected concentrations of each chemical identified with state and federal risk-based screening values. The screening of each COPC was conducted separately for each exposure area.

The Matteo site includes a mix of residential and commercial zoning. For the purposes of the HHRA, the site was divided into five separate exposure areas. These exposure areas are geographic designations created for the risk assessment to define areas with similar anticipated current and future land use or similar levels of contamination. The areas evaluated in the HHRA include the Scrapyard Area, Rental Home Area, Open Field Waste Disposal Area, Willow Woods and Woodbury Creek/Hessian Run. Some pathways were also evaluated for the entire "Matteo property", which includes the Scrapyard Area, Open Field Waste Disposal Area and the Rental Home Area. For this scenario, it was assumed that future redevelopment could result in one large contiguous soil exposure area (*e.g.*, residential) or that exposure to groundwater would occur on a site-wide basis. The scrapyard is currently active, and both the rental home and Willow Woods are presently occupied. The remaining portions of the Matteo Property are vacant but can be accessed by trespassers or recreational users. The Willow Woods property is residential and currently supplied with potable water from a municipal supply. The Matteo Property, however, is not connected to the public water system and two potable wells are located onsite. One well services the rental home and the other provides water to an office within the Scrapyard Area. Both the rental home and scrapyard office are supplied with bottled water for drinking and cooking purposes by Matteo Brothers Management, but there are no current restrictions on the use of well water. As a result, the HHRA considered both current and potential future exposure pathways associated with soil, groundwater, surface water, sediment and fish consumption. As previously discussed, however, groundwater, as well as surface water and sediment in Hessian Run and Woodbury Creek will be further assessed as a separate OU. Note that while potential risks caused by exposure to groundwater are included in the risk assessment, groundwater risks will be further evaluated as part of OU 3.

Risks and hazards from exposure to site soil and groundwater were evaluated for the following current and future receptors:

- Site Worker (adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils within the Scrapyard Area.
- Trespasser (adolescent [6-18 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils within the Open Field Waste Disposal Area.
- Recreational User (adolescent [6-18 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils within the Open Field Waste Disposal Area.
- Resident (child [0-6 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils at the Rental Home or Willow Woods; ingestion, dermal contact and inhalation of vapors during showering and bathing from sitewide groundwater.

Pathways specific to future scenarios only included:

- Construction/Utility Worker (adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface (0-2 feet bgs) and subsurface soils (2-10 feet bgs) from across the Matteo Property as well as Willow Woods.
- Resident (child [0-6 years] and adult): incidental ingestion, dermal contact and inhalation of particulates and volatiles released from surface soils across the Matteo Property.

WHAT IS *HUMAN HEALTH* RISK AND HOW IS IT CALCULATED?

A Superfund baseline human health risk assessment is an analysis of the potential adverse health effects caused by hazardous substance releases from a site in the absence of any actions to control or mitigate these under current and future land uses. A four-step process is utilized to assess site-related human health risks for reasonable maximum exposure scenarios.

Hazard Identification: In this step, the chemicals of potential concern (COPCs) at a site in various media (*e.g.*, soil, surface water, and sediment) are identified based on such factors as toxicity, frequency of occurrence, fate and transport of the contaminants in the environment, concentrations of the contaminants in specific media, mobility, persistence, and potential for bioaccumulation.

Exposure Assessment: In this step, the different exposure pathways through which people might be exposed to the contaminants identified in the previous step are evaluated. Examples of exposure pathways include incidental ingestion of contaminated soil. Factors relating to the exposure assessment include, but are not limited to, the concentrations that people might be exposed to and the potential frequency and duration of exposure. Using these factors, a reasonable maximum exposure scenario, which portrays the highest level of human exposure that could reasonably be expected to occur, is calculated.

Toxicity Assessment*:* In this step, the types of adverse health effects associated with chemical exposures and the relationship between magnitude of exposure and severity of adverse effects are determined. Potential health effects are chemical-specific and may include the risk of developing cancer over a lifetime or other non-cancer health effects, such as changes in the normal functions of organs within the body (*e.g.*, changes in the effectiveness of the immune system). Some chemicals are capable of causing both cancer and non-cancer health effects.

Risk Characterization: This step summarizes and combines outputs of the exposure and toxicity assessments to provide a quantitative assessment of site risks. Exposures are evaluated based on the potential risk of developing cancer and the potential for non-cancer health hazards. The likelihood of an individual developing cancer is expressed as a probability. For example, a 10^{-4} cancer risk means a one-in-ten-thousand excess cancer risk; or one additional cancer may be seen in a population of 10,000 as a result of exposure to site contaminants under the conditions explained in the Exposure Assessment. Current guidelines for acceptable exposures are an individual lifetime excess cancer risk of 10^{-4} to 10^{-6} (corresponding to a one in ten thousand to a one in a million excess cancer risk) with 10^{-6} being the point of departure. For non-cancer health effects, a hazard index (HI) is calculated. An HI represents the sum of the individual non-carcinogenic exposure levels compared to their corresponding reference doses. The key concept for a non-cancer HI is that a threshold level (measured as an HI of 1) exists below which non-cancer health effects are not expected to occur. The goal of protection is 10^{-6} for cancer risk and an HI of 1 for a noncancer health hazard.

The vapor intrusion pathway was also evaluated since VOCs unrelated to the site are present in shallow groundwater. However, very low levels of three VOCs, including trans-1,2-DCE, PCE, and methyl tert-butyl ether, were detected in the shallow groundwater at concentrations below 1 µg/L. These concentrations are below their respective target groundwater concentrations for protection of indoor air and federal MCLs. Furthermore, it was determined that the Merchantville clay present onsite can impose significant impedance to upward migration of vapors from underlying deep groundwater. Based on these factors, the vapor intrusion pathway is considered incomplete.

For contaminants other than lead, exposure point concentrations were estimated using either the maximum detected concentration of a contaminant or the 95% upper-confidence limit (UCL) of the average concentration. Chronic daily intakes were calculated based on the reasonable maximum exposure (RME), which is the highest exposure reasonably anticipated to occur at the site. The RME is intended to estimate a conservative exposure scenario that is still within the range of possible exposures.

It is not possible to evaluate risks from lead exposure using the same methodology as for the other COPCs because there are no published quantitative toxicity values for lead. Instead, screening levels were developed using the Integrated Exposure Uptake Biokinetic (IEUBK) and Adult Lead Model (ALM) based on EPA guidance at the time of the assessment. Both models evaluate risk based on average or typical exposure parameter values. Therefore, the EPCs for lead were the arithmetic mean of all the samples within the exposure area from the appropriate depth interval. Exposures to lead were evaluated qualitatively by comparing the arithmetic mean concentration in soil to EPA screening levels derived from the IEUBK and ALM models (400 mg/kg for residential and 800 mg/kg for commercial) and the mean concentration in groundwater to the New Jersey Ground Water Quality Standard for Class IIA (5 µg/L).

Summary of the Human Health Risk Assessment

In the risk assessment, two types of toxic health effects were evaluated for COPCs other than lead: cancer risk and noncancer hazard. Calculated cancer risk estimates for each receptor were compared to EPA's target risk range of $1x10^{-6}$ (one-in-one million) to $1x10^{-4}$ (one-in-ten thousand). The calculated noncancer hazard index (HI) estimates were compared to EPA's target threshold value of 1. This section provides an overview of the human health risks resulting from exposures to contaminants exceeding the target cancer risk and noncancer hazard thresholds in soil and groundwater. Risks associated with lead are discussed separately. A complete discussion of all risks from the Matteo OU 1 Site can be found in the Human Health Risk Assessment which is contained in the Administrative Record.

Surface Soil

Risks and hazards were evaluated for current and potential future exposure to surface soil in the Scrapyard Area, Rental Home Area, Willow Woods, Open Field Waste Disposal Area and across the Matteo Property. Table 1-1 summarizes the cancer risks and noncancer hazards for the receptor populations in each exposure area. Aroclor 1260 was a major contributor of risk and hazard above EPA thresholds within the Scrapyard Area and across the Matteo Property. PAHs contributed to elevated cancer risk in the Rental Home Area and across the Matteo Property. Exposure to vanadium across the Matteo Property yielded noncancer hazard above the EPA threshold of unity as well. As discussed previously, however, the presence of PAHs and vanadium are due to sources unrelated to the Matteo site. No exposure pathway yielded risk or hazard above EPA thresholds from the Open Field Waste Disposal Area and Willow Woods exposure areas.

Table 1-1: Summary of hazard and/or risk exceedances for surface soil by exposure area

Receptor	Hazard Index	Cancer Risk
Scrapyard Area		
Current/future site worker (adult)	**20**	**3 x 10^{-4}**
Open Field Waste Disposal Area		
Current/Future Trespasser (adolescent)	0.6	3 x 10^{-6}
Current/Future Recreational User (adolescent)	0.6	3 x 10^{-6}
Rental Home Area		
Current Resident (child/adult)	0.9	**9 x 10^{-3}**
Willow Woods		
Current/Future Resident (child/adult)	0.5	7 x 10^{-5}
Matteo Property		
Future Resident (child/adult)	**40**	**4 x 10^{-3}**

*Bold indicates value above the acceptable risk range or value.

Surface and Subsurface Soil

Exposure to surface and subsurface soil by a future construction worker was considered in Willow Woods and across the Matteo Property. As shown in Table 1-2, exposure to surface and subsurface soils at the Matteo Property were associated with noncancer estimates that exceed EPA's threshold criteria. Aroclor 1254 and Aroclor 1260 were the primary chemicals contributing to elevated hazard in this exposure area. The cancer risks for this receptor were within the target risk range.

Table 1-2: Summary of hazard and/or risk exceedances for surface/subsurface soil by exposure area

Receptor	Hazard Index	Cancer Risk
Willow Woods		
Future Construction Worker	0.04	3 x 10^{-7}
Matteo Property		
Future Construction Worker	**9**	8 x 10^{-6}

Groundwater

Cancer risks and noncancer hazards from exposure to contaminated groundwater were evaluated for current residents at the Rental Home Area and future residents across the Matteo Property. For each scenario, both the cancer risk and noncancer hazard estimates exceeded EPA thresholds, as shown on Table 1-3. Arsenic, antimony, iron, vanadium and vinyl chloride were the primary chemicals contributing to elevated risk and hazard in this media. With the exception of antimony, the presence of these chemicals is due to sources unrelated to the site. Additionally, these chemicals were either not detected in the potable wells onsite or were present below federal MCLs and NJ Groundwater Quality Standards during the RI. However, EPA believes there are potential impacts to the potable wells in the future.

Table 1-3: Summary of hazard and/or risk exceedances for exposure to groundwater

Receptor	Hazard Index	Cancer Risk
Rental Home Area		
Future Resident (child/adult)	**27**	**1 x 10^{-3}**
Matteo Property		
Future Resident (child/adult)	**27**	**1 x 10^{-3}**

Lead Results

Exposures to lead were evaluated qualitatively by comparing the concentrations identified in each media to federal and state screening levels or standards established for soil and groundwater. These screening levels were exceeded in both media, thus contributing to elevated risk for current/future residents (Matteo Property soils, Rental Home soils, and sitewide groundwater), current/future site workers (Scrapyard Area soils), construction workers (Matteo Property soils) and current/future recreational users and trespassers (Open Field Waste Disposal Area soils). Lead screening levels were not exceeded for residential soils within Willow Woods.

Summary Conclusions of the HHRA

The risks and hazards for current and/or future site workers (Scrapyard Area), residents (Matteo Property) and construction workers (Matteo Property) exceeded EPA thresholds due to PCBs in soil. Antimony also contributed to elevated risk in groundwater. Lead screening levels were exceeded in both soil and groundwater, thus contributing to elevated risk for current/future residents (Matteo Property and Rental Home), site workers (Scrapyard Area), and recreational users/trespassers (Open Field Waste Disposal Area) as well as future construction workers (Matteo Property). Therefore, lead, antimony and PCBs were the primary site-related chemicals contributing to elevated risk and hazard at the site.

Risks for current resident exposure to groundwater were conservatively estimated since all risk-driving chemicals were either not detected in the potable wells onsite or were present below federal MCLs and NJ Ground Water Quality Standards during the RI. Additional risks and hazards were attributed to PAHs and vanadium in soil as well as arsenic, iron, vanadium and vinyl chloride in groundwater. As discussed, the presence of these chemicals is due to sources unrelated to the site.

Ecological Risk Assessment

SLERA

As part of the RI/FS, a SLERA was conducted to evaluate the potential for ecological risks at the site. No federally listed or proposed threatened or endangered species are known to exist within the vicinity of the site. The NJDEP Natural Heritage Program reported the occurrence of the great blue heron (*Ardea herodias*), a species of special concern, near the site. No other species or communities of concern were noted on or within 1/4 mile of the site.

The site is considered to be in an "Environmentally Sensitive Area" according to New Jersey regulations because it contains critical wildlife habitat, which are areas known to serve an essential role in maintaining wildlife, particularly in wintering, breeding and migrating. Further, ecotones, or edges between two types of habitat (such as wetlands and uplands), are a particularly valuable critical wildlife habitat.

The SLERA evaluated exposure of ecological receptors to chemicals in site media through direct contact and dietary habits. Media evaluated included soil, sediment, surface water, porewater and seep water.

Dietary exposure risks were identified using food chain models for bioaccumulative chemicals detected in sediment and soil. The hazard quotient (HQ) method was employed, comparing total dose to toxicity reference values (TRVs) for each species evaluated. Ten species representing the avian and mammalian communities inhabiting the site were evaluated using food chain exposure modeling.

The SLERA determined that there are contaminants in all site media at levels that may cause adverse effects to ecological receptors via both direct exposure and dietary exposure. Multiple chemicals were determined to be risk drivers, but lead was the most prominent, affecting all site media and causing risk via both direct and dietary exposure.

Step 3a Ecological Risk Assessment

The Step 3a ERA was conducted to refine the list of chemicals of potential concern that were identified in the SLERA. Results of the Step 3a evaluation indicated fewer risks from exposure to chemicals detected in site media when compared to the SLERA. Metals continue to be the primary risk driver in all site media based on direct exposure.

Chemicals present in sediment pose little risk to ecological receptors based on food chain exposure models. The only exception was exposure to lead for piscivorous birds based on the great blue heron model where an HQ of 1.2 was calculated. Since the daily dose of lead calculated is so close to the TRV to which it is compared, and with the conservative assumptions used such as a site foraging factor of 1.0, and assuming the great blue heron's diet consists only of fish, risk from exposure to lead in sediment is most likely overestimated.

Chemicals identified as risk drivers in soil based on food chain exposure models consist primarily of the site-related metals lead and zinc. Pesticides, PCB Aroclors and dioxins were also noted as risk drivers based on the American robin and short-tailed shrew models used to represent insectivorous birds and mammals. Only PCBs are considered to be site-related.

EPA has determined that the Preferred Alternative identified in this Proposed Plan is necessary to protect public health or welfare or the environment from actual or threatened releases of pollutants or contaminants from this site which may present an imminent and substantial endangerment to public health or welfare.

REMEDIAL ACTION OBJECTIVES

Remedial Action Objectives (RAOs) are defined as media-specific goals for protecting human health and the environment. RAOs are developed through an evaluation of data generated during the RI, including: the identified contaminants of concern (COCs), impacted media of interest, fate and transport processes, receptors at risk, and the associated pathways of exposure included in the conceptual site model. RAOs also include preliminary remediation goals (PRGs), which are determined via an evaluation of risk, applicable or relevant and appropriate requirements (ARARs) and advisories, criteria or guidance to be considered (TBC), and other technical and policy considerations that may be applicable to the site.

The following RAOs were developed for OU 1:

- Source Materials:
  - Eliminate migration of contamination from the source materials to surface water, sediment, soil and groundwater
  - Eliminate exposure of human and ecological receptors to source materials at concentrations exceeding the PRGs
- Soil:
  - Reduce or eliminate exposure to contaminated soil at concentrations exceeding the PRGs by human and ecological receptors
  - Minimize or eliminate contaminant migration to sediments, groundwater, and surface water
- Groundwater:
  - Eliminate exposure to contaminated groundwater

Elevated concentrations of contaminants, such as lead, that are present in limited areas of the shallow aquifer are generally co-located with some areas of battery casing waste. EPA anticipates that these limited areas of elevated concentrations in groundwater will be addressed by the proposed remedial alternative and will confirm this through monitoring after implementation of the source/soil remedy. These findings, including the need for additional remedial actions to address any remaining groundwater contamination, if needed, will be documented in a future decision document. Additionally, remediation of sediment and surface water will be evaluated as part of a future decision document for OU 3.

To achieve RAOs, EPA has selected soil PRGs for site-related COCs identified at the site. Based on the RI and baseline risk assessments, the site-related COCs include lead, antimony, zinc and PCBs. The soil PRGs for these COCs are consistent with New Jersey human health direct contact standards or ecological risk-based goals. Site background metal concentrations were also taken into consideration. The specific soil PRGs provided below apply to different areas or land uses of the site.

The scrapyard area and Mira Trucking property are zoned as commercial. Therefore, the soil PRGs in these areas were based on the NJ NRDCSRS for lead (800 mg/kg), antimony (450 mg/kg), zinc (110,000 mg/kg) and PCBs (1 mg/kg). The NJ RDCSRS are considered applicable for the rental home property. The soil PRGs in this area are 400 mg/kg for lead, 31 mg/kg for antimony, 23,000 mg/kg for zinc and 0.2 mg/kg for PCBs. The current RDCSRS for lead is based on a 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 average lead concentration across the surface of the remediated area must be at or below 200 mg/kg, which corresponds to a child blood lead level of 5 µg/dL.

Based on the HHRA, lead and PCBs are the only site-related soil contaminants that pose unacceptable human health risks. However, lead, zinc, and PCBs pose ecological risks based on the Step 3A food chain models. Ecological risk-based PRGs were developed for lead and zinc in soil for the open field/waste disposal area of the Matteo property. Moreover, the ecological risk-based PRGs developed for lead and zinc in the Step 3A ecological risk assessment are lower than the background values for the site; therefore, the background values for lead and zinc, 128 and 106 mg/kg, respectively, are selected as the cleanup goals for surface soil (0 to 1 feet bgs) for the open field/waste disposal area. The NJ NRDCSRS are considered applicable for PCBs and antimony in this area and for all COCs in soil at depths below 1 foot based on current and anticipated land use.

Groundwater at the site is classified as Class IIA, suitable for drinking water use. Although the groundwater is not currently utilized as a source of potable water, there are three wells on or near the site that could potentially be used as drinking water.

SUMMARY OF REMEDIAL ALTERNATIVES

The FS identifies and evaluates remedial action alternatives. RAOs were developed for the site, and then technologies were identified and screened based on overall implementability, effectiveness, and cost. Remedial alternatives consisting of one or more technologies were assembled and analyzed in detail with respect to seven of the nine criteria for remedy selection under CERCLA. The remaining criteria, state and community acceptance, will be addressed in the ROD following the public comment period.

Remedial Alternatives

CERCLA Section 121(b)(1), 42 U.S.C. §9621(b)(1), mandates that remedial actions be protective of human health and the environment, be cost effective, and use permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Section 121(b)(1) also establishes a preference for remedial actions which use, as a principal element, treatment to permanently and significantly reduce the volume, toxicity, or mobility of the hazardous substances, pollutants and contaminants at a site. The NCP establishes an expectation that treatment will be used to address the principal threats posed by a site wherever practicable (40 C.F.R. Section

300.430(a)(1)(iii)(A)). The "principal threat" concept is applied to the characterization of "source materials" at a Superfund site. A source material is material that includes or contains hazardous substances, pollutants or contaminants that act as a reservoir for migration of contamination to other media or acts as a source for direct exposure. For this site, the battery casing waste exhibits elevated concentrations of lead and is characteristically hazardous (D-008 for lead). Collectively, battery casings mixed with municipal waste, soil and sediment are considered source materials because these materials serve as a continued source of contamination to other media through wind entrainment, stormwater runoff, inundating tidal water and infiltration from precipitation. Therefore, these source materials are considered principal threat waste. The principal threat waste is not amenable to treatment technologies due to its heterogeneous nature. As noted above, CERCLA Section 121(d), 42 U.S.C. §9621(d), specifies that a remedial action must require a level or standard of control of the hazardous substances, pollutants, and contaminants which at least attains ARARs under federal and state laws, unless a waiver can be justified pursuant to CERCLA Section 121(d)(4), 42 U.S.C. §9621(d)(4).

Remedial alternatives for the site are summarized below. Capital costs are those expenditures that are required to construct a remedial alternative. O&M costs are those post-construction costs necessary to ensure or verify the continued effectiveness of a remedial alternative and are estimated on an annual basis. Present worth is the amount of money which, if invested in the current year, would be sufficient to cover all the costs over time associated with a project, calculated using a discount rate of seven percent and up to a 30-year time interval. Construction time is the time required to construct and implement the alternative and does not include the time required to design the remedy or procure contracts for design and construction.

Common Elements

Five alternatives were developed including a "No Action" alternative. The No Action alternative provides a baseline for comparison with the other active remedial alternatives. Because no remedial activities would be implemented under the No Action alternative, long-term human health and environmental risks would remain the same as those identified in the BHHRA and SLERA, except for any changes due to incidental natural attenuation. There are no capital, maintenance or monitoring costs associated with the No Action alternative.

Alternatives 2 through 5 would include the following common elements:

- Pre-design investigation
- Remedial design
- Excavation of source materials
- Restoration of the shoreline of Hessian Run
- ICs as needed (e.g., establishment of a groundwater classification exception area)
- Excavation and off-site disposal of source materials and contaminated soil from the property formerly utilized by Mira Trucking
- Connection to city water for the on-site residence, the water supply for the current commercial facility on the site, and a nearby commercial property, if the connection has not been previously made
- Removal of lead-contaminated soil at the rental home area
- Long-term monitoring of sediments/surface water and groundwater
- Five-year reviews

Alternative 1: No Action

Capital Cost	$0
Annual O&M Cost	$0
Present Worth Cost	$0
Time Frame	0 months

The NCP requires EPA to consider the No-Action alternative. Under this alternative, no additional actions would be taken. Contaminated soil and battery waste would remain in its current location and the potential for migration of contaminants would not be reduced or eliminated. Environmental monitoring would not be performed. In addition, no further restrictions on land-use would be pursued. Current site exposures and risks would remain.

Alternative 2: Excavation, Stabilization, Construction of a Landfill for On-Site Containment of Source Material, Capping of Soils, Asphalt Cap over Scrapyard

Capital Cost	$ 33,339,000
Annual O&M Cost	$ 435,000
Present Worth Cost	$ 38,463,000
Time Frame	3 to 3.5 years

Under Alternative 2, source materials at the Matteo property would be excavated, dewatered as necessary, then placed in an on-site engineered containment cell above the 100-year flood zone. To remove the source materials along the bank of Hessian Run, a temporary berm or dam or sheet piling would be installed to block tidal water from entering the excavation area. Dewatering of the excavation area would be conducted as necessary when excavation would be performed below the water table. Contaminated soils exceeding the NRDCSRS for lead in the open field/waste disposal area and contaminated soil from the rental home property would be excavated, stabilized as necessary, and consolidated on top of the PCB-contaminated area in the open field/waste disposal area. The remaining contaminated area exceeding the PRGs in the open field/waste disposal area would be covered using imported clean fill and top soil. Soil erosion control measures would be implemented.

Contaminated soil at the scrapyard area is currently partially capped. During the remedial action, all remaining contaminated areas would be covered with asphalt or similar material. A stormwater management system would also be designed and installed to minimize the impact of stormwater runoff from the asphalt to the surrounding areas.

The shoreline along Hessian Run would be restored for slope stability and erosion controls. A minimum of one foot of clean fill would be placed to cover the excavated area after source materials are removed. Post-excavation sampling would be performed to assure cleanup standards were met after source material removal. After restoration, much of this area would be naturally inundated with tidal water. Therefore, the aforementioned clean fill will become sediment which would be subject to additional evaluation in OU 3.

A groundwater monitoring program would be developed and implemented to assess the effect of removing source material. ICs would be implemented. Routine inspection and maintenance of the engineered containment cell and caps would be performed. Five-year Reviews would be required to determine if the remedy continued to be protective of human health and the environment over time.

Alternative 3: Excavation, Off-Site Disposal of Source Materials, Stabilization and Capping of Contaminated Soils, Asphalt Cap over Scrapyard

Capital Cost	$65,835,000
Annual O&M Cost	$124,000
Present Worth Cost	$67,098,000
Time Frame	2.5 to 3 years

Alternative 3 is similar to Alternative 2, except that the source materials would be disposed of off-site as hazardous waste in a Subtitle C landfill as opposed to being contained on-site in an engineered containment cell. Therefore, inspection and maintenance for an on-site containment cell, and associated ICs, would not be necessary in Alternative 3 as compared to Alternative 2. The remaining components would be identical to Alternative 2.

***Alternative 4*: Excavation and Off-site Disposal of Source Materials and Contaminated Soils, and Asphalt Cap over Scrapyard**

Capital Cost	$71,460,000
Annual O&M Cost	$85,000
Present Worth Cost	$72,245,000
Time Frame	3 to 3.5 years

Under Alternative 4, source materials and contaminated soils in areas other than the scrapyard area would be excavated and disposed of off-site. Compared to Alternative 3, a large volume of PCB and lead contaminated soils in the open field/waste disposal area, approximately 24,000 cubic yards, would be excavated for off-site disposal at a Subtitle D landfill if non-hazardous, a Subtitle C landfill if hazardous, or a Toxic Substances Control Act (TSCA) disposal facility for PCB TSCA waste rather than covered in place. Excavation of source materials and contaminated soils would be performed in the same manner as described in Alternative 3. Contaminated soil at the scrapyard area that requires capping would be capped with asphalt or similar material as described under Alternative 2. Inspection and maintenance of a cap in the open field/waste disposal area, and associated ICs, would not be necessary under Alternative 4 since no cap would be present. The remaining components would be the same as Alternative 3.

Alternative 5: Excavation and Off-Site Disposal of Source Material and all Contaminated Soils

Capital Cost	$82,032,000
Annual O&M Cost	$ 50,000
Present Worth Cost	$82,383,000
Time Frame	3 to 3.5 years

Under Alternative 5, source materials and all contaminated soils, including below the scrapyard, would be excavated and shipped off-site for disposal at a Subtitle D landfill if non-hazardous, a Subtitle C landfill if hazardous, or a TSCA disposal facility for PCB TSCA waste. Other components would be the same as for Alternative 4. Long-term inspection and maintenance of caps would not be necessary under Alternative 5.

Comparative Analysis of Alternatives

Nine criteria are used to evaluate the different remediation alternatives individually and against each other in order to select a remedy. This section of the Proposed Plan profiles the relative performance of each alternative against the nine criteria, noting how it compares to the other options under consideration. The nine evaluation criteria are discussed below. A detailed analysis of each alternative can be found in the FS report.

EVALUATION CRITERIA FOR SUPERFUND REMEDIAL ALTERNATIVES

1. Overall Protection of Human Health and the Environment evaluates whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

2. Compliance with ARARs evaluates whether the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.

3. Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.

4. Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contaminant present.

5. Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, the community, and the environment during implementation.

6. ***Implementability*** considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

7. ***Cost*** includes estimated capital and annual operation and maintenance costs, as well as present-worth cost. Present-worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

8. ***State Acceptance*** considers whether the State agrees with EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.

9. ***Community Acceptance*** considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.

Overall Protection of Human Health and the Environment

Alternative 1, No Action, would not meet the RAOs and would not be protective of human health and the environment since no actions would be taken. Waste and soils highly contaminated with lead and other contaminants would remain in place and would continue to pose unacceptable risks to human health and the environment.

For Alternatives 2, 3, 4 and 5, RAOs would be met over time and would provide protection to human health and the environment through different degrees of containment, off-site disposal, ICs, and long-term monitoring.

Alternative 2 would require the most maintenance over time to assure its protectiveness, as it would include a hazardous waste landfill containing principal threat waste located near a residential neighborhood and the 100-year floodplain. It would also require ICs, such as a deed notice, to assure protectiveness over time.

Alternatives 3 and 4 require less maintenance compared to Alternative 2, with Alternative 3 requiring maintenance of capped waste both in the floodplain and in an upland area (beneath the current scrapyard), and Alternative 4 only requiring maintenance of capped waste in the upland area (under the current scrapyard). Both alternatives would require ICs to assure long-term protectiveness.

Alternative 5 would require no maintenance to remain protective, as it includes excavation and disposal of all waste material off-site.

Compliance with ARARs

ARARs for the site include the Resource Conservation and Recovery Act (RCRA), TSCA and New Jersey Residential and Non-Residential Direct Contact Soil Remediation Standards. In addition, EPA's memorandum "Updated Scientific Considerations for Lead in Soil Cleanups" dated December 22, 2016 is a TBC.

Alternative 1, No Action, would not address site contamination and would not comply with chemical-specific soil ARARs established for the protection of human health and the environment. Action-specific ARARs do not apply to the No Action alternative since no remedial action would be conducted.

Alternative 2 would include the creation of a hazardous waste landfill for untreated principal threat waste (battery casings and associated soils). This would be consistent with RCRA requirements.

Alternatives 2, 3, 4 and 5 could meet the RAOs and PRGs over the long term. Alternatives 2, 3, 4 and 5 would all include groundwater monitoring. Alternatives 3, 4 and 5 include excavation and off-site disposal of principal threat waste in compliance with RCRA Land Disposal Restrictions.

Long-Term Effectiveness and Permanence

Alternative 1, No Action, would not be effective or permanent since there would be no mechanisms to prevent or monitor migration and exposure to contaminated soils at the site.

Alternatives 2, 3, 4 and 5 would provide long-term protectiveness and permanence; however, each alternative would require varying degrees of long-term maintenance and controls in order to remain protective.

Alternative 2 would require the most engineering controls to remain effective over time, as it includes on-site capping of principal threat wastes.

Excavation and off-site disposal of the principal threat waste (battery casings) from the site, included in Alternatives 3, 4 and 5, would make it much easier to achieve long-term effectiveness compared to Alternative 2.

Alternatives 3 and 4 would include excavation and off-site disposal of principal threat wastes and other contaminated soils. However, Alternative 3 leaves capped waste in the floodplain, requiring potentially significant maintenance and engineering controls to assure protectiveness over the long term. Alternative 4 does not leave any capped waste in the floodplain and offers more long-term effectiveness compared to Alternative 3. The adequacy and reliability of the caps required under Alternatives 2, 3 and 4 rely on routine inspection and maintenance, as well as the enforcement of ICs over time.

Alternative 5 has the greatest degree of long-term effectiveness as it removes all waste from the site and does not require maintenance.

Reduction of Toxicity, Mobility, or Volume

Alternative 1, No Action, would not provide any reduction of toxicity, mobility or volume of contaminants since no remedial action would be conducted.

Alternative 2 would reduce mobility of principal threat waste and contaminated soils through containment of the source materials in a landfill and through capping other contaminated soils in place. Further, soils with the highest lead contamination (greater than 800 parts per million) would be stabilized on-site to further limit migration. This alternative offers no reduction of toxicity or volume of contaminated source materials and soils.

In Alternatives 3, 4 and 5, the reduction of toxicity, mobility, and volume of source material on-site would be achieved by the removal of the battery casings for off-site disposal. Off-site disposal would include off-site treatment to meet Universal Treatment Standards prior to landfill disposal. The toxicity and volume of contamination would not be changed. Alternative 3, and to a lesser degree Alternative 4, would include on-site capping of contaminated soils, which reduces the mobility, but not the toxicity or volume. Alternative 3 would include on-site capping of all soil contamination (excluding battery casings, which would be disposed of off-site) and includes some stabilization of the most contaminated soils (with lead levels greater than 800 ppm) prior to landfilling, which would further decrease mobility. Alternative 4 only includes a cap over contaminated soils in the scrapyard and would remove all other contaminated soils at the site.

Alternative 5 would be the most effective in reducing toxicity, mobility and volume of contamination at the site as all contaminated material would be treated and/or disposed of off-site.

Short-Term Effectiveness

Alternative 1, No Action, would not have short-term impacts since no action would be implemented.

Alternative 2 would have the most short-term impacts, as it includes the construction of a containment cell for hazardous waste near Willow Woods, a manufactured home community that is adjacent to the site. The construction of this containment cell is complex and would raise the surface in the area by about six feet, which would significantly change the topography. Drainage would be managed in a way that would minimize impacts to Willow Woods and the scrapyard area.

There would be minimal short-term impacts to the local community and workers for Alternatives 3, 4 and 5 because the associated excavation, capping and stabilization activities would occur within the OU 1 property boundary, and not involve the construction of a containment cell for principal threat waste, as in Alternative 2.

Alternatives 2, 3, 4 and 5 are all expected to take approximately three years to implement. All of the alternatives would generate dust and noise, which would be controlled to minimize impact to the nearby Willow Woods community. In addition, there would be short-term impacts related to the removal of the source materials and contaminated soils off site under Alternatives 3, 4 and 5. However, transport of material from the site is not expected to pose significant issues as the site is located near major highways.

Implementability

All alternatives are implementable. Services, materials and experienced vendors are readily available for all of the alternatives. During remedial design, site-specific design parameters for the selected alternative would be developed. Alternative 2 would be the most difficult to implement as it would require creating a containment cell and moving a substantial volume (approximately 56,200 cubic yards) of source materials from the shoreline of Hessian Run to the cell, which would be located in close proximity to a manufactured home community. Long-term inspection and maintenance of the containment cell would be challenging and resource intensive, but also critical to assure long-term protection of human health and the environment.

Alternative 3 would involve the excavation and off-site disposal of source material which is principal threat waste. In addition, under this alternative, soils with high levels of lead contamination would be stabilized and placed under a cap with lesser contaminated soils. Several capped areas would be located within the floodplain, making the maintenance of the caps challenging.

Alternative 4 would involve excavation and off-site disposal of all contaminated soils except those underlying the active scrapyard, which would be capped in place. This alternative is relatively easy to implement, using standard excavation and transportation options. Coordination with the owner of the scrapyard would be required to minimize impact on the operations there. Alternative 5 would be similarly implementable as Alternative 4, with more disruption to scrapyard activities during excavation of that area.

In accordance with CERCLA, no permits would be required for on-site work (although such activities would comply with substantive requirements of otherwise-required permits).

Cost

A summary of the cost estimates for each alternative is presented in Appendix A of the FS report. In summary, Alternative 1 is No Action and has no cost. The highest operation and maintenance cost are related to Alternative 2, and then Alternative 3 related to managing capped areas on site and within the floodplain. Depending on flooding patterns, these costs are difficult to estimate over time and could increase. Alternative 4 only includes maintenance of the capped area under the scrapyard and Alternative 5 has no capped areas to maintain. Alternative 4 is cost effective compared to Alternative 3 as it removes significantly more contaminated soils and requires significantly less operation and maintenance for approximately 5 million dollars more, which is approximately 7 percent of the overall cost of Alternative 4. All alternatives (except No Action) include costs for long-term sampling of groundwater, public water connection for the residential property on site, excavation of soils from the residential property on site and excavation of soils on the property formerly utilized by Mira Trucking. A cost summary of the remedial alternatives is displayed on Table 2.

State Acceptance

The State of New Jersey is reviewing EPA's preferred remedy as presented in this Proposed Plan.

Community Acceptance

Community acceptance of the preferred alternative will be assessed in the ROD following review of the public comments received during the public comment period.

PREFERRED ALTERNATIVE

EPA is identifying Alternative 4 as the preferred alternative because it satisfies the two threshold criteria (protection of human health and the environment and compliance with ARARs) and provides the best balance of tradeoffs among the other alternatives with respect to the five balancing criteria (short-term effectiveness; long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; implementability; and cost). The major components of the preferred alternative are as follows:

- Excavation and off-site disposal of source materials;
- Excavation and off-site disposal of all contaminated soils in the open field/waste disposal area, the rental home area and the property formerly occupied by Mira Trucking;
- Restoration following excavation;
- Restoration of shoreline of Hessian Run;
- Capping of contaminated soil in the active scrap metal recycling facility;
- Inspection and maintenance of the cap in the active scrap metal recycling facility;
- Connection to city water for several properties with private wells;
- ICs as needed; and
- Long-term monitoring of groundwater.

The preferred alternative is protective of human health and the environment and would meet the RAOs.

BASIS FOR THE REMEDY PREFERENCE

Under Alternative 4, principal threat wastes/source materials would be removed from the site. Alternative 4 is the alternative with the highest level of removal of contaminated soil from the undeveloped portions of the site, while contaminated soils underlying and in close proximity to the active scrapyard would be capped. Contamination within the 100-year flood zone would be removed from the site, obviating the need for long-term maintenance of a cap in a flood-prone area. Contaminated areas outside the scrapyard would be restored to provide habitat to an ecologically sensitive area.

The total estimated present worth cost for the preferred alternative is $72,245,000. Details of the cost estimates for all alternatives are presented in the FS Report. This is an engineering cost estimate that is expected to be within the range of plus 50 percent to minus 30 percent of the actual project cost.

Consideration will be given during the remedial design to technologies and practices that are sustainable in accordance with EPA Region 2's Clean and Green Energy Policy. This would include green remediation technologies and practices.

Because the preferred alternative would result in contaminants remaining above levels that allow for unrestricted use and unlimited exposure, CERCLA five-year reviews would be required.

Based upon the information available, EPA believes the preferred alternative meets the threshold criteria (protection of human health and the environment and compliance with ARARs) and provides the best balance of tradeoffs among the other alternatives with respect to the balancing criteria. The preferred alternative satisfies the following statutory requirements of Section 121(b) of CERCLA: 1) it is protective of human health and the environment; 2) it complies with ARARs; 3) it is cost effective; 4) it utilizes permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable; and, 5) it satisfies the preference for treatment.

With respect to the two modifying criteria of the comparative analysis (state acceptance and community acceptance), this Proposed Plan is under review by the State of New Jersey and community acceptance will be evaluated upon the close of the public comment period.

COMMUNITY PARTICIPATION

EPA and NJDEP provided information regarding the cleanup of the Matteo & Sons, Inc. Superfund Site to the public through meetings, the administrative record file for the site and announcements published in the *South Jersey Times*. EPA and NJDEP encourage the public to gain a more comprehensive understanding of the site and the Superfund activities that have been conducted. The dates for the public comment period; the date, location and time of the public meeting; and the locations of the administrative record file are provided on the front page of this Proposed Plan.

FOR FURTHER INFORMATION

The administrative record file, which contains copies of the Proposed Plan and supporting documentation, is available at the following locations:

West Deptford Free Public Library
420 Crown Point Road
West Deptford, NJ 08086
(856) 845 - 5593
Please refer to website for hours:
http://www.westdeptford.lib.nj.us/

EPA Region 2 Superfund Records Center
290 Broadway, 18th Floor
New York, New York 10007-1866
(212) 637-4308
Hours: Mon – Fri, 9:00 AM-5:00 PM

In addition, the entire administrative record is available on-line at:
https://www.epa.gov/superfund/matteo-and-sons

FIGURE 1 - SITE PLAN

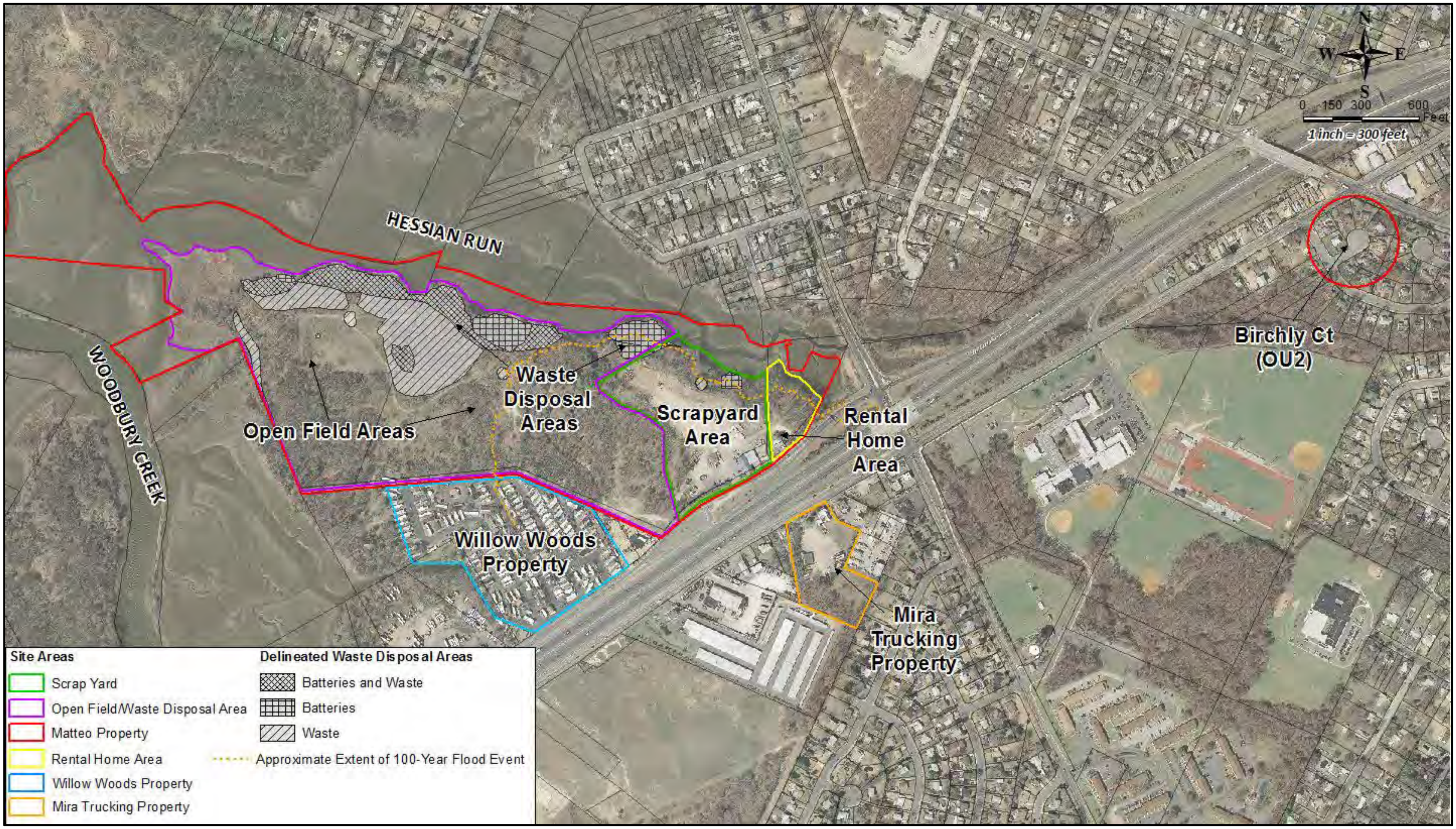

FIGURE 2 – APPLICATION OF PRGs

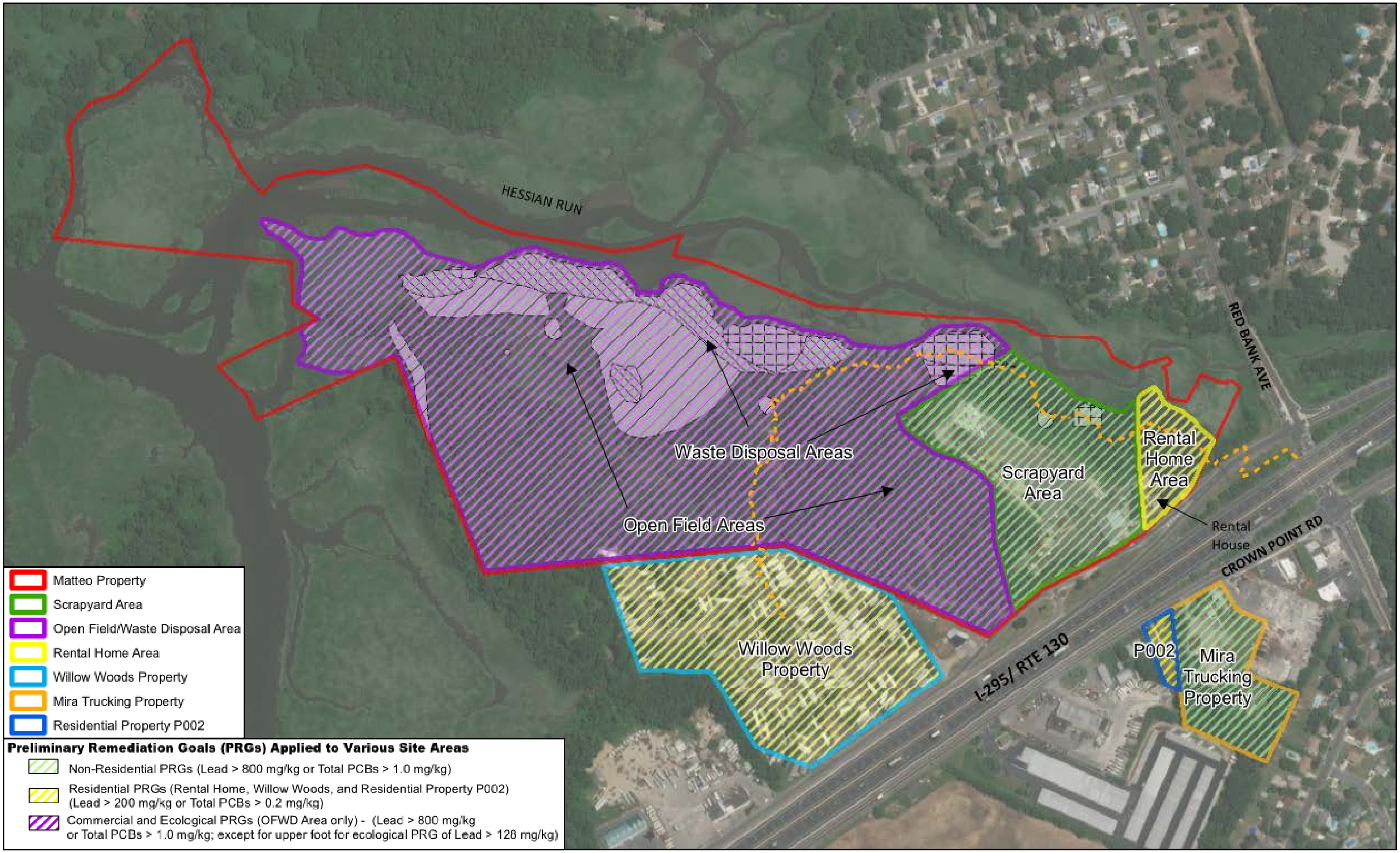

Table 2 - Cost Table

Cost Item	Alternative 1 – No Action	Alternative 2 – Excavation, Stabilization, On-site Containment, and Capping	Alternative 3 – Excavation, Off-site Disposal of Source Materials, Stabilization, and Capping	Alternative 4 – Excavation, Off-site Disposal of Source Materials and Contaminated Soils, and Capping	Alternative 5 – Excavation and Off-site Disposal
Capital Costs	$0	$33,339,000	$65,835,000	$71,460,000	$82,032,000
Annual O&M Cost	$0	$435,000	$124,000	$85,000	$50,000
Present Worth of O&M and LTM	$0	$5,124,000	$1,263,000	$785,000	$351,000
TOTAL PRESENT WORTH	$0	$38,463,000	$67,098,000	$72,245,000	$82,383,000

Attachment B
Public Notice

EPA Invites Public Comment on Proposed Plan for Cleanup of the Matteo Superfund Site, West Deptford, New Jersey

The U.S. Environmental Protection Agency has issued a Proposed Plan for the Matteo and Sons Superfund Site in West Deptford, New Jersey. A 30-day public comment period on the Proposed Plan, which identifies the EPA's preferred cleanup plan and other cleanup options that were considered by the EPA, begins on **July 3, 2019 and ends on August 2, 2019**.

The EPA's preferred cleanup plan consists of the removal and off-site disposal of contaminated material. The excavated areas will then be backfilled with clean fill. Contaminated soils within an approximately 10-acre active scrapyard area will be covered with asphalt or similar material. Soil samples will be collected and analyzed during the cleanup to ensure that the cleanup work is effective.

During the public comment period, the EPA will hold a public meeting to receive comments on the preferred cleanup plan and other options that were considered. The meeting will be held on **July 17, 2019 at 6:30 PM at the RiverWinds Community Center, 1000 RiverWinds Drive, West Deptford, NJ.**

The Proposed Plan is available at **www.epa.gov/superfund/matteo-and-sons** or you can request a copy by mail by calling Natalie Loney, EPA's Community Involvement Coordinator, at (212) 637-3639.

Written comments on the Proposed Plan, postmarked no later than **August 2, 2019**, may be mailed to Larry Granite, EPA Project Manager, U.S. EPA, 290 Broadway, 19th floor, New York, NY 10007-1866 or e-mailed no later than **August 2, 2019** to **granite.larry@epa.gov**.

The Administrative Record file containing the documents used or relied on in developing the alternatives and preferred cleanup plan is available for public review at the following information repositories:

West Deptford Free Public Library, 420 Crown Point Road, West Deptford, NJ 08086

EPA Region 2 Superfund Records Center located at 290 Broadway, 18th Floor, New York, NY 10007

0231467-01

Attachment C
Public Meeting Transcript

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 2

- -

TEMPO DEVELOPMENT CONTAMINATION

MATTEO & SONS SUPERFUND SITE PUBLIC MEETING

- -

RiverWinds Community Center
100 RiverWinds Drive
West Deptford, New Jersey

July 17, 2019
6:30 p.m.

EPA PRESENT:

NATALIE LONEY, COMMUNITY INVOLVEMENT COORDINATOR

LAWRENCE GRANITE, PROJECT MANAGER

TOM DOBINSON, PROJECT MANAGER

NICK MAZZIOTTA, RISK ASSESSOR

KIM O'CONNELL, PROJECT MANAGER

JOSEPH BUTTON, EPA

P R O C E E D I N G S

MS. LONEY: Okay. Thank you for your patience, everyone. If you could get seated, we'll start our public meeting.

Good afternoon. My name is Natalie Loney. I am the community involvement coordinator of EPA Region 2. We're here today as part of the presentation of the proposed plan to clean up remediation -- I am sorry, to clean up contamination at the Matteo & Sons Superfund site. And so as part of the process, we have a public meeting where community representatives can weigh in on their position regarding the remedy.

There is a stenographer present today and she will be taking your comments. If you would like to make your comment verbally tonight, after the presentation, you can do so. Just make sure to state your name clearly for the record. If you have not done so already, please make sure to sign in so that way when she's transposing the transcript, she can make sure that she has the correct spelling of everyone's name.

So what I am going to do now is kind of bring you through, take you through the process of what brought us here today, and then I am going to turn the microphone over to Larry Granite. Larry is the remedial project manager for the site and he will be taking you through technical components of the remedy, contamination at the site, et cetera.

At the end of the presentation, we'll open up the floor for questions and answers. There are other EPA representatives here, who I will be introducing later on in the presentation who will take cake of the questions and concerns that are over the course.

So let's get started. This image kind of brings us through how we got to where we are today. In 2005, the Matteo site was listed as a Superfund site. We found there was a -- through a whole series of events, there's a problem at the site. There's contamination. And as part of the -- once the site was identified as a Superfund site and placed on the list, there's a whole process that the EPA goes through in order to come to where we are tonight in terms of a remedy.

So the first thing we look at are what and where are the risks, and that process is done through a remedial investigation and a feasibility study. So basically we go out and look at the site, take samples to determine the nature and extent of contamination.

Once that's completed, we look at, well, how could a site be cleaned up? And that process is accomplished through something we call a feasibility study where we look at feasible options to address contamination. So once we've completed the investigation and looked at feasible options to address that contamination, we come up with something called a proposed plan. That's where we are today.

We have the proposed -- we have a proposal to -- on how to clean up the site. And there's a 30-day comment period. I believe the comment period ends on August 2nd, so that you have 30 days to weigh in on how you feel about the remedy. You could do so tonight or you could send an email or regular U.S. mail comments. We'll be providing you that contact information. It's also on the facts sheet that's there.

And so tonight we're going to be accepting public comments. And once we've completed this process, EPA will make its final decision as to how the site will be cleaned up, and that's called record of decision. So through investigation, look at feasible options, present a proposed remedy, get public comment, make our final decision and then go on to design and implement the remedy.

As I've said, I was going to introduce you to some of the other representatives from the agency, from EPA, who are here to provide support and -- I already introduced you to Larry Granite. I am Natalie Loney. Kim O'Connell is here. Kim is a -- is actually Larry's boss, but we prefer to call her the remediation branch chief. Nick, right there. Nick is a human health risk assessor. And I know some of you may be familiar with another portion of the Matteo Superfund site, and that's the residential area north of the site. And the project manager who manages that remedy is here, that's Tom Dobinson. So if there are questions regarding the work EPA is doing at the other portion of the site, he's here to answer those questions.

So I am going to turn -- I am going to turn the microphone over to Larry. I would ask that you kind of hold your questions at the end. But, you know, just jot them down. And, again, when it's time to ask or submit your comment, just please speak clearly for the record.

All right. Thank you so much.

MR. GRANITE: Thank you, Natalie.

So as Natalie has said, I am Larry Granite. I am an engineer. I am an engineer, an EPA engineer.

UNIDENTIFIED AUDIENCE MEMBER: Speak into the mic. We can't hear you. Got a lot of old people here.

MR. GRANITE: Hi. Is that better? I am Larry Granite. I am an EPA engineer and project manager on Kim O'Connell's staff. And as Natalie mentioned, EPA is trying to clean up the Matteo facility and an area across the street that was formerly used as Mira Trucking. So we're here to tell you about EPA's preferred remedy and to tell you about some other alternatives that we looked at that we do not recommend.

And we're in a public comment period that goes until August 2nd. And your comments and questions are important to us. When EPA ultimately selects the remedy, there's going to be a response in the summary summarizing your comments and questions and how we address them.

So I think Natalie kind of ran through this. So here's our agenda for this evening. Natalie gave you an overview of the Superfund process. I'll give you some site history, some site background. I'll tell you about our extensive remedial investigation and risk assessments. I'll summarize the five remedial alternatives that we looked at. I'll tell you about EPA's preferred alternative. And we're happy to take your questions.

(Begins slide presentation)

Just a little background information on what Superfund is all about. Superfund law was originally passed in 1980. It allows EPA to clean up hazardous waste sites and to respond to situations involving hazardous substances. And the Superfund law also gives EPA the authority to compel potentially responsible parties to either participate in the cleanup under EPA oversight or to reimburse EPA as they can.

So I'll give you some of the site background of the Matteo Superfund site. This is just an overview map. You all know that the Matteo facility is on U.S. Highway 130. You know, we know that it's adjacent to Woodbury Creek and Hessian Run. And there's a manufacturing home community that's also adjacent to the site.

The small, little orange area on the other side of the road is the property that Mira Trucking used to occupy, and that's part of our project.

So what happened at the Matteo facility in the 60's and 70's, they would take in used automotive batteries and try to reclaim the metal such as the lead. And you could see the hashed areas. So they would crack open the batteries. And as part of the reclamation process where they tried to recover the metals, they would generate battery casing wastes, which are pieces of black plastic that came to be mixed with sediment and ash and other materials.

And the hashed areas that you'll see, they dumped battery casing waste in wetlands adjacent to Hessian Run.

So the parts of the site that we've looked at consider -- there's an active business that you may be familiar with. That's the scrapyard area. There's one rental home on the Matteo facility. There's an open field waste disposal area, which is much of the site. There's the Mira Trucking property on the other side of the road where we found out that battery casing waste had also been dumped.

And as I mentioned before, Willow Woods is adjacent to the Matteo facility. There was a removal action -- there was an effective removal action at Willow Woods in 2006 where, under EPA oversight, approximately 425 tons of contaminated soil was removed.

This slide gives you a little bit more of site history. The polluting activities started around 1961 at the Matteo facility. NJDEP was aware of the situation going on there and issued an order in 1984. NJDEP did some investigations in the 90's and eventually the site was referred to EPA.

The take-away here is that the historic operation at the Matteo facility generating these battery casing wastes, which are difficult to deal with, and it's the source of the contamination of the Matteo facility.

This slide provides some more recent site history. I think that Natalie mentioned that the site was added to the EPA Superfund list in 2006. That was the same year that there was a removal action in the neighboring Willow Woods that was performed with EPA oversight, and we think that was a very effective removal action.

In 2011, EPA settled with the Matteos based on what they could pay, and then a couple years ago we found out that dumping had occurred at the nearby Mira Trucking property.

The next agenda item is I'll tell you about EPA's comprehensive and legal investigation and the two risk assessments that we performed.

So as Natalie mentioned, the purpose of a remedial investigation is to identify the nature and extent of the contamination at the site. Before we go ahead and select a remedy, we really want to understand what the problem is. So EPA collected numerous soil samples, groundwater samples, et cetera, and then the data was thoroughly analyzed.

As part of EPA's review of the investigation, we certainly utilized the data that NJDEP had collected earlier. We didn't want to reinvent the wheel, but we sought to fill in data gaps. And as part of the remedial investigation, there were numerous groundwater samples collected and we looked at Hessian Run and Woodbury Creek.

So this provides a little information about the physical setting. You know, the groundwater flows away towards the site, towards the creeks. The deeper groundwater flows in the opposite direction.

UNIDENTIFIED AUDIENCE MEMBER: Yo, you got to talk louder, man. Talk into the thing. We can't hear you.

MR. GRANITE: Okay. I am sorry. The deeper groundwater flows in the opposite direction than the dumping.

The take-away from this slide is that crushed battery casings were dumped into wetlands adjacent to Hessian Run.

Most of the open field waste disposal area is located within a 100-year flood zone, so that's certainly something that EPA considered. So what we found from the remedial investigation is that our primary contaminants in the soil are lead, antimony, copper and zinc. EPA believes that these contaminants originated from the site practices. So again, these site practices concluded around 1981. The businesses currently at the site today is something totally different.

So the battery casing, the battery casing wastes, which, again, are small pieces of black plastic that are mixed with ash and debris and sediment and contaminated soil, they're acting as a contaminant source.

We also found that there were polychlorinated biphenyls in the soil at the Matteo facility, and this is likely due to a dust control or weed control agent that was used at the site.

The take-away from this slide is that the soil contamination is mostly in the upper four feet of soils.

So EPA has defined something called principal threat waste for this site. The battery casing wastes. The battery casing wastes are the source of the contamination at the Matteo facility and EPA believes that this needs to be addressed in order to clean up the site.

So you see a purple hatched area. Joe is pointing the laser pointer at it. So that's your principal threat waste along the stream bank. That's something that EPA is eager to address. The other areas show contaminated soil. I wanted to point out the adjacent Willow Woods property. You know, as I mentioned, there was a removal action there in 2006. Approximately 425 tons of contaminated soil were removed from Willow Woods and along its boarder with the Matteo property. This was done under EPA oversight.

As part of EPA's subsequent remedial investigation, EPA conducted extensive soil sampling at Willow Woods and we did not find contamination.

Joe, if you -- if you could use the laser pointer, Joe.

The take-away from this slide on the groundwater is that with regard to the brown water, the lead in the brown water only exceeded criteria in wells, heavy stream and battery casing areas. And under our proposed plan, we're going to get rid of the battery casing areas.

EPA's remedial investigation involves two different types of risk assessments. One of them is a human health risk assessment. The human health risk assessment involved very conservative assumptions. The human health risk assessment concluded that with regard to the Matteo facility, the Matteo site proper, that there are potential human health risks due to the lead and the PCBs in the soil. The human health risk assessment also looked at Willow Woods. And since we did not find contaminated soil at Willow Woods, the human health risk assessment concluded that there are no risks at Willow Woods.

There was also an ecological risk assessment performed as part of EPA's remedial investigation. That was the second of the risk assessments that were performed. So the take-away from this slide is that lead and zinc posed potential ecological risks based on the food chain model that EPA performed and site's specific sampling. The site's specific sampling included worms. The ecological risk assessment concluded that PCBs do not pose an ecological risk.

Okay. So we're kind of getting into the meatier part of the agenda. EPA's feasibility study looked at different alternatives that it could possibly choose from to clear up the site, and EPA's feasibility study involved five different alternatives. This slide talks about remedial action objectives.

EPA certainly wants to get rid of the battery casing wastes, which we feel is the principal threat waste, the problem. EPA also wants to address the contaminated soil at the Matteo site. And EPA feels that our proposed plan will benefit the groundwater by addressing the source of the problem.

Except for the first alternative, which is alternative one, the other alternatives include some commonalities. You know, the commonalities considered a 100-year flood zone and restoring the shoreline. The shoreline was altered. I had mentioned that the battery casing wastes were dumped in the wetlands adjacent to Hessian Run, so we want to rectify -- we want to restore the shorelines to their pre-landfill conditions. Alternative one has no action, but we're required to consider that alternative. EPA -- it's not appropriate for this site. Okay.

This slide has the common alternatives of the -- common elements of other alternatives. We're going to address the principal threat waste, we're going to -- we plan to clean up the property formally used by Mira Trucking. We found three potable wells at or near the site that we would connect to city water if that isn't done by NJDEP.

And then EPA's game plan is once we clean up the principal threat waste and contaminated soil, we plan to perform long-term monitoring of groundwater quality to see if any action is warranted for the groundwater, to see if any further action is warranted.

Alternative two is not being recommended by EPA. You could see -- the primary feature of alternative two is we would excavate principal threat wastes and create a permanent on-site landfill not very far away from Willow Woods. That's the green area.

Under this alternative, we would also excavate the contamination at Mira Trucking. And the purple area is the scrapyard. It's currently a scrapyard. We believe it will be a scrapyard in the future. It's currently partially paved as part of alternative two, which EPA is not recommending. We would cover all the contaminated areas within the scrapyard with asphalt or a similar material.

So alternative three -- let me tell you about the difference between alternative two and alternative three. Under alternative two, the only off-site disposal of contamination would be for Mira Trucking. All the contamination under alternative two would stay at the Matteo site in an on-site landfill, an on-site engineering containment cell.

Under alternative three, which is similar, there would be significant off-site disposal. All the pink stuff that we see, which includes -- which is the principal threat waste, that would be sent off-site and other contaminated soils at the Matteo property would be stabilized at the Matteo property.

Alternative four is what EPA is recommending. Alternative four is EPA's preferred remedy. Let me walk you through this one because this one -- because this is what EPA is proposing. This is our preferred remedy.

Under alternative four, all the pink areas, all the hashed areas, those are the materials that would be excavated for off-site disposal. We would send the principal threat waste and the contaminated soils to off-site facilities that are acceptable to EPA.

So alternative four involves a comprehensive excavation of off-site disposal both at the Matteo site proper and at the Mira Trucking.

So one different area is the purple area. So many of you probably know there's an active business at the site, a metal recycling business. So that involves approximately a 10-acre scrapyard area. So currently there is some asphalt and paving in the scrapyard.

So under our preferred remedy, EPA would cover all contaminated areas at the scrapyard and near the scrapyard as necessary with asphalt or similar material. So there would be a tremendous improvement at the active scrapyard.

Otherwise, everything is excavated and is sent off-site to an appropriate facility or facilities. Facilities that are licensed to accept lead contaminated waste.

Alternative five, which EPA is not recommending, is similar to alternative four except that under alternative five even the scrapyard -- the contamination and scrapyard area would be excavated for off-site disposal.

This slide attempts to summarize the five alternatives. So, again, alternative four -- Joe.

Alternative four is EPA's preferred remedy. There would be comprehensive and extensive excavation of all the principal threat wastes, the contaminated soils both at the Matteo facility and at the property across the street that was formally used by Mira Trucking. And the scrapyard area would be -- the contaminated soil in the scrapyard area would be capped with asphalt or similar material.

We currently estimate that alternative four, which is EPA's preferred remedy, would involve removing approximately 92,000 cubic yards of contaminated material in the site. The estimated cost is approximately $72 million.

After the design is completed, we would need approximately three to three and a half years to actually implement this remedy.

EPA has nine criteria for evaluating cleanup plans. Many of you have seen our proposed plan that's on the internet, and there's a comprehensive description of these nine criteria in the proposed plan.

The remedy that EPA selects has to protect human health in any environment. Otherwise, what's the point? The remedies have to comply with regulations. There are other criteria that we have to consider such as long-term effectiveness, reduction of toxicity, mobility and volume, short-term effectiveness, implementability and cost.

With regard to the Matteo site, the State is supportive of our proposed plan and we're here today because we wanted to explain to you our plan for cleaning up the Matteo facility, we wanted to hear your questions and any comments that you may have. Community acceptance is one of the nine criteria.

Okay. The next agenda item seems to be preferred remedy. Okay. Here are some bullets. We're going to -- we plan to -- we propose to excavate all the source materials, the battery casing wastes, the bits of black plastic that are contaminated with debris, ash and metals, send it off-site to appropriate facilities, excavate all the contaminated soil in the open field, waste disposal area.

We found some limited contamination soil in the rental home area that I mentioned. There's also contamination at the Mira Trucking area. We would excavate that for off-site disposal. Site preservation is part of any Superfund remedy that involves excavation.

We would restore the shoreline of Hessian Run, cap the contaminated soil in the active scrapyard area with asphalt or a similar material.

We found three potable wells. One of them is in Mr. Matteo's office, the rental home has a potable well, and there's a nearby business that also has a potable well. We plan to connect those locations to the city water if NJDEP doesn't beat us to it.

The cap -- the asphalt -- the cap in the scrapyard area would have to be maintained. It will be inspected and maintained for long-term.

So EPA feels that -- I mentioned that the lead was only found in -- the lead in the groundwater was only found in areas where battery casings were present, so EPA's remedy would involve -- after the cleanup is done, EPA would do a long-term groundwater monitoring program.

We feel that by removing the source of the contamination, that this will have a beneficial effect on the groundwater. So after doing post-cleanup, long-term groundwater monitoring, that would enable us to assess whether any further action is necessary for groundwater.

This is the figure that many of you saw before the meeting started that's taped up to the wall. This is our preferred -- this is EPA's preferred remedy. The hashed areas are battery casings, battery casings mixed with waste.

The other pink areas are contaminated soils. So EPA's preferred remedy is to excavate all the battery casing wastes, you know, get all the battery casing waste, get all the contaminated soils, send them off-site. And that's from the open field waste disposal area, the rental home area, the property formally used by Mira Trucking.

And the purple is the scrapyard area that I've mentioned a number of times. That would be the proper cap of asphalt or similar material.

MR. RODACK: Excuse me, Larry. Just one question. Could you go back to that slide? Sorry to bother you.

Was the -- was the 100-year flood event delineated on there? 100-year flood --

(Inaudible crosstalk)

MR. GRANITE: The preferred remedy has an estimated capital cost of approximately 71.5 million. Operation, maintenance includes long-term inspection and maintenance of the cap for the scrapyard area. Estimated present worth of about 72.2 million.

And once the remedial design is completed, we would need three to three and a half years to implement this comprehensive remedy.

As Natalie said at the kickoff of this meeting, we're trying to clean up the Matteo facility, we're trying to clean up the property that was used in the past by Mira Trucking.

Your questions are important to us. We're interested in your comments. This project -- this cleanup is for you. And my email address is granite.larry@epa.gov. You could always feel free to email me or call.

Thank you for coming to this meeting on an extremely hot day.

MS. LONEY: So we're going to open up the floor for Q&A.

(Hand raised)

MS. LONEY: Sir?

MR. MILLER: Why don't you just buy us out.

MS. LONEY: I am sorry. Could you state your name for the record?

MR. MILLER: John Miller.

The properties ain't worth nothing. You're spending millions of dollars. Why don't you just buy us out?

It's taminated(sic), the whole place. It's a waste of time. Just buy us out. It would be cheaper.

MR. GRANITE: So --

MR. MILLER: The whole thing is -- I lived in Willow Woods. It's taminated there. You claim it's not. It is.

MR. GRANITE: Well, we get a lot of -- we get an extensive amount of --

MR. MILLER: Years ago you had a meeting before and you didn't do a damn thing about it.

MR. GRANITE: I am sorry? I didn't quite hear the last thing you said.

MR. MILLER: There was a meeting like this before at the fire house. Same meeting and you didn't do nothing. Everything is still taminated, you still have this meeting. You ain't doing nothing about it.

Even if you do something about it, our property ain't worth nothing. How can we sell our property? Do you understand that?

MR. GRANITE: It sounds like you're talking about Tempo Development?

MR. MILLER: Everywhere. The whole place. What you said, the whole place is taminated. You know? We get floods there.

Where do you think that lead is going? It's going everywhere.

MS. O'CONNELL: The Willow Woods -- if you are talking about the Willow Woods Community, there was some contamination there. There was some removal actually there in 2006 where there was 400 tons of the soil where it was near the boarder --

MR. MILLER: You put a gate up so we don't get across. There's still floods. You're still getting the stuff.

MS. O'CONNELL: It was near the boarder of Matteo -- if you could show on the map, it was near the boarder of the Matteo property and Willow Woods.

MR. MILLER: That's where I live.

MS. O'CONNELL: The soil sample was done to confirm the residential standards were met.

MR. MILLER: It's still taminated.

MS. O'CONNELL: It's not contaminated because we resampled soil in --

MR. MILLER: Well, redo it again. I could give you my property and redo this again.

MS. O'CONNELL: Well, we did a sample before --

MR. MAZZIOTTA: Sir, there's also a berm there that's seven feet tall that prevents contamination --

UNIDENTIFIED AUDIENCE MEMBER: No. No.

MR. MILLER: No. No. That's -- that's --

(Inaudible audience crosstalk)

MR. MILLER: That's for floods. That was for a flood.

(Hand raised)

MS. LONEY: If you're going -- remember --

(Court reporter interrupts hearing for clarification.)

MS. LONEY: I am sorry, ma'am. Can you say that again?

MS. HUTCHINS: Samantha Hutchins.

That berm that was put up to prevent flooding, prevent contamination or whatever you want to call it, made things worse. The last storm that we just got, my house was under water because of that berm.

MR. MAZZIOTTA: I am very sorry to hear that, but just realize that means contamination from the site is not coming into Willow Woods. I understand that --

MS. HUTCHINS: It's coming over the berm.

MR. MAZZIOTTA: You're saying that water is present on the Willow Woods side?

MS. HUTCHINS: Because the berm is being

pushed down. The berm is not completely up seven foot, or whatever he said. That berm by where my house is, you can come look at it tonight. It is nowhere near the height that you're saying. That water is coming -- I have two little kids that play outside on my grass.

MR. MAZZIOTTA: We'll certainly consider that during our design. Absolutely.

MS. HUTCHINS: Okay.

MR. MILLER: But it's not just our properties. It's all these people's properties. They ain't worth nothing. How are we going to sell it? And if you don't tell the buyer that's taminated, you're going to get sued.

Why don't you just pay everybody off instead of this million of dollars that you're spending? Just give us the money, we could move out. That's how simple it is. Because you ain't getting the tamination out of there. You talk about that -- in the batteries there's acid. You didn't talk about the acid. What happened to the acid?

There's batteries in acid(sic), you know that. What happened to that? You don't mention half of what's going on there. And it's been going on for years. Years.

MS. O'CONNELL: So the soil with the sample, it was sampled. It was some contamination in the limited area of the woods. There was a removal action, the soil was sampled after the removal action, and it met all residential standards. That was in 2006.

There was another -- during remedial investigation when we were doing our sitewide investigation, in 2012 and 2015 there were more soil samples taken of Willow Woods. They meet all residential standards.

MR. MILLER: Well, why are you doing this anyway? If everything is meeting the standards, you don't have to take the soil off.

MS. O'CONNELL: We're talking about Willow Woods. The contamination you named with the battery --

MR. MILLER: Right. And it's still coming down when there's heavy rains. Not just our property. Everybody here is taminated. They cannot sell the property. It's going to go down.

Why don't you just buy everybody off, we can move to somewheres that's safe, because you're never going to get that problem solved. That's for everybody.

Try selling your house. And if you lie to these people, the buyer, they can sue you.

MS. O'CONNELL: Again, the property is clean on the --

MR. MILLER: Okay.

MS. O'CONNELL: It meets the residential levels in the soil.

Can we move on to another question?

(Hand raised)

MR. FEDOR: Yes. My name is Ken Fedor. You're talking a lot about groundwater here.

Is this creating a problem for our drinking water and how can you not -- you know, can you be assured of that?

MS. O'CONNELL: Okay. There are several private wells right on the Matteo property. The Willow Woods property and all the other areas are on a public water supply. You're drinking water that's provided by public water that's sampled and -- they sample it monthly to see the water levels and the samples --

MR. FEDOR: Another question. Does Matteo have any financial liability for this?

MS. O'CONNELL: Yes. So the operator of the property is deceased. It's in the family. There was -- the EPA did pursue the family for liability there and there was some limited funds. We did have a settlement where we got access and we did -- we recovered some funds. Unfortunately, it's not close to what's going to be needed to fully remediate this site.

MR. FEDOR: Oh, I can see that.

UNIDENTIFIED AUDIENCE MEMBER: So who is paying?

MS. O'CONNELL: It will be federally funded.

MR. MILLER: So it's going to be taken out of your taxes, is what it is. Same as usual.

We want to get something for ours, that's what we want. We want to get money because you ain't going to fix this problem. It's all taminated up there. We have two, three inches of rain. Where do you think that tamination is going? It's going all through.

So you're only double talking like you did before at the other meeting.

(Hand raised)

MR. RODACK: May I ask a question. Several questions, actually.

MS. LONEY: I want to -- there was somebody right there, and then we'll get to you.

Yes. I am sorry.

MRS. FEDOR: Emilie Fedor. I am his wife.

MS. LONEY: Say that name again. I am sorry.

MRS. FEDOR: Emily -- let me walk over here.

My name is Emilie Fedor. We lived near Mira Trucking. We're the second house in that's affected, okay.

I am making a documentary video from day one up until today because we've sustained severe damage to our property and our home because of him taking down this barrier, okay. And you don't have to be a scientist to realize that we now have an intense wind tunnel directly to our house. The other houses -- and our neighbors can attest to this -- don't have this.

Because we are now directly open, wide open, to 295, which we know we're getting the west winds from the river and the south winds from 295. It comes around. Day one when he took this down -- and he did it illegally -- and I want to know what repercussions that's going to happen with this. Because the EPA and the township knew nothing about this. We called. We had gross dust storms coming into our house.

Since then, our house has been covered with dust and dirt all over our streets. We've had Tom many times come over and look at it. We've had the township, an engineer. I've documented everything on pictures, we have videos, okay.

I had for 15 years a vegetable garden that we had 11 of them that we grew all our produce and fruit. The day after this, that night, it was totally ripped up from the ground. And we have not been able to put anything back yet. We are getting constant -- now we had our whole back of our house covered with green mold that killed my fish twice in my fish pond. Now we're not even filling it back up because -- we still have the green molding on our rain spouts. Our rain spout covers were destroyed.

The water is coming over and it flooded my kitchen from the deck. It flooded our rec room three times. We had damage done to our house from this. We have constant dirt. We have constant -- you have to come over -- and I invite yous to come right now and see.

Because if I am not out there every other day hosing things down, we're covered. The whole inside of my house is covered with dirt.

MR. FEDOR: The question is, does EPA have any --

MRS. FEDOR: Ken, let me finish. 50 years, guys.

But my point is, we agree with this number four, the alternative. We like that, okay.

MR. GRANITE: Thank you.

MRS. FEDOR: But here is my question: In the meantime, when is a barrier going to be put back to stop this damage being done to our property and our home? We cannot go out of the house -- right now we have to have somebody there because if a storm kicks up, we have to run down and put wood in front of all our doors and run the sump pump. It goes in seconds over. Flooded out my rec room, a $500 rug. It's ruined my kitchen floor. Siding blown off the side of my house, the rain spouts and trim ripped off.

And Tom, I've called him over there and he gets an email from me every week.

MR. FEDOR: Tom knows the deal. You can talk to him.

MRS. FEDOR: Because I made him come over and I made the township come over. In the meantime, Mr. Zeisloft has moved bins over to our house, piled up what he's putting over there, dirt and debris and rocks and stuff, mulch eight foot higher than the bins and we're getting all of that.

You need to come and witness what we're

living with on a daily basis. Is this contaminated? Are we breathing silicosis from this, from the products being -- I call it the -- Tom, what's that agency I called?

MR. DOBINSON: I believe it was the Health Department.

MRS. FEDOR: Now, listen to this. The health department. I was told to call there because every time he dumps, this gets stuck because there's no barrier. We had a 50-foot deep, 80-foot high chain barrier. 44 years we have lived there and never once -- we had a tornado go right behind us down 295, right behind us, and we never got the effect of it because we had this barrier. We've lived there through hurricanes, we've never had this.

(Inaudible audience crosstalk)

(Laughter)

MRS. FEDOR: But anyway, I am developing a video, okay, a documentary from day one with all the pictures of before and after, okay. And I am going to -- every email I have sent, taking pictures of this damage we're getting. Who is going to pay for this and repair this? Who is going to stop it?

If you guys are coming in six months to a year from now, we're going to get all those fall winds again when the wind season comes. Our house is getting damaged. We called the insurance company. They said, yeah, we'll fix it. I didn't because as soon as you do, it's going to be wrecked again.

We are having our property destroyed because of this. And our lifestyle. Mr. Zeisloft did it illegally. And what we've heard is a rumor, is he was going to do this because he wanted to move his property up but he had -- so here's the problem now.

What is being done to replace this barrier before you do this? We can't wait any longer. We need something done -- we don't need this little hill with trees on it. We had 50-foot deep, 80-foot high. Because one tree that was standing up is about a hundred feet high and we're petrified it's going to fall.

(Inaudible audience crosstalk)

MS. LONEY: I am sorry, sir. We have to make sure that the stenographer hears everything.

MR. FEDOR: Ken Fedor. Yeah. But what he did is he came behind an easement. That's not a township problem. I know that's not legal. And he took 80-foot-tall trees down.

MS. O'CONNELL: So unfortunately, I know you're working with your township --

UNIDENTIFIED AUDIENCE MEMBER: The township can't do nothing to the EPA property.

MS. O'CONNELL: The property is contaminated. As you can see, it's part of our long-term plan, which is not gonna give you the short-term easability for the long-term plan goals for excavation of the contaminated soil for the battery casings, and then the site will be restored. We don't regularly -- Mr. Zeisloft, business for --

MRS. FEDOR: But they tell me they can't do nothing to you guys because --

MS. O'CONNELL: Well, yes. We were -- what we were concerned about -- our concern was the disruption of the contaminated soil because it all contains --

MRS. FEDOR: But you're not concerned that we're getting the contamination.

MS. O'CONNELL: We are concerned. We have some authority in the Superfund. You know, what we're doing is we're remediating the Superfund site. The Superfund site --

MRS. FEDOR: So you can ultimately stop this from us getting contaminated?

MS. O'CONNELL: Yes. So there will be a long-term cleanup there. So we're going to excavate the soils. We are working with that property owner. We can't -- you know -- he's allowed to park in the front of the property right now. And so we, you know, will do everything we can to try to expedite that work.

In short, the work will be to take up much of that site, to excavate the lead-contaminated soils off-site and then to restore the property.

MRS. FEDOR: I am not getting -- now, you're supposed to be protecting our environment and nothing is being done now for probably a couple more years, okay, that we keep getting contaminated and destroyed. That should be stopped right now. That area should be done, whatever it is, to put something back up to block this from affecting us.

MR. FEDOR: Because it's close to our property line. The question becomes is: How deep is the contamination onto his property? If it's 150 feet from our property, then we should be able to do something to build this berm that was behind our fence. Because I see the dates on there.

I mean, with all due respect, you're not moving too quickly on this stuff, okay. It takes a lot of years. I don't want to see a lot of years where we can't even get a berm, you know, something put in place there to stop our problems.

MRS. FEDOR: We can't even use our backyards. It's totally ruined with weeds. Four foot high.

Do you know how much money and time and years we spent on this? We're in our 70's. We had all this stuff so we wouldn't have to do it. So my question is, why can't they do it on our fence line, put a berm up and do whatever they have to do, because we have to stop getting contaminated.

We are getting the effects of this contamination daily. Daily. I have problems with my -- we can't use our deck at all. We haven't been able to use our deck for years now. I have covers on the front of the (inaudible) -- I have it totally covered, covered with this black and green stuff.

MS. O'CONNELL: Because there's other businesses there, too.

MRS. FEDOR: No, there's not. Directly behind us, okay, there's a parking lot. This is all coming from the fields, coming from his property. But that's not the point.

My point is, why can't you just do the four houses, be done the first, berm up --

MS. O'CONNELL: We are likely to prioritize

that property first. It's still not necessarily the
process. We looked at the three to five years, that's
for the cleanup and --

MRS. FEDOR: So is this going to be done
before the end of the year?

(Inaudible audience crosstalk)

MS. O'CONNELL: As we've done on the other
properties, throughout Willow Woods, Tempo
Development, we prioritize --

MRS. FEDOR: Our windows get blown out
-- because last winter our windows were rattling from
that wind. That wind is causing the damage. That
needs to be stopped and that -- that's environmental.
That's what I -- EPA should have been protecting us
from it. We should not be getting damage from
contamination and daily ruin of our lives. And it is.
This is the worst 44 years we've ever spent.

(Inaudible audience crosstalk)

MR. FEDOR: Can you tell us how far deep
into the property that is?

MS. LONEY: I am sorry. I can't hear what
you just said, sir.

MR. FEDOR: On the Zeisloft property, you
said taking all the samples. You have to identify the
contamination. How deeply -- you have to know where

the contamination is. How deep into the property --

MRS. FEDOR: If it's not along this area, why can't the property --

MS. DOBINSON: The contamination is right on the other side of the fence line.

MR. FEDOR: So it's right on the other side of the fence line behind our property?

MR. DOBINSON: Yes. So --

(Inaudible audience crosstalk)

MR. DOBINSON: We have been sampling on your property. We did not find any contamination on your properties. Everything is on the other side of the fence. So that makes it difficult to put a berm on --

MRS. FEDOR: Why can't that --

MS. LONEY: One second.

(Inaudible audience crosstalk)

MS. O'CONNELL: What we will do is once the remedy is selected, after incorporating the comments, we'll probably be -- around September, we will move into our engineering design. As we have with other portions of the site, we always prioritize anything packed in a residential property. And we would prioritize that.

I can't give you what the schedule is now --

MRS. FEDOR: So you tell me another winter of this?

MS. O'CONNELL: It's quite possible. I can't tell you until after we select the remedy and we get an assigned contractor on board. But we would prioritize --

MRS. FEDOR: So keep paying and live in fear that our windows are going to be blown out? It is intense. I have videos of the sample. It is unbelievable when we get these winds.

MR. FEDOR: It's the siding -- it's blown some of the siding off.

MS. O'CONNELL: We hear what you're saying and that probably will be remediated. We will have to stay in touch with you --

(Inaudible crosstalk)

MS. O'CONNELL: We will have to stay in touch with you on the schedule as we go along. We have to select this remedy first. Let's just -- okay.

MS. LONEY: You know, we clearly hear -- one second. We clearly hear the anxiety and the concerns that you have and we're not ignoring it. We just have -- there's just certain limitations that we have. We hear what you're saying and we're going to move as aggressively as we can to address your concerns.

We have it on the record. And you have been in communication with Tom --

MRS. FEDOR: Oh, yes.

MS. LONEY: Exactly. And I think it's clear to you that we're not dismissing you by any stretch of the imagination. You have Tom's contact information, my contact information. And I also got a copy of your email about the video.

So I just want to let you know we hear you, we hear your concerns, and we're definitely going to do everything that we can to help solve it.

MR. FEDOR: Now you can take other questions.

MS. LONEY: Yes. Thank you.

(Hand raised)

MS. LONEY: Sir. And then you.

MR. RODACK: Let me get up here so people can hear me.

My name is Rich Rodack, R-O-D-A-C-K. And I'll just address all you guys. I have an environmental background, so these will probably be easy questions for you since they're in your pamphlet.

You guys talked about horizontal -- or delineation of contamination. You -- I am assuming that you got horizontal and vertical delineation of contaminants in groundwater to applicable standards? Is that true?

MS. O'CONNELL: Yes.

MR. RODACK: Is that to EPA's standards or DEP standards?

MS. O'CONNELL: Both really. In short, we have -- we have three different soil standards for lead that apply here. We have a residential standard that applies on that small, yellow triangle, which is a residential property, which we require as to clean the surface as to 200 parts per million. There is a commercial standard, which is accepted by the state. It's the EPA and the state standard, which is 800 parts per million for industrial exposure.

And we also have an ecological standard which we are applying in the ecological areas of the site. And that actually lowered the background to a default background, which is 128 parts per million.

MR. RODACK: Thank you. So you guys talked about contaminants of being concern about being -- what was it? Lead, antimony and PCBs.

Did you also test -- I am assuming you tested the soil on the groundwater for organic compounds?

MS. O'CONNELL: Yes.

MR. RODACK: And they were all below standard?

MS. O'CONNELL: No. There is some volatile groundwater contamination. It's not coming from the site. It's coming from other sources. There is some volatiles in the groundwater.

UNIDENTIFIED AUDIENCE MEMBER: What about SVOCs? Semi --

MR. RODACK: Yes. What about SVOCs and also COCs?

(Inaudible audience crosstalk)

MS. LONEY: SVOCs, semivolatile organic compounds.

MR. RODACK: It's a different -- it's like stuff in diesel fuel.

MS. O'CONNELL: The primary contaminants on the site are lead, antimony and PCBs. It's not a volatile source. There are some volatiles in the deeper groundwater and they're coming from other off-site sources.

MR. RODACK: That was going to be my next question.

I think, Larry, you referred to that -- is there was a shallow aquifer and a deeper one?

MR. GRANITE: Yes.

MR. RODACK: And we talked about potential receptors as being -- there was two or three potable wells nearby?

MS. O'CONNELL: Yes.

MR. RODACK: Have they been sampled?

MS. O'CONNELL: Yes.

MR. RODACK: And are they below applicable standards for drinking water?

MS. O'CONNELL: They are, yes. They are currently, yes. We would consider them threatening and so we would hook them up. There's a water line going right down the stream, so we would hook them as kind of a minor part of this remedy, a smaller piece of this remedy compared to all the soil excavation.

MR. RODACK: With respect to the soil and groundwater samples you took, I mean, just roughly how many modules do you have in place and how many soil points did you take? And roughly --

MR. GRANITE: We have approximately 35 groundwater monitorings for the site.

(Inaudible audience crosstalk)

MS. O'CONNELL: There's 35 groundwater monitoring wells approximately.

MR. RODACK: And they're both in the shallow and the deeper aquifer?

MS. O'CONNELL: Yes.

MR. BUTTON: Right. But for the well, shallow and knee-deep aquifer.

MR. RODACK: So three aquifers?

MR. BUTTON: Oh, it's two aquifers.

MR. RODACK: And then the number of soil borne --

MR. BUTTON: Hundreds.

MS. O'CONNELL: Hundreds of soil --

MR. RODACK: Well, the thing I was interested in -- and I know the people are concerned about the contamination on their property. Wouldn't it be a good idea -- it's up to you guys, but they could get that video for soil on their property --

MS. O'CONNELL: All the data has been --

(Inaudible audience crosstalk)

MS. O'CONNELL: It is all available on the website.

MR. RODACK: And then let's see. I was looking at the remedial actions alternative four versus alternative five, and the difference in cost is like 72 million to 82 million roughly. And I guess the -- my question there is, going to the more expensive option of 82 million would include digging out contaminated soil under the asphalt that's baria(PH).

My question there is, is that asphalt of baria affected by groundwater, water washing contaminants out of it?

MS. O'CONNELL: No. I mean, if we felt that the contamination underneath the scrapyard area was a source of groundwater, we would address it. It's not a source of groundwater contamination. It's primarily lead and some PCBs in there but --

MR. RODACK: So capping it should be sufficient for the --

MS. O'CONNELL: Yes. But there will be long-term monitoring of groundwater after this action too. So if that wasn't the case, we would see it.

MR. MAZZIOTTA: Yeah, I think Larry mentioned before, but the only place that we saw groundwater contamination was lead right at the banks of Hessian Run, and those walls were screened in a casing material itself. So by removing that source, we should see a decline in the lead concentrations --

MR. RODACK: And those lead samples, when you took the groundwater samples, was that also sampled?

MR. MAZZIOTTA: Yes.

MR. RODACK: I think that's -- oh, any vapor intrusion concerns?

MR. MAZZIOTTA: No.

MS. O'CONNELL: We don't have volatile contamination at the Hessian site. And there's limited buildings. There is a building in the scrapyard.

MR. MAZZIOTTA: The volatiles that are in the groundwater are pretty low and they're in the deeper aquifers. And there's a fairly thick layer of clay that runs along the site that impedes the volatiles from migrating up to the surface.

MR. RODACK: Did you guys have to do any kind of radar for underground tanks or anything like that?

MR. MAZZIOTTA: Not as part of our phase of work. You know, DEP did an initial phase, a lot of excavations. I think there was 20 or 30 lawn tests across the entire site. That's how a lot of the battery casings were delineated. As far as looking for baria tanks, that's part of the initial phase, phase one. That would really be limited around the building on the site.

MR. RODACK: But it's safe to say that you didn't find --

MR. BUTTON: We didn't find any, no.

MR. RODACK: And then let's see. Battery wastes. Was there any check for grossing materials, any kind of PH concerns?

MS. O'CONNELL: Battery acid.

MR. BUTTON: So, remember -- if we remember, this all happened between like 1960 and 1980. The actual area that they did a lot of the cracking and we'll say the smelting -- they actually would like melt. And those acids generally line up very well with where we saw deeper contamination right up in this area. So in those areas where we do believe acid was spilled on the ground, lead contamination goes down not just zero to four feet but more like zero to eight feet. The acid goes down. Lead in general doesn't move very easily. I mean, it moves and attaches to particles. The acids will allow it to move further down.

So where the acids were, where we believe that action was taking place, where we saw deeper contamination was really limited to their one area.

MR. RODACK: And what's the -- I should have asked this in the first place. The depth of the groundwater at the site is what, roughly five, six feet?

MR. BUTTON: Well, up on that -- let me get the pointer. There we go. Up on the facility, which is a little elevated, it's deeper, like 15 feet or so. This is a -- you know, it slopes right off to the flood point here. Down here it's only a couple feet below the surface. And up in here it's probably 16 or 17 feet. But I believe it slopes off this way too, so it should be shallower too.

MR. RODACK: And then my last question, I assume that -- I think I heard something in the documents, but you said that there will be institutional control of the deed restriction on the property?

MR. GRANITE: Yes. There's currently recorded deed notices on all the land that's owned by Mr. Matteo, and in the future we'll look to see if these deed notices need to be modified.

For example, when the comprehensive cap is placed over the scrapyard area, we would look at the language on the existing recorded deed notices, you know, to see if they need to be updated to reflect the current site conditions.

MR. RODACK: Right. So that's the Matteo property would be restricted to commercial --

certainly not residential, correct?

MS. O'CONNELL: Yes.

MR. RODACK: And then I guess the other question I had, the deed restriction on the Mira property would be --

MS. O'CONNELL: Well, we're going to remove all contamination there and then there won't be a deed restriction once it is implemented.

MR. RODACK: Okay. That's all I have. Thank you.

(Hand raised)

MS. LONEY: Yes. You had a question?

MS. STAHL: Laurin, L-A-U-R-I-N; Stahl, S-T-A-H-L. I live just a few doors down from these folks, and we too have flooded.

How do you draw the line for where you do your testing? Because I don't -- I mean, nobody came onto our property, nobody -- I don't know that anybody tested behind our property. We have a high --

(Inaudible audience crosstalk)

MR. MAZZIOTTA: Do you live near Mira Trucking or Willow Woods?

MS. STAHL: Near Mira Trucking. And we --

MS. O'CONNELL: Oh, you live near Mira Trucking, not near Willow Woods?

MS. STAHL: Correct.

MR. MAZZIOTTA: So I know our samples back there was based on the extent of the property.

Right, Tom?

The properties lined up --

MR. DOBINSON: Yes. The odd shape for Mira Trucking property along the back end, the properties that abut the Mira Trucking property, those properties were safe.

MS. STAHL: But given the amount of flooding that's happening in that area, it just seems to me that the testing should have gone further down as well, because we've all flooded in that area as soon as you removed those trees.

MR. DOBINSON: We were not aware of any flooding once the trees were removed.

MS. STAHL: All of us.

MR. DOBINSON: I can talk to you afterwards about the property.

MS. STAHL: I would love that. Because, yeah, we flooded twice. And prior to us purchasing that house we never -- that basement was always underwater. And many of our neighbors have the same problems.

So, yeah, I would love to talk to you about it.

MR. DOBINSON: Okay. After the meeting.

MS. STAHL: Okay. Great. Thank you.

(Hand raised)

MS. LONEY: Yes, sir.

MR. WIF: Yeah. Jim Wif, W-I-F. I live in West Deptford. You never told anybody that in 1980 when you went into the state of New Jersey to do your job, the prior owner, the owner now was 12 years old. You didn't tell him that. And he was not aware of what his ancestors did, his family. And beside the family that did it -- and I know because I lived in the township -- they are all out of business. And they have a great retirement. So first of all, I want to let you know that.

Second of all, you should pay every one of these people instead of cleaning up. This is absurd, ridiculous. Buy the property and make them do it. What you're doing is a disgrace to our country, a total disgrace.

Because all you're doing is playing your database -- because I work for the government and I got a gameplan. Get the $72 million and pay it. Take over that land, black top it all like you wanted to do. Problem solved. Half the money. A third of the money probably.

(Audience clapping)

MR. WIF: That's all I have to say. Think about it tonight when you're sleeping. Pay them. Pay them. That's the right thing to do. Good luck to all of you. And I feel bad. But I have a niece that lives in that trailer park and I know how bad it floods. And what I am talking about, it's up to the tires of their car. You can't tell me that all that stuff isn't coming down there.

UNIDENTIFIED AUDIENCE MEMBER: I agree.

MR. WIF: And I know for a fact because I have a niece that lives there. And that's why I am here, because she wouldn't want to do it. See, I am the aggressive one in the family.

MS. LONEY: Thank you, sir.

MR. WIF: Pay them. Pay them everything.

(Hand raised)

MS. LONEY: Yes?

MS. HUTCHINS: I just have a -- Samantha Hutchins.

With this excavating and all this stuff, obviously there's some stuff going, coming up into the air.

Is there anything that you're going to do to control that?

MR. MAZZIOTTA: Yes. Definitely. During our excavation process, we set up air monitors all around the excavation not only for workers, but also for environmental safety as well. They're programmed to alarm when a certain threshold of dust gets exceeded. And when that happens, we wet all the soils. We stop, let the dust settle, wet it down so those dusts don't kick back up again.

MS. HUTCHINS: And I think you said it was 2017, Willow Woods had the same testing done again? Is that --

MR. BUTTON: 2015.

MS. O'CONNELL: 2015.

MS. HUTCHINS: 2015. So as of now, 2019, where was that soil that you tested at? Was it being tested all along that fence line, is it going to be tested in certain spots for --

MR. MAZZIOTTA: I think we have a figure showing.

MR. BUTTON: I think the testing in 2015 was generally -- the testing was throughout the whole area.

MR. MAZZIOTTA: Yeah. So it's kind of hard to see, but each of these little black dots along here is where we went back to either confirm how effective the sample -- or the formal remediation was -- former remediation.

MS. HUTCHINS: Okay. So now from 2015 to 2019, there's no possible chance that there was other contamination done because of what you guys found at Matteo's?

MS. O'CONNELL: I mean, we -- the -- see that green area, that L-shaped green area? That is -- does not contain battery casings, which is our most contaminating material, but it does have some elevated levels.

Yeah, they're above ecological levels. So they're rather low. Ecological levels are lower than residential standards in this case by a little bit. And so that area is not grossly contaminated. And the black samples are clean. The only samples there that have contamination are colored samples. So we see all the black samples throughout the wetlands are, that area is not contaminated. So when we come back and do our design -- which is our next phase. After we select a remedy, we do an engineering design to develop all the details like the air monitoring and where the trucks, how the trucks are going to come in, how the trucks are leveled, all the details of how the remedy would be implemented. We will do more sampling. And we do refine the areas to be addressed, so more sampling would be done in that area.

MS. HUTCHINS: Now, would we know -- when yous come out, would we know where that yous are coming out to?

MS. LONEY: I have been in contact with -- I think it's Bettina? Is that her --

MS. HUTCHINS: Yeah. She's pointless. She don't talk to residents.

MS. LONEY: What I can do -- make sure you give me your contact information.

If there is a representative within the Willow Woods Community that I can -- we can get in contact with apart from -- you said there's some challenges with the current management -- we would be more than happy to provide that information if you give me your email address. When we're going out, we will let you know.

MS. HUTCHINS: Okay.

MS. LONEY: Thank you.

UNIDENTIFIED AUDIENCE MEMBER: What is the main holdup here? Has the money been appropriated for this or are you guys fighting for the money?

MS. O'CONNELL: No. It's not this time. We are selecting our remedy, we've completed our area wide study, which also cost a few million dollars. And our study is completed. We've done a feasibility study. We've looked at a whole bunch of option. So this -- we're here to get the community's input.

And once we do, we'll select a remedy and then implement it.

UNIDENTIFIED AUDIENCE MEMBER: And have any of these projects been started? So once you kind of finalize, you know what you're dealing with, have any of them been started?

MS. O'CONNELL: I am not sure what you mean by any -- I am not sure what you mean.

UNIDENTIFIED AUDIENCE MEMBER: Well, like this property, is that --

MS. O'CONNELL: That's part of this overall action.

UNIDENTIFIED AUDIENCE MEMBER: The question then becomes, how much longer is this going to take before it --

MS. O'CONNELL: I understand. We'll just have to keep you abreast. Right now we have to select our remedy.

As soon as we select our remedy, we'll put a schedule together for design. So we can keep you abreast. And we would estimate that this remedy would be selected in September of this year.

UNIDENTIFIED AUDIENCE MEMBER: I hope so, because it's the homeowners that are suffering.

MS. O'CONNELL: We understand that.

MS. LONEY: We hear you.

(Hand raised)

MS. LONEY: Yes.

MS. BARNA: Hi. Nancy Barna. I live over in the Tempo Development. I've spoken to you before.

MS. LONEY: Yes.

MS. BARNA: I've spoken to Tom a couple times, too.

I just want to note that at no time during our conversations that we've had with our attorneys, the EPA --

(Court reporter interrupts and asks for clarification.)

MS. BARNA: At no time that we've spoken to our attorneys or the DEP or the EPA have the company Mira Trucking been mentioned. Just with the press release that was released, it mentioned a property across 130, and then subsequent news releases on, you know, social media or the news stations, it mentioned the address.

So I decided to take a ride past that house. Or by past that property where the Mira Trucking is. There's a big sign outside that says Mira Trucking and there's also a blue house there. Well, about -- I don't know -- 29 years ago I was a girl scout leader and there was a little girl that lived in that house. And she was a Matteo. The Matteos owned that house. They lived in that house where that trucking company was where the contamination is.

I live the second house in on Crown Point Road. The corner house that someone else owns now was originally owned by a Matteo company with the very long driveway into our development. On the other corner of Wood Lane and Hessian Avenue, another Matteo family owned the property and they possibly still do.

So we have two residential homes where the Matteos owned a property where our contamination is, we have Mira Trucking that Matteos lived in at one point in time, we have the Matteo's scrap metal that's owned by the Matteos. They're -- you know. It's four pieces of a four-piece puzzling.

It appears to me that the alleged responsible parties are now getting a brand new black top property as well as having their sewer replaced and hooked in. I mean, a normal business would have to pay for that.

And who's paying for that? We're paying for that.

Is that right?

MS. O'CONNELL: Well, the property already has a cap on it. There might be some minor repairs done to that. The property owner is likely to have to sign on to maintain that through some enforcement agreement with the state. So they'll have to do sampling and they'll have to maintain it.

You know, they did have -- they have liability. The property owner has liability. They did enter into a settlement with EPA where money -- they paid us some funds, they provided us access --

MS. BARNA: So you're saying they, meaning the scrap metal company.

Was Mira Trucking involved at all?

MS. O'CONNELL: So Mira Trucking --

MS. BARNA: Because they're a trucking company. They're a scrap metal, they're trucking.

MS. O'CONNELL: Yes. But the -- just as you said before, it's believed that the contaminated material, the broken battery cases and elevated lead levels are on Mira Trucking and are in Tempo

Development originated at the Matteo site for the reasons that you said. That's our understanding. It was transported --

MS. BARNA: By family members.

MS. O'CONNELL: -- historically from the main site, which is where the batteries were broken, to use as fill and contains elevated lead. So, yes. That's --

MS. BARNA: So you were aware that Mira Trucking, the people that lived there, were Matteos?

MS. O'CONNELL: The reason why it's part of this site and not another site is because we believe that the contaminated material from Mira Trucking originated at the Matteo site. It's the same material.

MS. BARNA: Same group of people.

MS. O'CONNELL: So that's why it's part of this Superfund site.

There could be other sites around that have contamination that are unrelated that would not be part of this Superfund site. So that is why it is. As is the Tempo Development.

MS. BARNA: Okay. So we were told the Tempo Development was going to be part of the giant Superfund site.

MS. O'CONNELL: It is.

MS. BARNA: So originally when -- I am just trying to find out -- the way that the contamination was discovered on our property was one of the property owners had some plumbing work done on their property, they went to dig and found it.

So I want to just ask you now, way back years ago when Matteos admitted that they had contaminated battery casings on their own property, did they disclose to you that there was contamination also at Mira or Tempo Development and --

MR. MAZZIOTTA: No. We found out about that during the investigation of the Tempo Development when we interviewed somebody that lives in the area who mentioned that he knew someone that worked at Mira Trucking and that they had dumped --

MS. BARNA: So did you go after the insurance company of Mira Trucking for any resolution?

MS. O'CONNELL: Right now our attorneys have a letter into them and we are looking into that. So they have not been named as a responsible party at this time, but we are -- our attorneys are in touch with their attorneys and are asking them questions regarding exactly what happened there so they can sort through that.

MS. BARNA: So my other question is, so the residential home that is on Mira Trucking's property, did you go after the homeowners or the homeowner's insurance of the Matteos that lived at the corner of our development on Crown Point and the corner of our development on Hessian Avenue? Did you go after the homeowners?

MR. MAZZIOTTA: So at the time that we began our investigation at Mira Trucking, that home was not occupied. It's only occupied part time by the people that work there. They use it as an office space. I can't speak --

MS. BARNA: But I can tell you personally from dropping that little girl off at the house in the past that there were people -- her family was living in that house when that was going on. So why would their insurance company, their homeowners not be put on notice as well as the --

MS. O'CONNELL: The issues of liability kind of depend on the exact circumstances so -- you're talking about the ground soils?

(Inaudible audience crosstalk)

MS. BARNA: But it also was being used as a business when they were living there, because the person who owned the house had a trucking company -- I don't remember how long ago the sign Mira Trucking was put up there, but at the time they were looking at the house, there were trucks parked on their property when this was all going on.

MS. O'CONNELL: It is often very difficult to sort through historically what happened and who did it.

MS. BARNA: You can easily go -- the deed to the county and find out when --

(Inaudible audience crosstalk)

MR. MAZZIOTTA: We know who did it, but I am not understanding what you want to know about it.

MS. BARNA: Because we were told that Matteo's recycling maxed out on their liability insurance to cover something like this. By the time we discovered that Tempo, there's some contamination on our property, all the money was used up on their property. So I want to find out if there's a way that all the residents that live on the Wood Lane Tempo Development property can go after the insurance companies of the two residences, the residence over at Mira Trucking and the business at Mira Trucking for their insurance. And they should be put on notice.

And the people that own those properties at that time should be -- you have attorneys --

MR. MAZZIOTTA: I understand your concern.
MS. O'CONNELL: Have you read -- we do have a consent decree with the Matteos -- with the current Matteo. He didn't operate the -- he's the son.
MS. BARNA: I know. I realize that.
MS. O'CONNELL: So we have a consent decree there. If you haven't seen that, we can take a look at that document. It talks about --
MS. BARNA: I have --
MS. O'CONNELL: Okay. So you have that.
(Inaudible audience crosstalk)
MS. BARNA: I've read it. I haven't seen anything about Mira Trucking on that --
MS. O'CONNELL: Because what we do is, you know, we look for responsible parties, we don't -- we don't go after insurance companies. We look to see who's responsible based on the facts.
If they're responsible, you know, we sue them for whatever liability they may have.
(Inaudible audience crosstalk)
MS. BARNA: So what I am trying to say is there's no way that you find -- was it 32 tons on the one property over in the cul-de-sac across the street from me? There's no way that no one sees trucks dumping 32 tons of crushed batteries when you have two

family members that live at either end of the development and that you're not going after their homeowner's insurance for that.

MS. O'CONNELL: So I really think the best way to handle this is to have your attorney -- we have attorneys on this who we worked with to sue parties within our legal authority. So I really -- you're saying you do have an attorney you're working with?

MS. BARNA: We don't know because --

MS. O'CONNELL: You don't?

MS. BARNA: We don't. Because I just discovered this today that Mira Trucking is one of the same people that lived there that I knew who it was. I didn't -- never saw any documents that said Mira Trucking or that address until today. That was it.

MS. O'CONNELL: That was discovered, you know, several years ago. It was discovered after the site was discovered that --

MS. BARNA: It wasn't in the report, though, that you mentioned. It was not -- that name, Mira Trucking, was not mentioned in there.

MS. O'CONNELL: So, you know, we can refer you to our attorneys if you want to speak to -- look at the legal record. You know, we have pursued responsible parties to the extent we could.

We are still working on some of those issues. On some of those issues. So it's not really related to our selected remedy, but I understand what you're trying to say.

MS. BARNA: But I am bringing these questions up because it's all related. It's all part of the big pie.

And I feel like if they're going to -- are they going to get all their properties cleaned up before we do as residents? Because you were saying that --

MS. O'CONNELL: No.

MS. LONEY: No. When we had a conversation about that, the remedy for the residential property was selected last year. I am sorry. Two years ago.

MS. BARNA But there's no funding for it. Is that right, Tom?

MS. O'CONNELL: It was funded.

MS. LONEY: And we're moving forward with that remedy. This is just -- this is way behind where you are. We're looking to select a remedy.

A remedy has already been selected for the residential properties two years ago. Now we're looking at the actual facility that's the primary source of contamination.

When we're looking at cleaning up the Superfund site, we want to make sure to address impacts to residents before we look at impacts to industrial.

MS. BARNA: So are we also going to get the same time frame of two and a half to five years like the Matteos are?

MS. LONEY: No.

MS. BARNA: Can you give us a time frame, because we've been told like every year that it's to the next year.

MS. LONEY: Excuse me, Tom.

MS. O'CONNELL: Tom, she's asking about the time frame for the Tempo Development remediation, which is imminent.

MR. DOBINSON: Yes. So we are currently finishing up the remedial design, which we've been working on, as you were well aware of. And now we're finishing up. We want to meet with everyone, all the residents in the neighborhood, to present the design to you and then talk about the next steps. And also we would like -- following that meeting, we would like to sit down with each resident individually to talk about exactly what's planned at this time for your properties and so that we can -- where we can get your feedback and make sure what we're doing is in line with -- just --

MS. BARNA: I thought they did that. You sent us reports.

MR. DOBINSON: Sorry?

MS. BARNA: You sent us reports.

MR. DOBINSON: Yes. The report and the information --

MS. O'CONNELL: Tom, you have to put this on the record.

MR. DOBINSON: Yes. The report and the information you got previously was from the first sampling that was done back in 2016. So we've been in the neighborhood more recently, we've done additional sampling, and we've taken that information and come up with a plan for it, how we are going to actually execute the excavations on your properties.

MS. O'CONNELL: So there's going to be a meeting for the community soon.

MR. DOBINSON: within a few weeks.

MS. O'CONNELL: It will be set up in the next few weeks. And then after that, we would set up individual meetings so people can talk about the particular -- there's different amounts of work that will be scheduled on different properties based on what's been found there, so there will be one-on-one meetings.

There will be a community meeting and that will be very late July or early August. Okay. So we have funding for this work, we hope to start some of the work in the fall, and the rest of it, you know, in the spring. So this is imminent. This is happening in the near future. And it's a priority. It was --

MS. BARNA: Yeah. The last time I talked to Tom the funding wasn't there yet.

MR. DOBINSON: Correct. We have the funding now.

MS. BARNA: Is there any way that we could get this PowerPoint sent to all the people that are here?

MS. LONEY: It's going to be posted on the EPA web page after this meeting. Probably when I get to work tomorrow, if I make it back.

(Hand raised)

MS. LONEY: Yes. I am sorry, sir.

MR. KEISER: George Keiser.

Tom, the Tempo property remediation is moving along faster than the entire site, is that what I am understanding?

MR. DOBINSON: Yes. We were ahead

of --

MR. KEISER: And the hopes and dreams are that there could be actual work this fall?

MR. DOBINSON: Yes.

MR. KEISER: Is this going to be a publicly bid operation or is this going to be a response operation under the EPA responsibility program, as was the first response?

MS. O'CONNELL: A little of both.

MR. KEISER: Okay. And your selected contractors will be pooled --

MS. O'CONNELL: There will be a selection of contractors probably this fall.

MR. DOBINSON: Correct. Yeah.

MS. O'CONNELL: For some of the larger work, and some of the smaller work will be done in-house --

MR. KEISER: Through the pre-approved contractor list that you guys work with?

(Inaudible audience crosstalk)

MS. O'CONNELL: Yes.

MR. KEISER: All right. Thank you.

MS. LONEY: Are there any further questions?

(No further comments/questions)

(Continued on next page.)

MS. LONEY: Well, I thank you all for coming. I thank you for your attention and I thank you for the great comments and questions now.

Please travel very safely home. Thank you all.

(Public meeting adjourned at 8:06 p.m.)

C E R T I F I C A T I O N

I, hereby certify that the proceedings and evidence noted are contained fully and accurately in the stenographic notes taken by me in the foregoing matter, and that this is a correct transcript of the same.

SHARON RICCI, RMR, CRR
Court Reporter - Notary Public

(The foregoing certification of this transcript does not apply to any reproduction of the same by any means, unless under the direct control and/or supervision of the certifying reporter.)

Attachment D
Written Comments

Granite, Larry

From: Michelle Bova <michelle.bova@hisconstructors.com>
Sent: Monday, July 8, 2019 9:26 AM
To: Granite, Larry; Dobinson, Thomas
Subject: Matteo & Sons Inc Site
Attachments: Environmental Remediation Overview.pdf

Good Morning, Lawrence and Thomas:

I am with HIS Constructors – we are an environmental remediation contractor located in Indiana. We have worked on several EPA Superfund sites and we are currently an ERRS Region 5 partner for Indiana. I am interested in learning who the consultant is for the Matteo & Sons Inc project as we have performed dozens of projects similar in scope that involved mass excavation of chlorinated solvents. We have worked in New Jersey before and are interested in receiving more information about OU2 and the current status of that project, such as if it has already went out for bid?

Thank you for your time – I look forward to hearing from you!

Michelle Bova

HIS Management Corporation
5150 East 65th Street, Suite B, Indianapolis, IN 46220
Cell: 317-400-4784 *Fax*: 317-284-1185
Email: michelle.bova@hisconstructors.com

Proud Supporter of Hard Hats with Heart
www.heart.org/IndyHHWH

Granite, Larry

From:	Hartmann, Mary <mary.hartmann@citi.com>
Sent:	Thursday, July 11, 2019 9:23 AM
To:	Granite, Larry
Cc:	hartmann50@verizon.net; Dobinson, Thomas
Subject:	RE: Woodlane Dr / Birchly Court SuperFund Site

Good morning Larry,

Thank you for replying so promptly. If I have any additional questions I will contact Tom.

Have a great day!

Thank you,
Mary Hartmann

From: [epa.gov] Granite, Larry <Granite.Larry@epa.gov>
Sent: Wednesday, July 10, 2019 9:42 PM
To: Hartmann, Mary [ICG-OPS]
Cc: hartmann50@verizon.net; Dobinson, Thomas
Subject: RE: Woodlane Dr / Birchly Court SuperFund Site

Hi Ms. Hartmann,

I am EPA's Project Manager for the Matteo Superfund Site, Operable Unit (OU) 1 (the Matteo property and the area formerly occupied by Mira Trucking). My colleague Tom Dobinson is also an EPA Project Manager and he can answer any specific questions related to OU 2 (residential cleanups that you have inquired about).

OU 2 is ahead of OU 1 in the EPA Superfund process. EPA signed a Record of Decision (ROD), which selected a remedy for OU 2, in September 2017. OU 2 is in the remedial design phase. For comparison, last week EPA issued a Proposed Plan for OU 1, and it is anticipated that EPA will issue a ROD for OU 1 this coming autumn.

EPA's OU 1 Proposed Plan does not affect or impede progress at OU 2 in any way.

The intent of the July 17 meeting is to explain EPA's Proposed Plan for OU 1 and all of the other alternatives presented in the OU 1 Feasibility Study, and to obtain any comments or questions on OU 1.

I hope this note is helpful. If you have any questions on the above, please feel free to call me at 212.637.4423. Also, please feel free to contact Tom as you find appropriate. His phone # is 212.637.4176.

Regards,

Larry

From: Hartmann, Mary <mary.hartmann@citi.com>
Sent: Wednesday, July 10, 2019 5:26 PM
To: Granite, Larry <Granite.Larry@epa.gov>
Cc: hartmann50@verizon.net
Subject: Woodlane Dr / Birchly Court SuperFund Site

Hello Larry,

I read the latest update from the EPA for the Matteo & Sons Inc Superfund Site in West Deptford NJ. I do not see any updates for the properties affected in the Woodlane Dr Birchly Court contaminated areas. Can you please address when there will be an update?

To me, shouldn't the residential cleanup be done before the dump site is completed? We as homeowners have been waiting for four years for the excavation approvals to go through. To hear that only the Matteo site is being excavated is disheartening to say the least.

Will the Woodlane Drive / Birchly Court site be addressed at the meeting on July 17th?

Thank you,
Mary Hartmann

Granite, Larry

From: Stayton Ely <stayton@enrcontracting.com>
Sent: Friday, July 12, 2019 11:43 AM
To: Granite, Larry
Subject: Matteo & Sons Superfund Site

Good Morning Larry,

I tried calling you this morning and I left a voice message regarding the subject referenced superfund site. I was curious if you would be able to connect me with the individual/company that is providing oversite for this site?

We are a NJ based remediation company and are very interested in receiving an RFQ for the work that needs to be done.

Thank you for taking the time to assist me with this.

I look forward to hearing back from you.

Thank you,

Stayton Ely
ENR Contracting | Pennington Env.
325 Tansboro Road
Berlin, NJ 08009
P: (609) 567-0600
C: (856) 745-9313
www.enrcontracting.com
ENRC ENTERPRISE NETWORK RESOLUTIONS CONTRACTING, LLC
An Environmental Management Company
PENNINGTON ENVIRONMENTAL, LLC

Granite, Larry

From: Paul Hagerty <paul@hagertyenvironmental.com>
Sent: Tuesday, July 16, 2019 2:15 PM
To: Granite, Larry
Cc: 'Jim Matteo'
Subject: FW: West Deptford Township Water Connection Site Visit

Larry – Please see below for clarification on the public water connection.

Paul A. Hagerty, P.G., P.E.
Principal Engineer
Hagerty Environmental, LLC
Environmental Consulting, Engineering, Construction Management
www.hagertyenvironmental.com
415 McFarlan Road – Suite 216 - Kennett Square, PA 19348
paul@hagertyenvironmental.com
(610) 444-5008 (direct)
(484) 771-9600 (fax)
(484) 459-7130 (mobile)
Professional Geologist (PG) - DE
Professional Engineer (PE) - DE, MD, NJ, PA, VA

From: Douglas White <DWhite@tandmassociates.com>
Sent: Tuesday, July 16, 2019 1:11 PM
To: Paul Hagerty <paul@hagertyenvironmental.com>
Cc: James Matteo <jamesmatteo@gmail.com>
Subject: RE: West Deptford Township Water Connection Site Visit

Yes Both properties are intended to be connected (subject to award of a bid to a contractor). The Township and State are funding the work.

DOUGLAS WHITE, PROFESSIONAL ENGINEER (NJ, PA), CME, CFM
SUPERVISING ENGINEER

200 Century Parkway, Suite B, Mount Laurel, NJ 08054
T 856-722-6700 **D** + 856.505.3862 **C** + 908.601.2522
DWHITE@TANDMASSOCIATES.COM | TANDMASSOCIATES.COM

From: Paul Hagerty <paul@hagertyenvironmental.com>
Sent: Tuesday, July 16, 2019 9:05 AM

To: Douglas White <DWhite@tandmassociates.com>
Cc: James Matteo <jamesmatteo@gmail.com>
Subject: FW: West Deptford Township Water Connection Site Visit

Doug – I was forwarded a copy of the email exchange below by Jim Matteo. In light of my recent email to you (7/9/19 - attached) regarding township meeting minutes and potential budget impacts, can we interpret your email exchange below with Jim Matteo as a confirmation that his business and adjacent residential property will, in fact, be connected to public water? Please clarify.

Paul A. Hagerty, P.G., P.E.
Principal Engineer
HE Hagerty Environmental, LLC
Environmental Consulting, Engineering, Construction Management
www.hagertyenvironmental.com
415 McFarlan Road – Suite 216 - Kennett Square, PA 19348
paul@hagertyenvironmental.com
(610) 444-5008 (direct)
(484) 771-9600 (fax)
(484) 459-7130 (mobile)
Professional Geologist (PG) - DE
Professional Engineer (PE) - DE, MD, NJ, PA, VA

From: James Matteo <jamesmatteo@gmail.com>
Sent: Monday, July 15, 2019 4:43 PM
To: Paul Hagerty <paul@hagertyenvironmental.com>
Subject: Fwd: West Deptford Township Water Connection Site Visit

FYI

Best Regards,
Jim Matteo
www.matteo-iron.com
Office: (856) 845-0398
Fax: (856) 845-2331
Cell: (609) 685-5712

Begin forwarded message:

From: Douglas White <DWhite@tandmassociates.com>
Date: July 15, 2019 at 4:38:37 PM EDT
To: James Matteo <jamesmatteo@gmail.com>
Subject: RE: West Deptford Township Water Connection Site Visit

Hi Jim
And actually I was at your site already, so no new meeting needed.
Sorry for confusion; and it's only Monday.

DOUGLAS WHITE, PROFESSIONAL ENGINEER (NJ, PA), CME, CFM
SUPERVISING ENGINEER

200 Century Parkway, Suite B, Mount Laurel, NJ 08054
T 856-722-6700 **D** + 856.505.3862 **C** + 908.601.2522
DWHITE@TANDMASSOCIATES.COM | TANDMASSOCIATES.COM

From: James Matteo <jamesmatteo@gmail.com>
Sent: Monday, July 15, 2019 4:37 PM
To: Douglas White <DWhite@tandmassociates.com>
Subject: Re: West Deptford Township Water Connection Site Visit

Hi Doug

Hope all is well with you. I've already completed this form. Please advise on a date/time that works best for you. Thank you in advance.

Best Regards,
Jim Matteo
www.matteo-iron.com
Office: (856) 845-0398
Fax: (856) 845-2331
Cell: (609) 685-5712

On Jul 15, 2019, at 4:31 PM, Douglas White <DWhite@tandmassociates.com> wrote:

As the Township engineers, we are working with the Township to prepare the plans and specifications for connecting your property (and others) to the Township water system as a part of the NJDEP and Township funded PFNA program. To complete our work we need to come to your property and observe the physical conditions there. We will want to go into your basement or other property location where your current POET or water connections are located. We will also want to walk your property with you to determine where other improvements (gas lines, septic beds, lawn sprinklers, etc) are located. If you have not done so already, please complete the enclosed questionnaire in advance or we can do it together when we meet.

Please respond to this email or call my office at 856-505-3862 to schedule and arrange the site visit to your property.
We can arrange for times between 7:30 am and 6:30 pm Mon-Thurs. Please call to arrange ASAP so we can keep this project moving forward.

<image001.png>

DOUGLAS WHITE, PROFESSIONAL ENGINEER (NJ, PA), CME, CFM
SUPERVISING ENGINEER

200 Century Parkway, Suite B, Mount Laurel, NJ 08054
T 856-722-6700 D 856.505.3862 C 908.601.2522
DWHITE@TANDMASSOCIATES.COM | TANDMASSOCIATES.COM

<image002.png> <image003.png> <image004.png> <image005.png>

<Private Water Connection Questionnaire_template.pdf>

Granite, Larry

From: Trevor Ludwig <trevor@ecospears.com>
Sent: Wednesday, July 17, 2019 3:45 PM
To: Granite, Larry
Subject: Quick question regarding green remediation initiative at the Matteo & Sons, Inc. Superfund Site

Lawrence,

I cam across a Public Comment Period and it suggested that I get in touch with you regarding introducing our green remediation technology to help to potentially help with the Matteo & Sons, Inc. Superfund Site.

In working with our clients with legacy PCB and dioxin contaminated sites, we target a remedial project cost-savings of 25 – 35% with up to a 90% reduction of CO_2 emissions, water, and energy usage.

Are you available for a quick talk either today or tomorrow? I did see this proposed plan for OU1 and was wondering if you could help me identify the future of the site in regards to the cleanup of the sediments and groundwater.

Sincerely,
Trevor Ludwig

P.S If you're not the one responsible for this, could you please let me know who I should be contacting?

--

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Appendix IV
Administrative Record Index

ADMINISTRATIVE RECORD INDEX OF DOCUMENTS

FINAL

07/02/2019

REGION ID: 02

Site Name: MATTEO & SONS INC.
CERCLIS ID: NJD011770013
OUID: 01
SSID: 02KD
Action:

DocID:	Doc Date:	Title:	Image Count:	Doc Type:	Addressee Name/Organization:	Author Name/Organization:
564982	07/02/2019	ADMINISTRATIVE RECORD INDEX FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	2	Administrative Record Index		(US ENVIRONMENTAL PROTECTION AGENCY)
157951	09/19/2006	REMOVAL ACTION FINAL REPORT - REMOVAL OF CONTAMINATED SOIL, WILLOW WOODS PROPERTY FOR THE MATTEO & SONS INCORPORATED SITE	347	Report	(US ENVIRONMENTAL PROTECTION AGENCY)	(BERNER CONSTRUCTION INCORPORATED)
565358	06/30/2011	FINAL HEALTH AND SAFETY PLAN FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	92	Work Plan	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUDNEY,SHARON (CDM SMITH)
565346	09/19/2011	FINAL QUALITY ASSURANCE PROJECT PLAN FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	261	Work Plan	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)
565348	12/12/2014	FINAL QUALITY ASSURANCE PROJECT PLAN ADDENDUM NO. 1 FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	28	Work Plan	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)
565350	04/01/2016	FINAL QUALITY ASSURANCE PROJECT PLAN ADDENDUM NO. 2 FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	23	Work Plan	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)
565344	04/11/2016	FINAL HUMAN HEALTH RISK ASSESSMENT FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	823	Report	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)
565352	01/17/2018	FINAL REMEDIAL INVESTIGATION REPORT FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	1411	Report	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)

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565354	09/21/2018	FINAL SCREENING LEVEL ECOLOGICAL RISK ASSESSMENT REPORT FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	234	Report	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)
565356	09/21/2018	FINAL STEP 3A ECOLOGICAL RISK ASSESSMENT FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	78	Report	Granite,Lawrence,A. (US ENVIRONMENTAL PROTECTION AGENCY)	BUTTON,JOSEPH (CDM SMITH)
550170	05/22/2019	FINAL REMEDIAL INVESTIGATION REPORT ADDENDUM FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	83	Report		(CDM SMITH)
568944	06/26/2019	REVISED FINAL FEASIBILITY STUDY FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	279	Report		(CDM SMITH)
565419	07/02/2019	PROPOSED PLAN FOR OU1 FOR THE MATTEO & SONS INCORPORATED SITE	23	Publication		(US ENVIRONMENTAL PROTECTION AGENCY)

Attachment V
State Concurrence Letter

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Site Remediation and Waste Management Program
401 E. State Street
PO Box 420, Mail Code 401-06
Trenton, New Jersey 08625
Tel: (609) 292-1250
Fax: (609) 777-1914

PHILIP D. MURPHY
Governor

SHEILA Y. OLIVER
Lt. Governor

CATHERINE R. McCABE
Commissioner

September 10, 2019

Mr. Pat Evangelista, Acting Director
Emergency and Remedial Response Division
U.S. Environmental Protection Agency
Region II
290 Broadway
New York, NY 10007-1866

Re: Matteo and Sons, Inc. Superfund Site
Record of Decision, Operable Unit 1
EPA ID# NJD000565531/DEP PI# 026178

Dear Mr. Evangelista:

The New Jersey Department of Environmental Protection (DEP) has completed its review of the "Record of Decision, Operable Unit One, Matteo and Sons, Inc. Superfund Site, West Deptford, Gloucester County, New Jersey" prepared by the U.S. Environmental Protection Agency (EPA) Region II in September 2019 and concurs with the selected remedy to excavate and remove lead-contaminated soil, sediment and waste associated with past lead battery reclamation activities and waste disposal at the site.

The OU1 portion of the site primarily consists of an 80-acre area with an active scrap metal recycling facility and an inactive landfill. OU1 includes significant wetlands, is adjacent to residential housing and is bordered to the north by Hessian Run. Further, a commercial property across Route 130, included as part of OU1, is also adjacent to residential housing.

The major components of the OU1 remedy, with an estimated present worth cost of $72.5 million, include the following:

- Excavation and off-site disposal of source materials;
- Excavation and off-site disposal of all contaminated soils in the open field/waste disposal area, the rental home area and the property formerly occupied by Mira Trucking;

- Restoration following excavation;
- Restoration of the shoreline of Hessian Run;
- Capping of contaminated soil in the active scrap metal recycling facility with appropriate maintenance of the cap;
- Connection to municipal water for several properties with private wells;
- Institutional controls such as a Deed Notice, as needed; and,
- Long-term monitoring of groundwater and sediment.

As part of the OU2 remedial work outlined in a September 2017 ROD and a 2018 Superfund State Contract, EPA plans to begin lead remediation of single-family, residential properties located in and adjacent to the Tempo Development, also in West Deptford in spring 2020. Remedial work under OU3 will address groundwater and surface water/sediment. EPA plans to further assess those media, after waste at OU1 is removed, to determine if any action is warranted.

DEP appreciates the opportunity to participate in the decision-making process to select an appropriate remedy for this site. Further, DEP looks forward to future cooperation with EPA during remedial actions for OU1 to ensure lead contamination is cleaned up, lands are restored, appropriate restrictions placed on the active commercial facility and further evaluation of Hessian Run moves forward.

If you have any questions, please call me at 609-292-1250.

Sincerely,

Mark J. Pedersen
Assistant Commissioner
Site Remediation & Waste Management Program

C: Kenneth J. Kloo, Director, Division of Remediation Management, DEP
Edward Putnam, Assistant Director, Publicly Funded Response Element, DEP
Frederick A. Mumford, Section Chief, Publicly Funded Response Element, DEP
Chelsea Hoffman, Site Manager, Publicly Funded Response Element, DEP
Kimberly O'Connell, Chief, New Jersey Remediation Branch, EPA Region II
Lawrence Granite, Remedial Project Manager, NJRB, EPA Region II