
**UNITED STATES**

**ENVIRONMENTAL PROTECTION AGENCY**

**REGION 5**

# Statement of Basis

# for

# Proposed Remediation

# City of Toledo
# (formerly Textileather Corporation)

# Toledo, Ohio 43608

EPA ID NO. OHD 980 279 376

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## ACRONYMS

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| AOC | Area of Concern |
| AOC | Administrative Order on Consent |
| AOI | Area of Interest |
| AST | Above Ground Storage Tank |
| BGS | Below Ground Surface |
| BTEX | Benzene, Toluene, Ethylbenzene, and Total Xylenes |
| BUSTR | Bureau of Underground Storage Tank Regulations |
| CMS | Corrective Measures Study |
| EPA | U.S. Environmental Protection Agency |
| HHRA | Human Health Risk Assessment |
| HI | Hazard Index |
| IC | Institutional Control |
| MCL | Maximum Contaminant Level (Drinking Water) |
| LNAPL | Light Non-aqueous Phase Liquid |
| PA/VSI | Preliminary Assessment/Visual Site Inspection |
| PCB | Polychlorinated biphenyl |
| PRG | Preliminary Remediation Goal |
| RCRA | Resource Conservation and Recovery Act |
| RSL | Regional Screening Level |
| RFI | RCRA Facility Investigation Report |
| SB | Statement of Basis |
| SVOCs | Semi-volatile Organic Compounds |
| SWMU | Solid Waste Management Unit |
| TSCA | Toxic Substances Control Act |
| U.S.C. | United States Code |
| UST | Underground Storage Tank |
| VISLs | Vapor Intrusion Screening Levels |
| VOCs | Volatile Organic Compounds |

## I. Introduction and Purpose of the Statement of Basis

### Statement of Basis Document

The primary purpose of this Statement of Basis ("SB") document is to invite written comments from the public on the approach being considered by the U.S. Environmental Protection Agency (EPA) to remediate and manage contaminated environmental media at the former Textileather Corporation manufacturing facility, now owned by the City of Toledo, Ohio ("Toledo"), at 3729 Twining Street, Toledo, Lucas County, Ohio, (zip 40368) ("Site") (see Figure One). EPA's proposed remedy is the excavation of impacted soil areas to protect people currently using the Site and future industrial workers from harmful health effects caused by exposure to contamination. (Toledo is actively pursuing its redevelopment plans for this property which is within a redevelopment zone related to the automotive industry.) The details of the proposed remedy are provided below.

EPA invites written comments from the public on the proposed remedy. Additionally, if requested by a member of the public, EPA will host a public meeting to answer questions and receive additional comments. Public comments will be used to inform EPA's final decision regarding the remedy selection. EPA will publish a Final Decision and Response to Comments document conveying EPA's decision about how the Site will be remediated, within 30 days after the close of the comment period. See page 25 for instructions on how to provide comments to EPA on the SB and for the open comment period dates.

This document summarizes information that can be found in greater detail in the Corrective Measures Proposal (Haley and Aldrich, 2013) and other documents contained in the Administrative Record for this Facility (see the References Section).

### Corrective Action Order on Consent

In 2009, EPA and Textileather Corporation ("Textileather") entered into an Administrative Order on Consent ("AOC" or "Order") requiring that Textileather investigate and clean up chemical waste released at its property, and establishing EPA oversight of the remedial process. The AOC was issued under the authority of Section 3008(h) of the Solid Waste Disposal Act (commonly referred to as the Resource Conservation and Recovery Act of 1976 ("RCRA")), as amended by the Hazardous and Solid Waste Amendments of 1984, 42 U.S.C. § 6928(h). Toledo purchased the property from Textileather in December 2014 to enhance its economic redevelopment plans in the area. In January 2015, EPA and Toledo entered into a similar AOC; the Textileather AOC was terminated when Toledo signed the current AOC with EPA. Toledo has assumed responsibility for conducting the Corrective Action, and accepted the Current Conditions Report,

the Remedial Facility Investigation Report and the Corrective Measures Study prepared by Textileather and approved by EPA.

The RCRA program is overseeing the cleanup of the Site under the Corrective Action program. The Corrective Action program is responsible for ensuring that facilities investigate and clean up releases of hazardous waste and hazardous constituents at their properties and any releases that have spread beyond the property boundaries, and which pose a risk to human health or the environment. The selected remedies, or clean-up actions, were chosen based upon the next anticipated use of the property, which for Toledo is industrial redevelopment.

## II. Facility Background

### Location, Social Setting, and History

Location and Social Setting Toledo owns property that was used for manufacturing vinyl products for the auto industry from 1920 until 2009, when operations ceased. The property is located in the northeast side of Toledo, Ohio, and is surrounded by industrial, commercial, and residential areas on the north side of North Service Road and Interstate 75. The property is bordered on the north by a railroad spur, the former XXKEM Company ("XXKEM"), and the Stickney Avenue Landfill. The western portion of the Site is a 17-acre undeveloped parcel. Fraleigh Creek, a tributary of the Ottawa River, borders the west end of the western portion. Twining Street is the eastern boundary of the property where a small area of residential property begins (see Figure One). The unoccupied Site, which was mostly demolished in 2014, is secured by a seven-foot fence and full-time security guards. Currently, the Site is a fenced, empty lot with remnant foundations and tanks which are scheduled for removal.

Beyond the residential property east of the Site is the Chrysler Jeep Assembly Plant. The former XXKEM landfill and Stickney Avenue landfill have been closed, capped and converted to a transportation center for vehicles produced at the plant. The landfills were remediated under EPA Superfund jurisdiction and are currently owned by Toledo.

Ownership, Manufacturing and Release History

Ownership

The property under RCRA jurisdiction is the 47-acre area originally identified in the RCRA Interim Status Notification. About 30 acres of the Site were used for various manufacturing purposes, beginning in 1920. In 2005, Textileather sold the undeveloped 16.6-acre "Western Parcel" to Alumni-Bunk which built a warehouse on part of the parcel. The parcel transferred to the Toledo-Lucas County Port Authority and then to the City of Toledo. Sampling completed by Textileather demonstrated that the Western Parcel was not contaminated and it was excluded from the Site Remedial Facility Investigation (RFI, Haley and Aldrich, 2012).

The former buildings were constructed in the 1920s for manufacturing of coated fabric products. In the late 1920s, a company also known as Textileather Corporation ("Old Textileather") (unrelated to the recent Textileather Corporation) bought the property and established Maumee Finishing, which produced similar types of coated-fabric products. In 1954, The General Tire and Rubber Company (now known as GenCorp) merged with Old Textileather, with the surviving entity being The General Tire and Rubber Company which operated the plant for the next 36 years. Throughout this time, the facility underwent several name changes. The names associated with the facility included Diversitech General; Gencorp Polymer Products; GTR Coated Fabrics; Textileather Division and Chemical Plastics Division; and GenCorp. In June 1990, the recent Textileather Corporation purchased the facility from Gencorp and continued the vinyl manufacturing operations. Textileather closed the plant in March 2009 and decommissioned the manufacturing equipment in 2011. In late 2014, Toledo purchased the property to complement its industrial redevelopment plans for the area.

Manufacturing

Former facility operations involved converting raw materials including resins, plasticizers, pigments, and other additives into various widths and thicknesses of rolled sheets of coated fabrics, commonly known as vinyl, for use in automotive production. One operation was a process called "calendering" which is a finishing technique used on cloth, paper, or plastic film. Between the early 1950s and October 1990, plant operations involved solvent recovery and waste-ink recycling from on-site and off-site sources. Textileather stopped receiving off-site wastes in November 1990. The facility then stored hazardous wastes as a generator under less-than-90-day RCRA status.

The facility generated hazardous and nonhazardous wastes. Hazardous wastes included: waste inks, waste inks and debris, waste plasticizer and debris, and waste petroleum naphtha. Nonhazardous wastes included: special nonhazardous waste, used oil, absorbent oil booms, absorbent oil booms contaminated with PCBs, defective or scrap vinyl, scrap metal, broken wooden pallets, and general refuse.

Historic Releases, Completed Remediation, and Interim Measures

Operations at the former plant released hazardous waste and hazardous constituents into the environment, including solvents, phthalates, and PCBs. In the 1980s and 1990s, significant releases of PCBs from operations and leaking storage tanks on the property infiltrated Site soils and made their way to the Ottawa River via storm sewers and a (former) unnamed tributary. Former owner GenCorp remediated the PCB releases on- and off-site under the authority of the Toxic Substances Control Act ("TSCA") in the 1990s, with oversight by the Ohio Environmental Protection Agency ("Ohio EPA"). Additionally, contaminated sediment in the Ottawa River (from multiple sources including Site-related PCBs) was dredged under the Great Lakes Legacy Act in 2010. The Ottawa River is a tributary to the Maumee River, which is a Great Lakes Area

of Concern. More information about the Ottawa River clean-up can be found at this web-site: http://www.epa.gov/glla/ottawa/index.html.

Interim Measure for PCB-containing Light Non-aqueous Phase Liquid ("LNAPL") at AOI-01

The on-site area of PCB releases is Area of Interest-01 ("AOI-01") under the Corrective Action Program (see Figure Two). GenCorp excavated approximately 5,500 cubic yards of PCB-contaminated soils from this area, west of former Building 50, followed by post-excavation verification soil sampling. GenCorp also cleaned and sampled the storm sewers leading from the basements of Buildings 50 and 51 (the "Calender Basement"). A slurry wall to contain the PCB-contaminated Therminol oil remaining in the soil was installed near the building foundations. However, the oil seeped through the foundation walls and into the basement. GenCorp routinely cleaned and sealed the walls to address the ongoing LNAPL seepage and eventually installed a PCB collection system in the mid-1990s. When operating the collection system, LNAPL was separated from the dewatering sumps in the basement and placed into containment drums for off-site disposal as required under TSCA regulations. Water that collected in the sumps was discharged to the sanitary sewer under a City of Toledo permit. GenCorp and then Textileather operated the collection system until the Site buildings were demolished in 2014. Toledo updated a Site Management Plan that was originally developed for Textileather to guide risk management of potential worker exposures who were operating the LNAPL collection system or working in the Calendar Basement area (Haley and Aldrich, 2015 and Haley and Aldrich, 2012, Appendix D of the RFI Report).

Currently, oil is contained in the basement which is now flooded with groundwater. There is no anticipated future need for a basement in this area and the building foundations and surrounding soil will be excavated. All contaminated media will be disposed of as part of the remedy.

Interim Measure PZ-31 LNAPL Collection

In the South Above Ground Storage Tank Farm Area (AOI-15), Textileather began collecting small volumes of LNAPL from piezometer PZ-31 (a piezometer is a type of observation well). Toledo currently continues this work with a bailer and adsorbent socks. Initially, up to seven feet of LNAPL were measured in PZ-31. To date, approximately 15 gallons of LNAPL have been recovered from the well and the product levels have diminished to around 1.5-inches. Due to the manual nature of this recovery, it is not considered to be a long-term corrective measure for the remaining product in the vicinity.

More information about the chemical production processes, chemicals, and wastes can be found in the Description of Current Conditions Report, Haley and Aldrich, 2009.

Environmental Indicators

EPA developed two "environmental indicator" (EI) evaluations, or determinations, to assess conditions that affect human health and groundwater impacts at RCRA facilities, early in the Corrective Action process. EPA uses the EI evaluations to decide whether conditions affecting human health (EI 725) or contaminated groundwater migration (EI 750) are under control. The EI evaluations use available environmental data such as measurements of contaminants in groundwater within a decision matrix. EPA determined that human health exposures and groundwater conditions at the Toledo Site were under control in 2011. However, per the EI 750, Toledo must collect the LNAPL from PZ-31. The removal activity is considered to be an "interim remedial measure" and not a final remedy.

**Proposed Corrective Measures (Summary)**

After reviewing the results of soil and groundwater sample analyses, past environmental practices, historical investigations and remedial activities, EPA is proposing the excavation of specific soil areas, replacement of the storm and sanitary sewer system, removal of below ground storage tanks, institutional controls, financial assurance, and groundwater monitoring, as the remedy for the Site. For more details about the proposed remedies, see the Corrective Measures Study (Haley and Aldrich, 2014).[1]

1) *Excavation of contaminated soil and removal of LNAPL in Area of Interest-01 – Calender Basement ("AOI-01"):* This area was contaminated by releases of Therminol, a heat transfer oil containing polychlorinated biphenyl compounds ("PCBs"). The outline shown in Figure Three defines the impacted area where EPA proposes removing about 920 cubic yards of soil and building foundations in an area about 2,480 square feet and ten feet deep. Soil will be disposed of off-site in an appropriate landfill per regulatory requirements. Following the soil removal, the excavated area will be sampled to confirm that all of the impacted soil was removed. Impacted soils are those with concentrations above the Remedial Action Objectives ("RAOs"). RAOs are chemical concentrations determined to be protective of future industrial workers. This step is called "confirmatory sampling."

2) *Excavation of contaminated soil and removal of LNAPL in Area of Interest-15 – South Above Ground Storage Tank ("AST") Farm ("AOI-15"):* The South AST Farm had six 20,000-gallon ASTs that contained various liquid plasticizer oils (phthalate compounds) which leaked or spilled in this area; sampled oils also contained PCBs. The phthalates are in a chemical form called light non-aqueous phase liquids (oily liquids that don't mix with water). EPA proposes removing about 1,176 cubic yards of LNAPL-impacted soil in an area about 2,646 square feet

[1] Referenced documents can be found at the EPA Records Center and at the Toledo Public Library; see page 27.

and 12 feet deep. Soil would be disposed of off-site in an appropriate landfill per regulatory requirements. The approximate size and location of the excavation is shown on Figure Four. Confirmatory sampling would be completed following excavation. However, the presence or absence of LNAPL would guide the excavation. Risk in this area was calculated based upon the possibility of industrial workers being exposed to LNAPL.

3) *Excavation of contaminated soil in Area of Interest-28 ("AOI-28") – Former Sample Print Machines associated with soil gas:* The remedial investigation in this area reported soil gas measurements above risk-based screening levels associated with volatile organic compounds ("VOCs") from solvent releases. EPA proposes excavating approximately 73 cubic yards of impacted soils in an area about 490 square feet and four feet deep, as shown on Figure Five. Soil would be disposed of off-site in an appropriate landfill per regulatory requirements.

4) *Solvent Recovery Operation Area of Interest-02 ("AOI-02"):* This area was formerly an OEPA-permitted "RCRA Unit" (see Figure Two). Unit closure was incorporated into the site-wide Corrective Action through the Administrative Order on Consent; therefore, additional State RCRA closure requirements are not necessary according to Ohio regulations. Textileather sampled the Solvent Recovery Operation area as part of the Corrective Action remedial investigation. The results of the investigation and risk assessment of the area indicated that AOI-02 did not pose an unacceptable risk to human health and the environment under the anticipated industrial re-use of the Site. The investigation and risk assessment also demonstrated that the former RCRA unit satisfied the Ohio EPA's definition of Clean Closure. Therefore, Corrective Action remediation is not proposed for this area.

5) *Removal of Underground Storage Tanks ("USTs") in Area of Interest-14 ("AOI-14") and confirmatory sampling of surrounding soil:* In Ohio, Underground Storage Tanks are under the jurisdiction of the Bureau of Underground Storage Tank Regulations ("BUSTR"), administered by the State Fire Marshal. Toledo will submit a Tier I/II Closure Report to Ohio BUSTR to close the USTs located in AOI-14. Based upon current soil and groundwater data evaluated in the Human Health Risk Assessment ("HHRA"), there are no unacceptable current or future exposures from contaminant levels identified in this area. Therefore, Corrective Action remediation is not proposed for this area.

6) *Removal, Redesign, and Replacement of Stormwater Management/Collection System:* EPA proposes removing the existing stormwater and sanitary sewer system at the Site. Water in the storm sewers eventually discharges to the Ottawa River. Based upon their age, location below the water table, and evidence of groundwater infiltration, the sewers are potential pathways for future plant operation releases to waterways. (Further, the planned property redevelopment will not likely use the sewers for storm or sanitary conveyances and their removal, redesign, and replacement will enhance the new construction. Where evidence of contamination is

encountered during their excavation and removal, Toledo will take samples and compare results to risk screening levels and RAOs to determine whether additional excavation is needed.)

7) *Institutional Controls prohibiting residential occupation of the Site and the prohibition of potable and non-potable use of the overburden groundwater:* Toledo will place a restrictive covenant on the property requiring that it be used only for industrial or commercial purposes. Ohio Administrative Code regulations prohibit the installation of private water systems near potential or known sources of contamination and at shallow depths. These regulations preclude the development of private water systems in the vicinity of the Site.

8) *Financial Assurance:* Upon remedy selection, Toledo must demonstrate a financial ability to complete the proposed remedy and monitoring of Site conditions by securing an appropriate financial instrument to cover the cost of remedy implementation.

9) *Groundwater Monitoring*: EPA proposes that Toledo monitor the groundwater at the Site perimeter twice yearly for two years and compare results to specifications established by an approved monitoring program. Currently, groundwater at the Site is controlled by the inward gradient effect of the Site sewers. While the Site does not currently have groundwater issues, future conditions are uncertain due to the proposed removal of the existing sewer system and other construction and redevelopment changes to Site conditions. Based on the monitoring results, the program may be revised or concluded, per EPA approval.

## III. Summary of the Environmental Investigation and Risk Evaluation

The purpose of a Corrective Action Remedial Facility Investigation ("RFI") is to determine whether hazardous waste or hazardous constituents were released into the environment at a Site, and if so, to evaluate the significance of the releases in terms of risk to human health and the environment. The investigation is governed by a conceptual site model ("CSM") which illustrates Site physical characteristics, sources of contaminants, their fate and transport, affected environmental media, and potentially exposed people (in categories such as office and construction workers) and ecological receptors (plants and animals).

During the investigation phases, environmental media such as soil, groundwater, surface water, sediments, and biota are sampled and analyzed for contamination. Where contaminated media are found, subsequent sampling is usually completed to refine the CSM and define the extent of contamination (how far it may have traveled and how deeply), and to collect enough information for analysis of exposure effects in risk assessments. After each sampling event or investigation phase, EPA evaluates the CSM to determine the adequacy of the data to support decision-making. If found to be inadequate, additional data collection is necessary.

Textileather completed an EPA-approved RFI following approved work plans, when it owned the Site. To focus the investigation, Textileather organized the Site into Areas of Interest

("AOIs"). Textileather identified those areas where chemical releases were known to have occurred or areas of distinct facility operations with potential releases. Between January 2010 and August 2011, Textileather completed three field sampling events to collect information about soil, surface water, and groundwater, and analyzed the data for potential exposure effects to people. When data of sufficient quality and quantity were collected, they were used to support decisions regarding the need for interim or corrective measures and for risk analysis. Detailed information about the entire field investigation is presented in the RCRA Facility Investigation Report ("RFI Report").

Physical Setting and Site Characteristics The general setting of the Site is industrialized urban land; most areas of the property were under paved surfaces or building structures until the recent demolition work. For detailed information on Site characteristics, see the RFI Report (Haley and Aldrich, 2012).

Soil Textileather installed approximately 150 soil borings to characterize soil conditions. The borings were generally 10- to 15-feet deep and provided a fairly consistent stratigraphic profile in the overburden across the Site, with variances in depths and unit thicknesses. The major soil types in the vicinity are clay and silty clay with slow drainage and low permeability.

Geology Per regional reference sources and investigation results, the Site is underlain by four major geologic units: fill, lacustrine silts and clays, glacial till, and bedrock. At least 75 feet of low-permeability silty clays, silts, and clays overlie limestone bedrock.

Hydrogeology Typically, groundwater (water that seeps through the soil or rocks underground) was encountered at a depth of four feet below ground surface ("bgs"), and ranged from one to 10 feet bgs. Therefore, the monitoring well screened interval was set relatively shallow, from five to 15 feet to target the top of the water table to identify any direct impacts to shallow groundwater. Since many of the site-specific chemicals, or constituents of concern, were lighter than water, the wells were also used to determine if any LNAPL was present atop the water table. Wells installed during the RFI maintained a minimum four-foot buffer from ground surface to the top of the sand pack to limit surface water infiltration/impact on the monitoring wells. The upper water-bearing unit is composed of lacustrine silt and clays.

Localized Groundwater Flow Direction – Overburden Groundwater Most of the Site was covered by buildings and pavement, which directed stormwater to storm sewers, limiting the amount of groundwater recharge to the overburden aquifer. Groundwater recharge areas on the Site were limited to the green-space areas on the northern, western and south-western boundaries.

Storm and sanitary sewers are located throughout the plant area, running north to south. The sewer lines were typically constructed at depths around 10 feet bgs, placing them below the

typical groundwater elevation in the overburden. A review of water levels from monitoring wells near sewers indicated that the water levels near the sewers were typically six to ten feet lower than water levels on the perimeter of the Site. Water levels from the wells near the sewers were typically similar in elevation to the fluid levels in the sewer system. The measurements indicate that the sewers, which are old and unsealed, function to capture and control groundwater towards the central portion of the Site. Consequently, no groundwater plumes appear to migrate off the property.

Surface Water Hydrology Surface water drains primarily through storm sewers to the south which connect to a 72-inch storm sewer main that runs west to Fraleigh Creek. The storm sewers join an east-west main storm sewer trunk on the south side of the property and discharge to a drainage ditch which was subject to a National Pollutant Discharge Elimination System permit which expired in 2014. The discharge of the sanitary sewers is directed to the City of Toledo publically owned treatment works ("POTW"). The sewer main also receives storm water runoff from the interstate highway, city streets, and several industrial locations east of the Site. The creek connects to the Ottawa River about one quarter mile west of the property (see Figure One). According to the National Flood Insurance Program, the Site is not located in the 100- or 500-year floodplain. There are no other surface water features on the property.

Water Supplies and Groundwater Use Groundwater in the area is not used for drinking water. The City of Toledo Department of Utilities operates a public water supply system using water from Lake Erie that covers all businesses and residents within the vicinity of the Site. Furthermore, regulations have been promulgated in the Ohio Administrative Code that prohibit the installation of private water systems near potential or known sources of contamination and at shallow depths. The regulations preclude the development of private water systems in the vicinity of the Site.

Former operations at the Site used a bedrock water production well for non-contact cooling purposes in the former Solvent Recovery operation; the well yielded over 200 gallons per minute. Textileather removed the water production equipment in February 2010 to allow video logging of the borehole condition. After evaluating and sampling the well, Textileather decommissioned the well in February 2011, in compliance with Ohio Department of Natural Resources regulations.

Ecological Setting EPA determined that the Site did not have ecological habitat with a potential for complete exposure pathways from contaminated media to ecological receptors. Therefore, ecological risk was not assessed at the Site.

**Investigation Results and Summary of Site Risks**

Corrective Action is a risk-based program. Eliminating or mitigating estimated risks to human health and the environment is the primary basis for EPA's required remedial measures or "clean-ups" at contaminated properties. EPA's Risk Assessment Guidance for Superfund[2] ("RAGS") provides a methodology for identifying potential human health risks resulting from exposure to contamination. Risk assessments estimate risks from exposure to contaminated media such as soil and groundwater, and are used to support decisions about where remediation is needed.

The Textileather Human Health Risk Assessment ("HHRA") describes the evaluation of risks based on current and future industrial uses of the Site land and groundwater. Details of the risk assessment and its findings are presented in the RFI Report; the entire HHRA report is in Appendix E. Textileather also developed risk-based preliminary remediation goals ("PRGs") protective of human health for the areas where the risk assessment identified unacceptable risks to industrial workers (see the Revised Addendum CMS, Haley and Aldrich, 2014). PRGs are used to plan remediation work by defining how much of an area needs to be cleaned up (for example, how deep and wide a soil excavation should be), and for evaluating an area after remediation to verify the completeness of the work.

For the remedial investigation, Textileather organized the Site investigation into AOIs based upon facility operations and release history. Investigators sampled soil, soil gas, groundwater, and sewer water in the AOIs and along the Site perimeter, as applicable. Data collected during the three-phase remedial investigation were evaluated per the risk assessment guidance to identify potential human health risks resulting from exposure to Site contamination. As a first step in the risk assessment process, Textileather compared measured concentrations of chemicals in media samples to conservative health risk screening levels to identify which contaminants might pose concern. If contaminants exceeded screening levels, the AOIs were further sampled and the data used in the HHRA.

Risk Assessment Summary The HHRA estimated cancer and non-cancer risks associated with potential exposures to soil, stormwater, and groundwater under current conditions and future commercial/industrial use of the property.

*Current Conditions* Under current land-use conditions, the HHRA indicated that for adolescent trespassers who may contact unpaved soil and stormwater, and for adult maintenance workers who may contact unpaved soil, the excess cancer risks and risks of developing other types of illnesses from these exposures are within EPA guidelines. EPA's acceptable lifetime *excess* cancer risk-range is $10^{-6}$ to $10^{-4}$ and the non-cancer Hazard Index ("HI") values should not

[2] Available at http://www.epa.gov/oswer/riskassessment/ragsa/

exceed one.[3] In addition, under the current and continuing use conditions (non-operational, demolished plant), no complete vapor intrusion exposure pathways are associated with the Site conditions. Any potential exposures to VOCs during construction will be mitigated with the Site Management Plan and Health and Safety Plan (Haley and Aldrich, 2015).

*Future Conditions* Future use of the Site will be commercial/industrial; the use will be stipulated in a restrictive covenant that prevents residential development. The HHRA identified three areas posing unacceptable levels of risk from exposure to contaminated media for future industrial workers:

1) in **AOI-01,** risks are from concentrations of a PCB called Aroclor-1242 in the subsurface soils, and oil composed of PCBs and Therminol in the Calender Basement,
2) in **AOI-15,** risks are from concentrations of Aroclor-1242 and bis(2-ethyhexyl)phthalate, a plasticizer, and
3) in **AOI-28,** risks are from soil gas migrating to indoor air.

Figures Two through Six in Attachment One show the contaminant concentrations that exceeded screening criteria in the AOIs identified for remediation in the HHRA.

The HHRA evaluated health risks associated with future land use under the assumptions that:

1) existing pavement and buildings would be removed, thereby making soil accessible for exposure,
2) subsurface soil would be excavated and placed on the ground surface (i.e., becoming surface soil), thereby making it accessible for exposure, and
3) commercial/industrial buildings would be constructed over groundwater containing elevated concentrations of VOCs, thereby making the vapor intrusion exposure pathway potentially complete for future on-property buildings.

The HHRA characterized future land use cancer and non-cancer risks for:

1) future full-time outdoor commercial or industrial workers assuming complete exposure pathways from direct contact with surface and subsurface soil, and inhalation of dust and vapor,
2) future construction workers assuming complete exposure pathways from direct contact with surface and subsurface soil and groundwater,

[3] Excess cancer risk means the added risk of becoming sick with cancer in a lifetime. EPA's conservative acceptable risk range is one in one million to one in one hundred thousand additional chances of having cancer. The Hazard Index correlates to other illnesses such as kidney failure. A Hazard Index of one or below indicates that short – or long-term health effects would not be expected.

3) future construction workers assuming complete exposure pathways from inhalation of dust and vapor, and
4) future full-time indoor commercial or industrial workers assuming:
   a) inhalation of vapor inside new buildings constructed over groundwater with VOCs,
   b) sub-slab soil gas at AOI-28 migrates into the building area, and
   c) direct contact with LNAPL in the Calender Basement.

The construction worker exposure pathways assume deep excavation work and dermal exposure to LNAPL encountered during excavation.

AOI-01 PCB Area – Calender Basement PCB LNAPL Recovery and Separation Textileather investigated AOI-01, the Calender Basement area (see Figure Two), due to historic releases of PCBs and Therminol (a heat-transfer oil). AOI-1 is comprised of Area of Concern 1 ("AOC 1") (PCB-contaminated soils) and Solid Waste Management Unit 1 ("SWMU 1") (the stormwater sewer system). AOC 1 is the outdoor area on the northwest side of the Site. SWMU 1 consists of a sump beneath the calender equipment and a storm sewer line. Exposure risk in this area is from concentrations of a PCB called Aroclor-1242 in the subsurface soils and oil composed of PCBs and Therminol in the Calender Basement area. The previous remedial work performed in this area is described on pages 3 and 4, above.

During the remedial investigation, Aroclor-1242 and benzo(a)pyrene were detected in soil with concentrations higher than the industrial screening criteria. Of the 32 soil samples collected in AOI-01, benzo(a)pyrene was detected in four samples and exceeded industrial screening criteria in only one sample. Aroclor-1242 was detected in five samples and exceeded industrial screening criteria in four of them. Groundwater sampling results did not exceed Maximum Contaminant Levels ("MCLs") and Vapor Intrusion Screening Levels ("VISLs") for Industrial Groundwater Targets. Indoor air measurements did not exceed Regional Screening Levels ("RSLs") for Industrial Air. Analysis of the LNAPL (oil) seeping into the basement identified PCBs (Arochlor-1242).

The HHRA indicated that cancer risks were below or within the excess lifetime cancer risk range of $10^{-6}$ to $10^{-4}$ and non-cancer HI values were below one for all future land use receptor scenarios evaluated, with the exception of PCBs in soil and LNAPL found in and around the Calender Basement. Toledo prepared a new Site Management/Health and Safety Plan for construction workers who will work in this area (Haley and Aldrich, 2015).

AOI-15 South AST Tank Farm – LNAPL (Phthalate) Collection at PZ-31 Investigators observed phthalate LNAPL accumulating in piezometer PZ-31 prior to and during the RFI, recording up to seven feet during early measurements. Laboratory analysis reported the LNAPL to be a mixture of phthalates with detectable levels of PCBs. Although elevated levels of

phthalates were detected in soils in this area, investigators did not observe other indications of LNAPL in soil samples, monitoring wells, or piezometers.

RFI activities at AOI-15 included the installation of five soil borings. Investigators collected 13 soil samples and one LNAPL sample. Soil screening results indicated all contaminant concentrations were below the industrial screening criteria. The HHRA indicated that cancer risks are below or within the excess lifetime cancer risk range of $10^{-6}$ to $10^{-4}$ and non-cancer HI values are below 1, for all future land use receptor scenarios evaluated, with the exception of exposure to the LNAPL identified in PZ-31. The risks identified in the LNAPL are attributable to Aroclor-1242 and bis(2-ethyhexyl)phthalate.

Toledo is currently recovering the LNAPL from the piezometer as an interim measure. However, this interim measure is not considered a final measure that would accommodate future development and use of the Site.

AOI-28 – Former Sample Print Machines Three former sample print machines operated for over 20 years in AOI-28. Related contaminants of concern are primarily VOCs, from solvents used in operations. Textileather installed ten soil borings (24 samples) and one monitoring well, and took three sub-slab soil vapor and two indoor air samples to characterize the contamination in this area. The RFI reported these screening results for the sample print machine area:

- all soil concentrations were below the industrial screening criteria,
- trichloroethene concentrations in groundwater measured in MW-1022 exceeded MCLs and VISLs for Industrial Groundwater Targets,
- tetrachloroethene and trichloroethene sub-slab vapor concentrations from all three sample points exceeded Residential and Industrial VISLs, and
- indoor air samples did not exceed RSLs for Industrial Air.

Constituents measured above the screening results were analyzed in the HHRA which reported that cancer risks are below or within the excess lifetime cancer risk range of $10^{-6}$ to $10^{-4}$ and non-cancer HI values are below one for all future land use receptor scenarios evaluated, with the exception of soil gas in AOI-28. The risks associated with soil gas in AOI-28 were associated with tetrachloroethene and trichloroethene under the assumption that soil gas migrates to indoor air. Given the potential for redevelopment of the Site and potential future exposures, remedial measures are needed for AOI-28.

In addition to the areas identified above, two additional areas will be remediated at the Site.

AOI-02 - Solvent Recovery Area – RCRA Closure This area consists of the solvent recovery system in Building 31, associated storage and transfer equipment, and other waste handling operations identified as SWMUs 2 -10, 15, 16 and 19 in the Preliminary Assessment and Visual

Site Inspection ("PA/VSI") (these SWMUs are generally adjacent to one another and together form one contiguous area). According to interviews with former plant personnel, there were several incidents of solvent releases in this area while it operated, mainly at the north end of the solvent recovery building onto the pavement. Operations began in the 1950s and continued until shutdown of the plant in 2009. The RCRA units were shut down in the early 1990s. AOI-02 was a RCRA storage area undergoing closure with Ohio EPA when Textileather and EPA signed the RCRA Corrective Action Consent Order. During the (non-RFI) closure period, investigators installed 28 soil borings and collected 43 soil samples. For the RFI, investigators installed 16 soil borings (49 samples) and one monitoring well (three sampling events), and sampled the water production well.

The RFI results identified the following:

- Pre-RFI soil results were compared to Industrial Screening Levels, which indicated that arsenic and benzene, toluene, ethylbenzene and total xylenes ("BTEX") compounds had concentrations higher than the industrial screening criteria. Of the ten samples analyzed for metals, nine exceeded background and industrial screening criteria. Benzene, toluene, and total xylenes each exceeded industrial screening criteria in one of 23 samples. Ethylbenzene concentrations exceeded the applicable criteria in four of 20 samples.
- The RFI soil results were compared to Industrial Screening Levels, which indicated that bis(2-ethylhexyl)phthalate and benzo(a)pyrene were the only chemicals having concentrations higher than the industrial screening criteria. Of the 40 samples that were analyzed for semi-volatile organic compounds ("SVOCs"), bis(2-ethylhexyl)phthalate was detected in ten of them. Four of the ten detections had concentrations exceeding the applicable screening criteria. Benzo(a)pyrene was detected in two of 40 samples submitted for SVOC analysis. Only one sample exceeded industrial screening criteria.
- Investigators completed one round of RFI groundwater sampling in monitoring wells MW-19H, MW-23H, and MW-1018. Groundwater results compared to MCLs and VISLs for Industrial Groundwater Targets indicated that only MCLs were exceed by arsenic concentrations in MW-19H and bis(2-ethylhexyl)phthalate concentration in MW-1018.
- Two groundwater samples, at depths of 108 and 188 feet from the top of casing, were collected from the former water production well. Screening results were below the MCLs for all constituents.

The HHRA analysis did not identify any unacceptable current or future industrial exposures in AOI-02.

<u>AOI-14 - South UST Farm – BUSTR Closure</u> The South UST Farm (the Vinyl Finish Tank Farm) is located to the east of the former Pump House (Building 69). Formerly, there were 20 USTs in this area which were removed in 1990. According to facility documents, the former

USTs contained methyl ethyl ketone ("MEK"), plasticizer, dimethylformamide, adsorber steamings, toluene, and tetrahydrofuran ("THF"). Currently, six USTs formerly containing MEK and THF, and mixtures of MEK and THF, are located in this area. The USTs are currently empty and idle, and will need to be removed in accordance with the requirements of the Ohio BUSTR program.

RFI activities at AOI-14 included the installation of three soil borings. Investigators collected a total of seven soil samples and two groundwater samples. The RFI reported the following results:

- Soil samples screened against Industrial Screening Levels indicated that benzo(a)pyrene was the only chemical having concentrations higher than industrial screening criteria. Of the seven soil samples, benzo(a)pyrene was detected in one sample.
- Groundwater samples compared to MCLs and VISLs for Industrial Groundwater Targets indicated that arsenic exceeded the MCL.

The HHRA did not identify any unacceptable current or future industrial exposures. Therefore, no corrective measures are proposed for this area. The existing USTs will be removed and closed under Ohio BUSTR regulations.

## IV. Proposed Final Remedy and Evaluation of Alternatives

The Corrective Measures Study ("CMS") evaluated alternative remedial measures to address contaminated areas identified by the HHRA as having unacceptable risk to future users of the Site. The CMS and HHRA relied on the detailed information provided in the revised RFI Report and other documents in the Administrative Record. Remedial alternatives for the Areas of Interest are evaluated and discussed below. For a discussion of the remaining areas on the property, including the rationale behind their exclusion from remediation, refer to the RFI Report.

### Evaluation Criteria

EPA's standard Threshold and Balancing Criteria for remediation were used to evaluate the relative performance of each remedial alternative having optional approaches to design and execution. Other remedial approaches such as the underground storage tank removal under BUSTR permit and institutional controls to prohibit use of groundwater for drinking water do not require this type of evaluation. Evaluation criteria are applied in two phases. In the first phase, EPA evaluates three remedy threshold criteria as general goals. All proposed alternatives should meet the threshold criteria in different ways except for the standard "no action" alternative, which is used as a comparison reference for the other alternatives. In the second-phase evaluation, EPA applies seven balancing criteria to determine which of the remedial alternatives provides the best relative combination of characteristics.

Based on the evaluation results, EPA proposes the Removal Alternative (as the most reliable and effective approach to remediation as the excavation and disposal of contaminated media is a permanent solution to the exposure risk concerns at the Site).

The three remedial Threshold Criteria are:

1) Protect human health and the environment based on reasonably anticipated land use(s), both now and in the future.
2) Achieve media cleanup objectives appropriate to the assumptions regarding current and reasonably anticipated land use(s), and current and potential beneficial uses of water resources.
3) Control the sources of releases to achieve elimination or reduction of any further releases of hazardous wastes or hazardous constituents that may threaten human health and the environment

The seven remedial Balancing Criteria are:

1) Long-term reliability and effectiveness (long-term effectiveness should consider reasonably anticipated future land uses).
2) Reduction of toxicity, mobility, and volume of waste.
3) Short-term effectiveness.
4) Implementability (technical feasibility and availability of services and materials).
5) State and community acceptance of remedy.
6) Cost.

**Threshold Criteria Evaluation of AOI-01, PCB Area and Calender Basement**

The four general categories of remediation (no action, containment/control, treatment, and removal) were evaluated against the three remedial Threshold Criteria for AOI-1. The evaluation is presented in Table 1, and summarized below.

*1)* ***No Action Alternative*** (including no institutional controls)[4]:

a) Protection of Human Health and the Environment: The No Action Alternative partially meets this criterion because it is protective under current conditions; it is not protective under certain reasonably anticipated future conditions.
b) Achieve Media Cleanup Objectives: The No Action Alternative does not attain media cleanup objectives under future conditions because it does not eliminate exposure.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The No Action Alternative does not meet this criterion because it does not eliminate or reduce sources of contamination.

[4] For all the analyses, the No Action Alternative excludes institutional controls in order to create a true no action alternative.

2) ***Containment Alternative*** A containment remedy for the contaminants and conditions found at the Site would include hydraulic controls, LNAPL collection, barrier walls, soil caps or contact barriers, institutional controls to maintain the containment systems, and other engineering controls.

a) Protection of Human Health and the Environment: The Containment Alternative meets this criterion because it is protective under current and future conditions by preventing unacceptable exposures.
b) Achieve Media Cleanup Objectives: The Containment Alternative would attain media cleanup objectives because it eliminates exposures.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Containment Alternative meets this criterion because it reduces further releases from sources by controlling contaminant migration.

3) ***Treatment Alternative*** An active treatment remedy for the contaminants and conditions found at the Site would be limited to high-energy systems such as in-situ thermal desorption, due to the stable nature of the LNAPL and PCB compounds.

a) Protection of Human Health and the Environment: The Treatment Alternative meets this criterion because it is protective under current and future conditions by eliminating exposures.
b) Achieve Media Cleanup Objectives: The Treatment Alternative attains media cleanup objectives because it eliminates exposures.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Treatment Alternative meets this criterion by eliminating sources through treatment.

4) ***Removal Alternative*:** A removal remedy would include excavation of PCB- and LNAPL-impacted soils and free LNAPL, along with portions of the Calender Basement foundations, and disposes of the materials per TSCA regulations.

a) Protection of Human Health and the Environment: The Removal Alternative meets this criterion by permanently eliminating the potential for exposure under current and future conditions.
b) Achieve Media Cleanup Objectives: The Removal Alternative attains media cleanup objectives because it eliminates the potential for exposure.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Removal Alternative meets this criterion because it eliminates sources through removal and off-site disposal.

With the exception of the No Action Alternative, as demonstrated, the containment, treatment and removal remedial approaches for AOI-01 all meet the remedial Threshold Criteria. The

additional analysis using EPA's Balancing Criteria of long-term reliability and effectiveness, reduction in the toxicity, mobility and volume of wastes, short-term effectiveness and short-term risks, implementability, cost, community acceptance, and state acceptance is presented in Table 1. This evaluation indicates that removal of LNAPL, contaminated soils, and contaminated materials, with off-site waste management/disposal, provides the best balance of the criteria. Further evaluation and discussion of the removal option is detailed below.

**Proposed Corrective Measure for AOI-01**

EPA proposes the Removal Alternative as the preferred alternative for addressing the PCB-contaminated LNAPL, soil, and building foundations in AOI-01. EPA prefers this remedy based on its reliability, certainty of completion, reasonable cost, and the expediency of returning the area to a beneficial use. PCB concentrations greater than 6.5 mg/kg (the PRG) and LNAPL with PCBs, would also be remediated to protect future industrial users of this area. The RFI soil sampling results north of the basement and east of the slurry wall refined the limits of the PCB-impacted soils requiring remediation. Figure Three presents the soil analytical results, and shows the outline of the Calender Basement to be removed and the area contaminated above PRGs targeted for excavation.

The soil removal area is estimated to be approximately 2,480 square feet (excluding the area of the foundations). The estimated depth of excavation is approximately 10 feet, for a net excavation volume of approximately 920 cubic yards of soil. Since LNAPL is lighter than water, the expected depth of soil removal corresponds to the water table depth. The PRG for the PCB-impacted subsurface soils in AOI-01 is 6.5 mg/kg to protect future Site workers. The proposed excavation in AOI-01 presented in the CMS should remove most, if not all, of the PCB-impacted soils. Toledo will complete confirmatory sampling and inspect for LNAPL, and extend the excavation area as needed.

Assuming the Site-wide use restrictions are in place, long-term monitoring or controls would not be needed once remediation is completed. The concentrations in PCBs, soil, LNAPL, and potentially debris from the Calender Basement indicate these materials would need to be disposed off-site as a TSCA waste. Excavation of impacted soils and LNAPL could be completed in two months or less, including demolition of the Calender Basement. Using total costs from a comparable site where PCBs-impacted soils were remediated, the soil excavation and off-site soil management of PCB-impacted material would cost approximately $578,000.

**Threshold Criteria Evaluation of AOI-15, South Above Ground Storage Tank Farm LNAPL**

The four general categories of remediation (no action, containment/control, treatment, and removal) were evaluated against the three remedial Threshold Criteria for AOI-15. The evaluation is presented in Table 2, and summarized below.

*1)* ***No Action Alternative*** (including no institutional controls):

a) Protection of Human Health and the Environment: The No Action Alternative partially meets this criterion because it is protective under current conditions; it is not protective under certain reasonably anticipated future conditions.

b) Achieve Media Cleanup Objectives: The No Action Alternative does not attain media cleanup objectives under future conditions because it does not eliminate exposure.

c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The No Action Alternative does not meet this criterion because it does not eliminate or reduce sources of contamination.

*2)* ***Containment Alternative****:* A containment remedy for the contaminants and conditions at the Site would include hydraulic controls, LNAPL collection, barrier walls, soil caps or contact barriers, institutional controls to maintain the containment systems, and other engineering controls.

a) Protection of Human Health and the Environment: The Containment Alternative meets this criterion because it is protective under current and future conditions by preventing certain unacceptable exposures.

b) Achieve Media Cleanup Objectives: The Containment Alternative attains media cleanup objectives because it prevents certain unacceptable exposures.

c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Containment Alternative meets this criterion because it reduces further releases from sources by controlling contaminant migration.

*3)* ***Treatment Alternative****: In-situ* (in place) treatment would be effective for the lower concentrations of contaminants in LNAPL but is less certain for those containing higher concentrations. At the Site, this approach would not be practical given site conditions, the small amount of LNAPL and redevelopment plans. This type of remedy generally includes installation of high- or low-energy product recovery systems that remove LNAPL using wells or trenches for off-site disposal.

a) Protection of Human Health and the Environment: The Treatment Alternative meets this criterion because it is protective under current and future conditions by preventing certain unacceptable exposures.
b) Achieve Media Cleanup Objectives: The Treatment Alternative attains media cleanup objectives because it prevents certain unacceptable exposures.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Treatment Alterative satisfies this criterion by eliminating sources through treatment.

*4.* ***Removal Alternative****:* The Removal Alternative is the excavation and disposal of contaminated soils, LNAPL and LNAPL-impacted soils. .

a) Protection of Human Health and the Environment: The Removal Alternative meets this criterion because it is protective under current and future conditions by eliminating exposures.
b) Achieve Media Cleanup Objectives: The Removal Alternative attains media cleanup objectives because it eliminates exposures.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Removal Alternative meets this criterion because it permanently eliminates sources through removal and off-site disposal.

As demonstrated, the containment, treatment and removal remedial approaches for AOI-15 all meet the remedial Threshold Criteria. The additional analysis using EPA's Balancing Criteria of long-term reliability and effectiveness, reduction in the toxicity, mobility and volume of wastes, short-term effectiveness and short-term risks, implementability, cost, community acceptance, and state acceptance is presented in Table 2. This evaluation indicates that removal of LNAPL and soils near PZ-31, with off-site waste management/disposal, provides the best balance of the criteria. Further evaluation and discussion of the removal option is detailed below.

**Proposed Corrective Measure for AOI-15**

EPA's proposed remedy to address LNAPL in AOI-15 is excavation and off-site soil disposal of the soil around PZ-31 and removal of all LNAPL. EPA prefers this remedy based on its reliability, certainty of completion, reasonable cost, and the expediency of returning the area to a beneficial use. As described above, the LNAPL thickness in PZ-31 diminished considerably during the RFI period and since the LNAPL removal activity was employed. A review of soil borings completed in the area of PZ-31 does not suggest the presence of LNAPL or elevated PCB concentrations in soil. However, elevated levels of phthalates were measured in soil in the area. The remedial design would include a pre-excavation survey or test pits to refine the extent the excavation needed to remove all the LNAPL and contaminated soil.

Based on the LNAPL collection (15 gallons), LNAPL observations made to-date, and soil concentrations in AOI-15, the soil excavation limits are approximately 2,646 square feet to a depth of approximately 12 feet, yielding approximately 1,176 cubic yards of soil. The approximate size and location of the excavation is shown on Figure Four. The LNAPL-impacted soil would be disposed off-site. Excavation of LNAPL-impacted soils may be scheduled with the BUSTR closure of the USTs in AOI-14 and could be completed in one month or less, depending on the extent of LNAPL encountered. Based on total costs from a comparable site where LNAPL-impacted soils were remediated, the soil excavation, soil management, and off-site disposal of PCB-impacted material would cost approximately $155,000.

Toledo would be required to complete confirmatory sampling to confirm that residual soil concentrations are within acceptable risk limits to protect future industrial users, and to verify the completeness of the work.

**Threshold Criteria Evaluation of AOI-28 – Former Sample Print Machine Area Soil Gas**

The four general categories of remediation (no action, containment/control, treatment, and removal) were evaluated against the three remedial Threshold Criteria for AOI-28. The evaluation is presented in Table 3, and summarized below.

*1)* ***No Action Alternative*** (including no institutional controls):

a) Protection of Human Health and the Environment*:* The No Action Alternative partially meets this criterion because it is protective under current conditions; it is not protective under certain reasonably anticipated future conditions.

b) Achieve Media Cleanup Objectives: The No Action Alternative does not attain media cleanup objectives under future conditions because it does not eliminate exposure.

c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The No Action Alternative does not meet this criterion because it does not eliminate or reduce sources of contamination.

*2)* ***Containment Alternative***: A containment remedy for this Site includes installation of vapor barriers or sub-slab depressurization systems, along with institutional controls to maintain the containment systems.

a) Protection of Human Health and the Environment: The Containment Alternative meets this criterion because it is protective under current and future conditions by preventing certain unacceptable exposures.

b) Achieve Media Cleanup Objectives: The Containment Alternative attains media cleanup objectives because it prevents certain unacceptable exposures.

c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Containment Alternative meets this criterion because it reduces further releases from sources by controlling contaminant migration.

3) ***Treatment Alternative***: An *in-situ* (in-place) Treatment Alternative includes injection of chemical or biological (bacteria) remedial compounds to destroy volatile organic compounds in soil.

a) Protection of Human Health and the Environment: The Treatment Alternative meets this criterion because it is protective under current and future conditions by preventing unacceptable exposures.
b) Achieve Media Cleanup Objectives: The Treatment Alternative attains media cleanup objectives because it prevents unacceptable exposures.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Treatment Alternative meets this criterion because it eliminates sources through treatment.

4) ***Removal Alternative***: The Removal Alternative excavates and disposes of VOC-impacted soils.

a) Protection of Human Health and the Environment: The Removal Alternative meets this criterion because it is protective under current and future conditions by eliminating exposures.
b) Achieve Media Cleanup Objectives: The Removal Alternative attains media cleanup objectives because it eliminates exposures.
c) Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: The Removal Alternative meets this criterion because it eliminates sources through removal and off-site disposal.

As demonstrated, the containment, treatment and removal alternative remedies for AOI-28 all meet the Threshold Criteria. These general remedy technologies were further evaluated against one another using the Balancing Criteria of long-term reliability and effectiveness, reduction in the toxicity, mobility and volume of wastes, short-term effectiveness and short-term risks, implementability, cost, community acceptance, and state acceptance. The results of this evaluation are presented in Table 3. The Balancing Criteria evaluation indicates that removal of contaminated soil in AOI-28, with off-site waste disposal, provides the best balance of the criteria. Further evaluation and discussion of the removal option is detailed below.

The balancing criteria analysis presented in Table 3 indicates that the Removal Alternative presents the best balance of the remedial approaches primarily because of its short- and long-term effectiveness, and complete control of toxicity, mobility, and waste volume by removing all impacted media. The excavation and disposal remedy is considered to be a protective and conservative approach, uses comparatively uncomplicated technology, and would leave the Site construction-ready for the planned redevelopment of an industrial park. While removal and treatment are the highest capital cost alternatives, the removal remedy represents the lowest long-term cost because it does not require long-term operation and maintenance.

**Proposed Corrective Measure for AOI-28**

EPA proposes the Removal Alternative remedy to address soils impacted with VOCs in AOI-28. EPA prefers this remedy based on its reliability, certainty of completion, reasonable cost, and the expediency of returning the area to a beneficial use. The extent of the impacted area in AOI-28 was defined during the RFI field activities. Figure Six shows the proposed area of soil removal. The excavation limits are approximately 490 square feet by 4-feet deep, yielding about 73 cubic yards of soil. Based on the existing soil concentrations, soil would be disposed of off-site as non-hazardous waste. Given the size of the excavation, the removal could be completed in one to two weeks. Based on total costs from a comparable site where VOC-impacted soils were remediated, the estimated excavation and disposal costs would be approximately $16,000.

**Proposed Final Remedy**

The Removal Alternative is the preferred corrective action approach for AOI-01, AOI-15, and AOI-28 mainly because excavation and disposal is a rapidly performed, permanent solution to the risk posed by contaminated media, compared to other approaches that are not as reliable. Other approaches that require engineering controls, treatment, or containment all carry uncertainty of being effective over the long-term and cost of operation, maintenance, and monitoring. The excavation and disposal of the contaminated media meet the RCRA performance standards and the PRGs. Further, this approach controls the migration of contaminants from the source area, provides significant mass reduction over a short time period, is easily implemented, and is cost-effective over the long-term.

**Other Remedies**

*AOI-02 – Solvent Recovery Operation Area:* This area was formerly an Ohio EPA-permitted "RCRA Unit." Unit closure was integrated into the site-wide Corrective Action through the Administrative Order on Consent. Therefore, additional State closure requirements are not necessary according to Ohio regulations.[5] Textileather sampled the Solvent Recovery Operation area as part of the Corrective Action remedial investigation. The results of the investigation and risk assessment of the area indicated that AOI-02 did not pose an unacceptable risk to human health and the environment under the anticipated industrial re-use of the Site. The investigation and risk assessment also demonstrated that the former RCRA unit satisfied the Ohio EPA's definition of Clean Closure.

*Removal of Underground Storage Tanks ("USTs") in AOI-14 and confirmatory sampling of surrounding soil:* In Ohio, Underground Storage Tanks are under the jurisdiction of the Bureau

[5] Ohio Administrative Code 3745-55-10(C).

of Underground Storage Tank Regulations, administered by the State Fire Marshal. Toledo will submit a Tier I/II Closure Report to Ohio BUSTR to close the USTs located in AOI-14. Based on soil sampling and well monitoring data, elevated levels of nonpetroleum chemicals (e.g. tetrahydrofuran and methyl ethyl ketone) may remain in the UST area following the excavation required by BUSTR. By regulation, BUSTR cannot address elevated levels of any non-petroleum chemicals; any residual contamination found after the tank removal would be addressed under Corrective Action. Based on current soil and groundwater data evaluated in the Human Health Risk Assessment, there are no unacceptable current or future exposures from contaminant levels identified in this area. Therefore, Corrective Action remediation is not proposed for this area. Toledo will complete confirmatory sampling to confirm that residual soil concentrations are within acceptable risk limits to protect future industrial users.

**Site-wide Remedies**

*Removal, Redesign, and Replacement of Stormwater Management/Collection System:* EPA proposes removing the existing stormwater and sanitary sewer system. Based on their age, location below the water table, and evidence of groundwater infiltration, the sewers are potential pathways for releases to waterways from future plant operations; water in the storm sewers eventually discharges to the Ottawa River. Further, the planned property redevelopment will not likely use the sewers for storm or sanitary conveyances and their removal, redesign, and replacement will enhance the new construction. Where evidence of contamination is encountered during their excavation and removal, Toledo will take samples and compare results to risk screening levels and RAOs to determine whether any excavation around the sewer areas is needed.

*Institutional Controls prohibiting residential occupation of the Site and the prohibition of potable and non-potable use of the overburden groundwater:* Institutional Control ("IC") remedies restrict land or resource use at a Site through legal instruments. ICs are distinct from engineered or construction remedies. ICs preclude or minimize exposures to contamination or protect the integrity of a remedy by limiting land or resource use through means such as rules, regulations, building permit requirements, well-drilling prohibitions and other types of ordinances. For an IC to become part of a remedy, there must be binding documentation such as land-use restrictions in the property deed, local zoning restrictions, or rules restricting private wells.

Exposure to contaminated drinking water is controlled at the Site through an institutional control. Ohio Administrative Code regulations control the installation of private water systems near potential or known sources of contamination and at shallow depths (25 feet bgs or less). These regulations would prevent anyone from developing a private water system in the vicinity of the Site.

The risk-based clean-up standards were developed for industrial commercial exposure assumptions. Therefore, Toledo will place a restrictive covenant on the property requiring that it be used only for industrial or commercial purposes.

*Financial Assurance:* Upon remedy selection, Toledo must demonstrate a financial ability to complete the proposed remedy and monitoring of Site conditions by securing an appropriate financial instrument, consistent with the requirements of 40 C.F.R §§ 264.142 and 264.144. Toledo will develop a detailed cost-estimate as part of the corrective measures implementation work plan. Toledo may use any of the following financial mechanisms to make the demonstration: financial trust, surety bonds, letters of credit, insurance, and/or qualification as a self-insurer (corporate guaranty) by means of a financial test. After successfully completing the construction phase of the remedy, Toledo may request that EPA reduce the amount of the financial assurance to the amount necessary to cover the remaining costs of the remedy, including any yearly operation and maintenance costs. Toledo may make similar requests of EPA as the operation and maintenance phase of the remedies proceeds and ceases.

*Groundwater Monitoring*: EPA proposes that Toledo monitor the groundwater for Site-related contaminants at the Site perimeter twice yearly for two years and compare results to MCLs or other appropriate specifications as established by an approved monitoring program. Currently, groundwater at the Site is controlled by the inward gradient effect of the Site sewers which will be removed as part of the remedy. While the Site does not currently have groundwater issues, and source removal is expected to preclude any plume formations, future conditions are uncertain due to the proposed removal of the existing sewer system and other construction and redevelopment changes to Site conditions. Based on the monitoring results, the program may be revised or concluded, per EPA approval.

## V. Public Participation and Information Repository

EPA requests feedback from the community on the proposal to select soil excavation and monitoring obligations with institutional controls, financial assurance, and groundwater monitoring as the final remedy for the Toledo Site. On XX, 2015, EPA placed an announcement in the local newspaper, the Toledo Blade, http://www.toledoblade.com/, to notify the public of the availability of this Statement of Basis document, its supporting Administrative Record, and the public's opportunity to request a public meeting on EPA's proposed corrective action for the Site. The public comment period will last thirty (30) calendar days from the date of the public notification in the local newspaper, from August 26, 2015 to September 27, 2015. We encourage community members to submit any comments regarding the proposed remedy in writing by September 27, 2015. If requested during the public comment period, EPA will also host a public meeting in Toledo to receive feedback directly. Comments should be sent to EPA in writing at the EPA address listed below. To submit comments or to request a public meeting, contact EPA Project Manager Carolyn Bury (see contact information below).

Following the 30-day public comment period, EPA will prepare a Final Decision and Response to Comments document that will identify the selected remedy for the Site. The Response to Comments document will address all significant written comments and any significant oral comments generated at a public meeting, if a meeting is held. The Final Decision and Response to Comments document will be made available to the public. If, on the basis of such comments or other relevant information, significant changes are proposed to be made to the remedy for the Facility as proposed by EPA in this Statement of Basis, EPA will seek additional public comments on any proposed revised remedy.

The Administrative Record contains all information considered when making this proposal. The Administrative Record (documents about the Site) may be reviewed at these locations (please call for hours):

| | |
|---|---|
| Toledo Public Library<br>3422 Lagrange St<br>Toledo, OH<br>(419) 259-5280 | EPA Region 5 Office<br>EPA Records Center<br>77 W. Jackson Blvd., 7th Floor<br>Chicago, IL<br>(312) 886-4253 |

At the conclusion of the comment period, EPA will summarize public comments and prepare the Response to Comments and Final Decision document, which will become part of the EPA Administrative Record. To send written comments or obtain further information, contact:

Carolyn Bury (LU-9J)
77 W. Jackson Blvd
Chicago, IL 60604
(312) 886-3020
bury.carolyn@epa.gov

**Next Steps**

Following issuance of the Final Decision and Response to Comments document, Toledo will prepare a Corrective Measures Work Plan. The Plan will identify any additional data collection needed to implement the corrective measures, along with the specifications for completing the selected corrective measures. The Plan will provide a detailed construction schedule. Based on the proposed corrective measures, it is anticipated that the majority of the remedial measures can be completed within one year of the Final Decision.

## References


1. Haley and Aldrich, 2015. Site Management Plan. May 2015.
2. Haley and Aldrich, 2014. Revised Addendum to the Corrective Measures Study. June 2014.
3. Haley and Aldrich, 2012. Corrective Measures Study. December 2012.
4. Haley and Aldrich, 2012. Remedial Facility Investigation. Revised December 2012.
5. Haley and Aldrich, December 2009. Remedial Facility Investigation Work Plan. Revised June 2010, February 2011, and May 2011.
6. Haley and Aldrich, 2009. Current Conditions Report Textileather Facility. December 2009.

# ATTACHMENT ONE

# FIGURES

# ATTACHMENT TWO

# TABLES