RESOURCE CONSERVATION AND RECOVERY ACT
CORRECTIVE MEASURES STUDY

TEXTILEATHER CORPORATION
3729 TWINING STREET
TOLEDO, OHIO

US EPA ID # OHD 980 279 376
U.S. EPA DOCKET # RCRA-05-2010-0001

by

Haley & Aldrich, Inc.
Cleveland, Ohio

for

Textileather Corporation
Toledo, Ohio

File No. 36005-012
31 December 2012

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31 December 2012
File No. 36005-012

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Attention: Carolyn Bury
EPA Project Manager

Subject: Corrective Measures Study
Textileather Facility, Toledo, Ohio
EPA ID# OHD 980 279 376
U.S. EPA Docket # RCRA-05-2010-0001

Dear Ms. Bury:

On behalf of Textileather Corporation and pursuant to the Administrative Order on Consent (Order) dated 30 September 2009, please find enclosed the Corrective Measures Study for the above-referenced Textileather Facility (the "Facility"). This report has been prepared to summarize our evaluation and proposed corrective measures to maintain protection of human health and the environment from future potential unacceptable risks from exposures to hazardous waste or hazardous constituents at or from the Facility. In general, Textileather is proposing an aggressive approach for the corrective measures, which includes excavation of impacted soil, such that the Site can be returned to beneficial re-use as soon as possible.

If you have any questions or require additional information, please contact us.

Sincerely yours,
HALEY & ALDRICH, INC.

Daniel R. Putz
Project Manager

David J. Hagen
Senior Vice President

c: D. Veinot– Canadian General-Tower

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TABLE OF CONTENTS

		Page
LIST OF TABLES		**ii**
LIST OF FIGURES		**ii**
LIST OF ACRONYMS		**iii**
LIST OF ACRONYMS (cont.)		**iv**
1.	**INTRODUCTION**	**1**
2.	**FACILITY BACKGROUND**	**2**
2.1	Site Description	2
2.2	Surrounding Land Use	2
2.3	Demographics	3
2.4	Surface Water Hydrology	3
2.5	Geologic Setting	3
2.6	Hydrogeologic Setting	6
3.	**RCRA FACILITY INVESTIGATION SUMMARY**	**10**
3.1	Current Conditions Report	10
3.2	RCRA Facility Investigation	10
3.3	Baseline Human Health Risk Evaluation	11
3.4	Interim Measure Activities	13
4.	**CORRECTIVE MEASURES EVALUATION**	**15**
4.1	Site Wide Use Restriction	16
4.2	AOI-01 - PCB Area	16
4.3	AOI-15 - South AST Farm	20
4.4	AOI-28 – Former Sample Print Machines	23
4.5	AOI-02 - Solvent Recovery Area – RCRA Closure	25
4.6	AOI-14 - South UST Farm – BUSTR Closure	26
5.	**SCHEDULE OF CORRECTIVE MEASURES IMPLEMENTATION**	**28**
6.	**SUMMARY**	**29**
REFERENCES		**30**
TABLES		
FIGURES		

TABLE OF CONTENTS
(continued)

Page

LIST OF TABLES

Table No.	Title
1	Summary of Areas of Investigation
2	Evaluation of Corrective Measures for AOI-01
3	Evaluation of Corrective Measures for AOI-15
4	Evaluation of Corrective Measures for AOI-28

LIST OF FIGURES

Figure No.	Title
1	Project Locus
2	Site Plan Showing AOI Locations
3	Soil Analytical Results for AOI-01, 05, and 25
4	Soil Analytical Results for AOI-13, 14, 15, 16, and 24
5	Soil Analytical Results for AOI-28
6	Soil Gas Results for AOI-28
7	Schedule

LIST OF ACRONYMS

ADAF	Age-dependent Adjustment Factors
ALM	Adult Lead Model
AOC	Administrative Order by Consent
AOI	Areas of Investigation
ARAR	Applicable or Relevant and Appropriate Requirement
ATSDR	Agency for Toxic Substances and Disease Registry
AWQC	Ambient Water Quality Criteria
BERA	Baseline Ecological Risk Assessment
bgs	Below Ground Surface
BRA	Baseline Risk Assessment
CALEPA	California Environmental Protection Agency
CDC	Centers for Disease Control
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COPC	Chemical of Potential Concern
CSF	Cancer Slope Factors
CSM	Conceptual Site Model
CT	Central Tendency
EPCs	Exposure Point Concentrations
ft	feet
g/kg/day	grams/kilogram/day
GSD	Geometric Standard Deviation
HEAST	Health Effects Assessment Summary Tables
HHRA	Human Health Risk Assessment
HQ	Hazard Quotient
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
IEUBK	Integrated Exposure Uptake Biokinetic Model
IRIS	Integrated Risk Information System
kg	Kilogram
kg/yr	Kilogram per Year
μg/dL	Micrograms per Deciliter
μg/L	Micrograms per Liter
mg/kg	Milligrams per Kilogram
MCL	Maximum Contaminant Level
MOA	Mode of Action
MRL	Minimum Risk Level
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NCEA	National Center for Environmental Assessment
NCP	National Contingency Plan
10^{-6}	One in a Million
10^{-4}	One in Ten-Thousand

LIST OF ACRONYMS (CONT.)

PAH	Polynuclear Aromatic Hydrocarbon
PAL	Project Action Levels
PbB	Blood Lead
PCBs	Polychlorinated Biphenyls
PCE	Perchlorethylene (aka tetrachloroethene)
PPRTVs	Provisional Peer Reviewed Toxicity Values
PRGs	Preliminary Remediation Goals
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RAGS	Risk Assessment Guidance for Superfund
RfC	Reference Concentration
RfD	Reference Dose
RFI	Remedial Facility Investigation
RME	Reasonable Maximum Exposure
RSLs	RI Screening Levels
SVOCs	Semi-volatile Organic Chemicals
TCL	Target Compound List
UCL	Upper Confidence Limit
UR	Unit Risk
USEPA	United States Environmental Protection Agency
UTL	Upper Tolerance Limit
VOCs	Volatile Organic Chemicals

1. INTRODUCTION

This Resource Conservation and Recovery Act (RCRA) Corrective Measures (CMS) was prepared under the direction of Textileather Corporation for the Textileather Facility (the "Facility") located in Toledo, Ohio. The United States Environmental Protection Agency (U.S. EPA) ID Number for the Facility is #OHD980279376. The Site is located at 3729 Twining Street, Toledo, Ohio (Figures 1 and 2). This report was prepared to fulfill one of the requirements of the USEPA Administrative Order on Consent #RCRA-05-2010-0001 effective September 30, 2009.

The CMS describes the evaluation of corrective measures for addressing contaminated environmental media at the Facility identified during the RCRA Facility Investigation (RFI), and the rationale for their selection. The U.S. EPA will select final corrective measures for the Facility after the public comment period has ended and any information submitted during the comment period has been reviewed and considered.

The CMS relies on the detailed information that is provided in the revised RCRA Facility Investigation Report (RFI Report) (Haley & Aldrich, 2012) and in other documents in the administrative record for the Facility, which are referenced as appropriate. Textileather encourages review of these documents in order for the reader to understand the basis for this document and to gain a more comprehensive understanding of the Facility.

2. FACILITY BACKGROUND

2.1 Site Description

The Facility is located at 3729 Twining Street, Toledo, Ohio and covers approximately 47 acres, of which approximately 30.4 acres is currently owned by Textileather (the "Textileather Parcel"). The remaining portion of the site, approximately 16.6 acres was owned by Alumi-Bunk Corporation, which has since transferred back to the Toledo-Lucas County Port Authority (the "Western Parcel") (Figures 1 and 2). The Western Parcel was undeveloped prior to 2005 when Textileather sold the property to Alumi-Bunk. Subsequently, Alumi-Bunk developed the property to manufacture truck components. The Western Parcel is currently leased by the City of Toledo from the Toledo-Lucas County Port Authority as a vehicle maintenance depot. The original Facility buildings on the Textileather Parcel were constructed in the 1920s for manufacturing of coated fabric products. In the late 1920s a company also previously known as Textileather Corporation ("Old Textileather"), but unrelated to the current Textileather, bought the operations and operated the Facility as Maumee Finishing producing similar coated fabric products. In 1954, The General Tire & Rubber Company (now known as GenCorp) merged with Old Textileather, with the surviving entity being The General Tire & Rubber Company which operated the Facility for the next 36 years. Throughout this time, the Facility underwent several name changes. The names associated with the Facility during this time included the following: Diversitech General; Gencorp Polymer Products; GTR Coated Fabrics; Textileather Division and Chemical Plastics Division; and GenCorp. In June 1990, the company currently known as Textileather Corporation purchased the Facility from Gencorp and continued the vinyl manufacturing operations. The Facility ceased manufacturing operations in March 2009 and the manufacturing equipment was decommissioned by 2011.

Former operations involved converting a raw material combination of resins, plasticizers, pigments, and other additives into various widths and thicknesses of rolled sheets of coated fabrics, commonly known as vinyl. The vinyl was commonly used in the production of automobiles. The Facility, during recent operations, generated the following hazardous wastes: waste inks, waste inks and debris, waste plasticizer and debris, and waste petroleum naphtha. The Facility, during recent operations, generated the following nonhazardous wastes: special nonhazardous waste, used oil, absorbent oil booms, absorbent oil booms contaminated with polychlorinated biphenyls (PCBs), defective or scrap vinyl, scrap metal, broken wooden pallets, and general refuse. Between the early 1950's and October 1990, facility operations involved solvent recovery and waste ink recycling, generated from both on-site and off-site sources. Receipt of off-site wastes ceased in November 1990 and the Facility subsequently stored hazardous wastes as a generator under less-than 90 day status.

2.2 Surrounding Land Use

The Facility is located on the north side of North Service Road and Interstate 75 (Figure 1) in a mixed industrial, commercial, and residential area. The Facility is bordered on the north by a railroad spur, the former XXKEM Company (XXKEM), and Stickney Avenue Landfill. XXKEM was a former hazardous waste treatment, storage, and disposal (TSD) facility that was closed and capped. The

former XXKEM facility and Stickney Avenue Landfill have been capped and converted to a transportation center for vehicles produced at the Chrysler Jeep Assembly Plant. The Facility is bordered to the west by 20 acres of land owned by the City of Toledo and Fraleigh Creek a tributary of the Ottawa River; to the south by U.S. Interstate 75; and to the east by Twining Street and residential property. Beyond the residential property east of Facility is the Chrysler Jeep Assembly Plant.

According to the City of Toledo's 20/20 Comprehensive Plan (last amended 26 July 2011), the Facility is located in the Fort Industry section of Council District 6. Future plans for Fort Industry section consist of continued use as an industrial district. According to the 20/20 Comprehensive Plan, the Facility area is the most likely location for future industrial development in support of the local Jeep Plant. The 20/20 Comprehensive Plan recommends designating several large parcels of land as future business or industrial parks, and utilizing and marketing brownfields.

2.3 Demographics

The Facility is located in the City of Toledo (metropolitan area), which covers 80 square kilometers and has an estimated population of 298,446 according in 2006 (U.S. Census Bureau).

2.4 Surface Water Hydrology

Based on the regional and site topography and Facility storm sewer system networks, surface water in the Facility vicinity drains primarily through storm sewers to the south, and is ultimately discharged to the Ottawa River to the west via a main storm sewer and Fraleigh Creek (Figure 1). Fraleigh Creek is fed by a 72-inch storm sewer main that receives storm water runoff from the Facility, interstate highway, city streets, as well as several other industrial locations east of the Facility, to the Ottawa River. According to the National Flood Insurance Program the Facility is not located in the 100- or 500-year flood plain.

2.5 Geologic Setting

Based on regional references and RFI investigation results, the site is underlain by four major geologic units: fill, lacustrine silts and clays, glacial till, and bedrock. Regional information indicates that the general setting of the site is urban land, with the predominance of areas under paved surfaces or building structures. The major soil types listed in the area indicate clay and silty clay with slow drainage and low permeability.

Based on field investigation results from the RFI and previous assessments at the Facility, the site is underlain by at least 75 feet of low permeability silty clays, silts and clays, overlying bedrock. Previous assessments report that bedrock underlying the glacial material is Silurian Age Limestone. Approximately 150 subsurface explorations have been completed in the overburden at the Facility during the RFI. In developing the RFI, numerous other previously installed borings were reviewed. While the borings completed for the RFI were relatively shallow, generally 10 to 15-feet in depth, there

was a generally consistent stratigraphic profile in the overburden across the site. However the stratigraphic depths and unit thicknesses varied. The stratigraphic profile from the ground surface downward generally consists of the following:

2.5.1 Fill

Fill materials were encountered in over 90% of the borings onsite with thicknesses and components differing in various areas depending on historic operations. In general, the most prevalent fill across the site consisted of re-worked silty loam or clayey loam material interbedded with sands, industrial slag-like material, cinder-like material, wood fragments, brick and concrete fragments, coal fragments, broken glass and other non-native debris. In the Calender Basement area and in Building 2 through 6 (AOI 1 and AOI 8, respectively), poorly graded fine sands were found ranging in thickness from a few inches to over eight feet below ground surface (bgs) in previously excavated and backfilled areas. In the former UST and AST areas (AOI 22 and AOI 24), limestone gravel fill material was found at varying thicknesses. Background sample areas along the western Facility boundary and other undeveloped portions contained very little to no fill materials within the samples.

2.5.2 Lacustrine Silt and Clays

Stratigraphically below fill materials, clays to silty clays were encountered to approximately 38 feet bgs, based on RFI and previous borings. The clays contained occasional layers of silt of varying thickness ranging from fine seams to over one-foot thick. Generally the top eight feet of the sample contained gray mottling and iron oxide staining throughout, with occasional trace sands and fine gravels. Below eight feet bgs, silty clays graded into a gray color, moisture content generally increased, became varved throughout, and contained trace sands and fine gravels. Groundwater in the lacustrine deposits is encountered at shallow depths across the site, on average, at approximately 4.4-feet bgs. Depending on the time of year and proximity to onsite sewers, groundwater depths in the lacustrine deposits ranged from less than one foot bgs to over 10 feet bgs. The lacustrine unit exhibits very low permeability due to its fine grain size and low porosity.

Wells installed during the RFI investigation were screened in the first water bearing unit, which is the lacustrine silt and clays. Typically water is encountered at a depth of 4-feet below ground surface, and ranged from 1 to 10-feet below ground surface. Therefore, the screened interval was set relatively shallow, from 5 to 15-feet, to target the top of the water table in order to identify any direct impacts to shallow groundwater. In addition, since many of the site specific constituents were lighter than water, the wells were also used to determine if any light non-aqueous phase liquids (LNAPL) is present on the water table. Wells installed during the RFI maintained a minimum 4-foot buffer from ground surface to top of sand pack to limit surface water infiltration/impact on the monitoring wells. Previous investigations at the Facility also targeted the lacustrine silt and clays. However, well construction was typically five to ten feet deeper than the current RFI investigation.

The lacustrine silts and clays present beneath the Facility are typically too fine grained to yield significant quantities of groundwater. During well development activities recharge of wells in the first water bearing silty clay generally took over 24-hours. During low-flow sampling,

drawdown was difficult to minimize when pumping at the lowest rate of the low-flow equipment. Rising head slug tests were performed on selected wells to evaluate the permeability of the lacustrine silts and clays. The permeability ranged from 1 x 10^{-4} cm/sec to 1 x 10^{-7} cm/sec, with typical values in the 10^{-6} cm/sec to 10^{-7} cm/sec range

2.5.3 **Till**

The next stratigraphic layer below the lacustrine deposits at an average depth of 38 feet bgs is a glacial till. It has been described in previous reports as a very stiff to hard brown, silty clay, containing trace to some sands, trace to little gravel, plastic, moist, and some coarse gravel. No borings installed during the RFI were advanced into the till, however 4 borings completed prior to the RFI encountered this unit. However, these previous investigations were not drilled to the top of bedrock, so the till thickness on-site is not known. An ODNR well search within a one-mile radius of the site indicates a well north-northeast of the site reached bedrock at approximately 80-feet bgs. According to the ODNR website this unit characteristically has a low permeability, similar to the lacustrine unit described above.

2.5.4 **Bedrock**

As stated above, no RFI or previous site borings were drilled to the top of bedrock, but a well log for a site north-northeast of the Facility lists bedrock at approximately 80-feet bgs. According to the Ohio Department of Natural Resources Surficial Geology of Toledo 30 x 60 Minute Quadrangle map, the first bedrock unit underlying the site is a Devonian and Silurian age Dolomite. The dolomite is thin to massively bedded, coarse to micro crystalline and fossiliferous. Portions can be cherty, anhydritic, porous, laminated and brecciated. Intervals in the upper-most portion can be a fossiliferous, cherty limestone.

The bedrock formation serves as the uppermost regional aquifer for the area. Groundwater yields in the bedrock unit range from approximately 10 gallons per minute (gpm) to greater than 200 gpm with an average yield of approximately 30 gpm. Regionally, groundwater flow is expected to be to the northeast toward Lake Erie.

The Textileather Facility, prior to cessation of operations in 2009, utilized a water production well for non-contact cooling purposes in the former Solvent Recovery operation. This well was reported to yield over 200 gpm. The water production equipment was removed from the well in February 2010 to allow video logging of the borehole condition. The down-hole video log indicated that the well had a steel casing that extended to approximately 106-feet below ground surface. The remaining portion of the well was open rock to the total depth of over 492-feet. No distinct flow zones were observed from the video log, however numerous bedding plane joints and minor vugs were observed, interspersed with thick zones of competent bedrock. The water level was observed to be approximately 21-feet below ground surface. Groundwater samples were taken from this well during Field Event #1. Once it was determined that the production well would no longer be utilized at the Facility for operations, the well was abandoned in February 2011, in accordance with Ohio Department of Natural Resources regulations. The abandonment included filling the lower 283-feet of the well with washed, cleaned pea gravel, followed by a bentonite plug, and then over 200-feet of cement-bentonite grout to ground surface.

2.6 Hydrogeologic Setting

2.6.1 Overburden Groundwater

Water level measurements from the overburden monitoring wells at the Facility, across several seasons, indicate that the average seasonal water table fluctuation is approximately 2 feet, ranging from no change in some wells to over eight feet in others. Spring and early summer have the highest water level elevations and late summer to early fall have the lowest. Wells with the largest seasonal water level fluctuations tend to be on the perimeter of the Facility.

Based on water level measurements, overburden groundwater contours for the site indicate inward flow from the eastern, northern and western perimeter towards the center of the site. This flow pattern appears to be consistent across all seasons as observed during monitoring and suggest the following influences on overburden groundwater:

- A topographic and groundwater high is located on the north side of the property. This high is associated with the Stickney Avenue Landfill and former XXCHEM Facility, immediately north of the Facility. These facilities were capped and now are used for new vehicle staging and loading, and are approximately 5 to 10-feet higher in elevation. Green space and an east-west railroad siding is located immediately south of this capped area, which is immediately north of the Facility. This green-space and railroad area allows for groundwater recharge on the north side of the Facility.
- Water collection and dewatering activities in the Calender Basement depresses groundwater elevations in the area by 8 feet or more.
- Groundwater recharge areas on the Facility are limited to the green-space areas on the western and south-western sides of the Facility. In addition, the bermed above-ground storage tank farm area for the former solvent recovery operations (AOI-02), is a likely groundwater recharge area, because it is unpaved and typically ponds water. The remainder of the Facility is covered by buildings and pavement, which directs stormwater to storm sewers and limits the amount of groundwater recharge to the overburden.
- Storm and sanitary sewers are located throughout the plant area, running north to south. These sewers are typically constructed at depths on the order of 10 feet below ground surface. This places the sewers below the typical groundwater elevation in the overburden. A review of water levels from monitoring wells near sewers indicates that the water levels near the sewers are typically 6 to 10 feet lower than water levels on the perimeter of the Facility. Water levels from the wells near the sewers are typically similar in elevation to the fluid levels in the sewer system. Based on the age of the sewers, the sewers appear leaky, allowing groundwater to infiltrate into the system. This observation is further corroborated by detections of Facility constituents, such as tetrahydrofuran, in sewer segments immediately downstream of soil impact areas.

Based on groundwater flow patterns, the leaky old sewers, which are lower in elevation than the groundwater, along with the Calender Basement area, appear to be capturing and controlling groundwater to the central portion of the site.

The storm sewers exit the Facility on the south side and join a main east-west storm sewer trunk. This main line also carries stormwater from many facilities and roadways upstream of the Site to Fraleigh Creek, and then ultimately to the Ottawa River. Measurements of flow in the sewers during low stormwater periods indicate limited flow in the sewers:

- Measurement of the water flow rate in western leg of the storm sewers was collected on June 1, 2011. The sewer manhole immediately north of the northern interceptor was an 18-inch pipe with 0.09-feet of water flowing at 0.32 feet per second. This equates to a flow rate of approximately 6 gpm. Measurements of the main storm sewer trunk line that discharges to Fraleigh Creek was measured and calculated to be approximately 457 gpm.
- Storm sewer flow measurements obtained in July 14, 2011 indicate that the majority of the main sewer lines onsite contain a flow less than one gallon per minute (gpm). In the majority of the sewers investigated, water was on the order of 0.01-feet thick or less and too shallow to contact the sensors of the flow probe to obtain an accurate flow rate. Based on other measurements conducted, the flow rate of these sewers is less than 1 gpm. The outfall to Fraleigh Creek contained a flow of approximately 136 gpm during the same period.
- An evaluation of groundwater flow to storm and sanitary sewers, based on hydraulic gradient and soil permeability, indicates that groundwater contribution to individual sewer lines is expected to be less the 0.1 gpm, due to the low permeability of the lacustrine silts and clays.

Based on the flow measurements, the contribution of Site water from the storm sewers is less than 1/70th of the water carried by the main sewer trunk to Fraleigh Creek. The discharge of the sanitary sewers is directed to the City of Toledo publically owned treatment works (POTW).

2.6.2 **Rising Head Permeability Testing**

In-situ rising head permeability tests were performed in February and March 2011 at monitoring wells at selected monitoring wells. The rising head permeability testing procedure consisted of the removal of a slug of water from the well with a precleaned disposable bailer. Measurements of water level change were obtained through the use of a pressure transducer (data logger) placed on the bottom of the well.

The test results for the native lacustrine silts and clays indicated that the hydraulic conductivity was found to be within the range of the range of 10^{-4} to 10^{-7}. The geometric mean of the hydraulic conductivity for tested Site wells screened in the lacustrine unit is 6.1×10^{-6}.

2.6.3 Water Supplies and Groundwater Use

The lacustrine silts and clays and glacial till overburden present beneath the Site are typically too fine-grained to yield useable quantities of groundwater. A review of 52 drillers logs located within a one-mile radius of the Site, obtained from the ODNR website, indicated that all but two wells were installed for groundwater monitoring purposes. These two are water production wells that are reported to be installed in the bedrock for non-potable industrial production purposes. One production well is located north of the Site at the Pan American Chemical facility and the second well is located on the Textileather Facility.

The Site is also situated in an Urban Setting Designation (USD) area for groundwater by the Ohio EPA's Voluntary Action Program (Ohio EPA, 2008), which indicates public water supplies are readily available in the area and potable use of groundwater is not reasonably anticipated.

Regulations have been promulgated in the Ohio Administrative Code (OAC) controlling the installation of private water systems, which would be applicable to individuals interested in developing a private water system in the vicinity of the Site:

- "Any [well] used as a source of water for a private water system shall be located hydraulically up-gradient of any potential or known sources of contamination." (3701-28-10-B)
- "A water source shall not be located within a minimum of 50-ft of any known or possible source of contamination, except as specified in paragraph G." (3701-28-10-F) [see Paragraph G for specific minimum distance requirements for water sources.]
- "Casing shall not extend less than 25-ft below the natural ground surface." (3701-28-12-B4)
- "Wells completed in unconsolidated and consolidated aquifers may have less than 25-ft of casing where geologic and hydro-geologic conditions indicate potable water is not present at depths greater than 25-ft. Under no conditions shall casing extend to a depth less than 15-ft."(3701-28-121-A)

Consequently, these existing OAC regulations serve to prohibit installation of new shallow (overburden) wells for potable water supply purposes in the area of the Site due to the geologic conditions.

The Textileather Facility, prior to cessation of operations in 2009, utilized a bedrock water production well for non-contact cooling purposes in the former Solvent Recovery operation. This well was abandoned in February 2011, as discussed in Section 3.5.4, once it was determined that production would not resume at the Site under the existing configuration. The remainder of the water use at the Site is provided by the public water supply from the City of Toledo.

According to the City of Toledo's Division of Water Distribution Assistance and Information, the City of Toledo's Department of Utilities supplies a public water system covering all businesses and residents within the 43612 area code. The City of Toledo's Division of Water

Distribution Assistance and Information indicated that no one within the 43612 area code have potable water wells. The Division of Treatment Services, Collins Park Treatment Plant, sources water directly from Lake Erie and is responsible for the production, filtration and testing of water for the city of Toledo and other surrounding areas.

Therefore, the availability of public water, current usage patterns, existing Ohio regulations, as wells as the limited yield of the overburden soils, indicate that the overburden water bearing zone would not be reasonably considered a source for potable water.

3. RCRA FACILITY INVESTIGATION SUMMARY

A RCRA Facility Investigation was conducted at the Facility to fulfill one of the requirements of the USEPA Administrative Order on Consent #RCRA-05-2010-0001 effective September 30, 2009 for the Textileather Facility. The RFI included both a review of current conditions and a subsurface investigation of potentially impacted Facility media.

3.1 Current Conditions Report

The RFI began with a review of current conditions, culminating in the Current Conditions Report (CCR) (Haley & Aldrich, 2009) which summarized the individual areas at the Facility which had the potential for a release to the environment. These areas were identified during the file review, interview process, and site visits. These areas have been catalogued as Areas of Interest (AOI). A total of 28 Areas of Interest were identified during the CCR process and RFI, as summarized in Table 1.

3.2 RCRA Facility Investigation

Based on information gathered during development of the CCR (Haley & Aldrich, 2009), certain AOIs did not require further investigation due to the absence of a release to the environment or because of previous work conducted. The basis for eliminating these AOIs from further investigation is documented in the CCR (Haley & Aldrich, 2009). For AOIs that warranted further investigation based on the documentation in the CCR (Haley & Aldrich, 2009), Textileather conducted a subsurface investigation to determine whether the AOIs had released hazardous waste or hazardous constituents and to determine if these releases, had they occurred, poses an unacceptable risk to human health or the environment. The RFI was conducted in accordance with a RFI Work Plan (Haley & Aldrich, December 2009) and addenda to the work plans for additional phases of field investigations (Haley & Aldrich, June 2010, February 2011, and May 2011).

The RFI was conducted in a phased approach, with three main phases of field investigation being implemented during the period of January 2010 through August 2011. Field investigations focused on the AOIs identified for field investigation in the RFI Work Plan and addenda. The findings from each phase of field investigations were communicated to U.S. EPA through data reports, meetings and conference calls. The data from the entire field investigation are evaluated and presented in the RFI Report (Haley & Aldrich, 2012). The RFI included:

- 136 soil borings
- 377 soil samples (357 normal and 20 field dups)
- 17 new MWs and 5 new PZs
- 88 groundwater samples (82 normal and 6 field dups)
- 12 storm sewer samples (11 normal and 1 field dup)
- 3 sanitary sewer samples
- 3 LNAPL samples (Calender, ST-123 and PZ-31)

- 4 wipe samples
- 11 soil vapor locations
- 14 soil vapor samples
- 3 indoor air samples (plus 1 ambient air sample)
- 1 sump water sample (Calender sump)

The RFI field investigation was designed to determine if a release of hazardous waste or hazardous constituents has occurred, and where a potentially significant release is identified, to characterize the nature and extent of hazardous constituents in the environmental media. After each phase, adequacy of the data was evaluated to determine whether additional data collection was warranted. As indicated above, three main field events were conducted to collect soil, surface water, groundwater, and sediment data necessary to achieve RFI objectives.

When data of sufficient quality and quantity had been collected, the data were used to support decisions regarding the need for interim or corrective measures. Human health risk assessments[1] were conducted to provide a basis for determining whether the presence of hazardous constituents in environmental media at the Facility poses a significant risk to human health and the environment under current and reasonably expected future land and groundwater uses, that would warrant corrective measures. Details of the risk assessments and their findings are presented in the RFI Report (Haley & Aldrich, 2012). Human health risk evaluations are included in the RFI Report (Haley & Aldrich, 2012) provide a basis for determining whether the presence of these hazardous constituents poses an unacceptable risk to human health and the environment that would warrant corrective measures. The risk assessment findings are summarized below.

3.3 Baseline Human Health Risk Evaluation

During the implementation of the RFI, the sampling results for each area were compared with conservative generic risk-based screening criteria to identify whether a potentially significant release of hazardous constituents to the environment has occurred and to assess the adequacy of the characterization of these potentially significant releases. The RFI concluded that adequate data had been collected from each AOI to support a risk evaluation. The significance of potential exposure to soil at and adjacent to the site was evaluated based on current and reasonably likely future land use conditions, assuming that the site is restricted to industrial/commercial future use and potable and non-potable overburden groundwater use is unlikely on-site. Potential receptors considered in this evaluation included on-site and off-site routine workers, on-site and off-site construction workers, on-site trespassers and off-site residents.

The human health risk assessment (HHRA), contained in Appendix E of the RFI Report (Haley & Aldrich, 2012), characterized cancer and non-cancer risks associated with potential exposures to soil, storm water, and groundwater under current and possible future commercial/industrial land uses. Under current land use conditions, the results of the HHRA indicate that for adolescent trespassers who

[1]An ecological assessment was not necessary because of the lack of habitat at the Facility. The reader is directed to the RFI report for additional information on this subject.

may contact unpaved soil and storm water, and for adult maintenance workers who may contact unpaved soil, cancer risks are within the excess lifetime cancer risk range of 10^{-6} to 10^{-4} and non-cancer HI values do not exceed 1. In addition, under the current and continuing use conditions, there are no complete vapor intrusion exposure pathways associated with the Facility. Future use of the site will be commercial/industrial; the use will be stipulated in a deed restriction that prevents residential development of the site to occur.

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

- Existing pavement and buildings are removed, thereby making soil accessible for exposure;
- Subsurface soil could be excavated and placed on the ground surface (i.e., becoming surface soil), thereby making it accessible for exposure; and
- Commercial/industrial buildings could 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:

- Future full-time outdoor commercial or industrial workers under the assumption that exposure to surface soil and subsurface soil by direct contact and dust and vapor inhalation pathways are complete,
- Future construction workers under the assumption that exposure to surface soil and subsurface soil by direct contact and dust and vapor inhalation exposure pathways are complete, as well direct contact and inhalation exposures to groundwater under the assumption that deep excavation activities are performed, and dermal exposure to NAPL that could be encountered during excavation activities; and
- Future full-time indoor commercial or industrial workers under the assumption that: 1) inhalation exposure to vapor in indoor air occurs in new buildings are constructed over groundwater with VOCs, 2) sub-slab soil gas at AOI 28 migrates into the existing building, and 3) contact with NAPL in the Calender Basement occurs.

The results of the HHRA indicate that cancer risks are below or within the excess lifetime cancer risk range of 10^{-6} to 10^{-4} and non-cancer hazard index values are below 1, for all future land use receptor scenarios evaluated, with the exception of:

- Subsurface soils associated with AOI-01,
- NAPL in the Calender Basement associated with AOI-01,
- NAPL associated with AOI-15, and
- Soil gas associated with AOI 28.

The risks associated with AOI-01 subsurface soils and NAPL in the Calender Basement at AOI-01 are attributable to Aroclor-1242. The risks associated with NAPL at AOI-15 are attributable to Aroclor-1242 and bis(2-ethyhexyl)phthalate. The risks associated with soil gas at AOI 28 are associated with tetrachloroethene and trichloroethene under the assumption that soil gas migrates to indoor air. This indicates that, aside from soil gas associated with AOI 28, subsurface soil and NAPL associated with AOI-01, and NAPL associated with AOI-15, commercial/industrial use of the Facility can occur without restriction.

3.4 Interim Measure Activities

Two interim remedial actions are currently ongoing at the Textileather Facility: LNAPL recovery and separation in the Calender Basement and NAPL recovery in piezometer PZ-31.

3.4.1 AOI-01 PCB Area – Calender Basement LNAPL Recovery and Separation

As detailed in the CCR, from 1967 to 1972 the Facility's calender process used PCB containing heat exchange fluid. The fluid was stored outside in ASTs and leaked from process equipment, pumps and underground piping. GenCorp conducted extensive investigations of this area began in 1987 and remediation began in 1994 under Ohio EPA supervision under a consent order. PCB contaminated soils were excavated in the area west of building. Approximately 5,500 cubic yards of soil were removed from the area, followed by post-excavation verification soil sampling.

Due to the on-going Facility operations, residual PCBs within the building foundations were not excavated, but rather were contained by a slurry wall. The storm sewers were also cleaned and sampled as part of the remediation project. PCB-containing LNAPL was historically identified in small seeps in the Calender Basement. GenCorp undertook several cleaning and sealing activities in the Calender Basement, however LNAPL remained. A PCB collection system was installed by GenCorp in the mid-1990s, and currently operates in the Calender Basement to collect and separate PCB-containing LNAPL from the dewatering sumps in the basement. The LNAPL is drummed for off-site disposal. The water collected in the sumps is discharged to the sanitary sewer. The Site Management Plan (Appendix D of the RFI Report, Haley & Aldrich 2012) addresses management of potential worker exposures in this area.

Because the floor of Calender Basement is below the water table and the sumps collect both LNAPL and water, groundwater elevations are depressed around the basement. This has created an inward gradient into the basement and the depressed water table, along with the basement walls, has likely arrested potential movement of LNAPL in the area. With the cessation of the Facility operations, removal of the calendering equipment and anticipated demolition of the building structure, there is no anticipated future need for a basement in this area. As such, the current LNAPL recovery and separation system is not considered a long-term remedial measure. However, the LNAPL recovery and separation will remain in operation to maintain control on the LNAPL until final corrective measures are selected and implemented.

3.4.2 AOI-15 South AST Tank Farm – NAPL Collection at PZ-31

Prior to and during the RFI, product was identified in piezometer, PZ-31, located in AOI-15, the South AST Tank Farm. PZ-31 exhibited up to seven feet of free product during previous measurement activities. Based on previous sampling and analytical results, the free-product is primarily comprised of a mixture of phthalates, but does contain detectable levels of PCBs. Although phthalates are detected soil in AOI-14 and AOI-15 at elevated concentrations in this area, no other indications of free product were observed in soil samples, monitoring wells, or piezometers in the area. As such, it appears that the NAPL is limited in extent to PZ-31.

The U.S. EPA approved Environmental Indicators CA750 Migration of Contaminated Groundwater Under Control, identified that recovery of NAPL in PZ-31 was required. Textileather has been recovering NAPL from PZ-31 via bailer. To date, approximately 15gallons have been recovered from the well and the product levels have diminished to less than 1.5-inches. Textileather is currently collecting the NAPL with adsorbent socks. Due to the manual nature of this recovery, it is not considered a long term corrective measure for the potential product in that area.

4. CORRECTIVE MEASURES EVALUATION

The HHRA identified that under current conditions, there were no unacceptable exposures, provided the Site Management Plan (Appendix A) remained in force and that the Site use and/or conditions did not change. The HHRA identified three areas that may present unacceptable risk for future site use, should Site conditions change:

- AOI-01 – PCB Area, associated with subsurface soils and NAPL,
- AOI-15 – South AST Farm associated with NAPL, and
- AOI 28 – Former Sample Print Machines associated with soil gas.

These areas will require corrective measures to address the potential for future Site use. The HHRA was based on the following assumptions for future land use:

- Commercial/industrial use only; and
- Preclusion of overburden groundwater for potable and non-potable use.

These baseline conditions will need to be established in an institutional control, such that they are maintained into the future.

In addition to the three areas identified in the HHRA, two other areas need to be closed from a regulatory standpoint and are included in the corrective measures evaluation herein:

- AOI-02 – Solvent Recovery Area. This AOI contains SWMUs 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16 and 19[2] from the PA/VSI. The area consists of the solvent recovery system in Building 31, associated storage and transfer equipment, and other waste handling operations. The area was a RCRA storage area undergoing closure at the time RCRA Corrective Action was initiated. The HHRA did not identify any unacceptable current or future exposures. As such this area should be clean closed;
- AOI-14 - South UST Farm. The South UST Farm (the Vinyl Finish Tank Farm) is located to the east of the Pump House (Building 69). Currently six USTs that contained MEK and THF, and mixtures of MEK and THF, are located in this area. The HHRA did not identify any unacceptable current or future exposures. The USTs are currently idle and will need to be removed in accordance with BUSTR regulations. Because the USTs contain non-petroleum product, if any releases from the USTs are identified during removal, they will be addressed as part of the corrective measures implementation associated with the Order.

The following presents an evaluation of the corrective measure options for these AOIs and issues. The options identified below may not represent all possible remedial alternatives, but rather bracket the range of alternatives to efficiently evaluate the likely remedial options. Generally, Textileather has proposed the most aggressive remedial option, such that the Site can be brought back to beneficial re-use in the shortest period of time, while minimizing the requirement for long-term maintenance. For

[2] These SWMUs are generally adjacent to one another and together form one contiguous area.

the issues at the Facility, this turns out to be the most effective, permanent and often most cost-effective alternative.

4.1 Site Wide Use Restriction

The RFI conclusions resulting from the human health and ecological risk evaluation discussed above are predicated on the current and reasonably anticipated future commercial/industrial land use and non-potable overburden groundwater use assumptions described in Section 3. The Facility is expected to remain industrial into the foreseeable future. The City of Toledo's 20/20 plan for the future land use of the site is heavy industrial which includes large scale or specialized industrial operations. Further, Ohio restrictions on water well installation prohibit the use of shallow groundwater as a water source. However, to be prudent, site-wide restrictions are proposed to maintain these underlying land use and groundwater use assumptions.

Because the conclusions of the RFI rely, in part, on the underlying land use and groundwater use assumptions considered in the baseline risk assessment, implementation of institutional controls to maintain the current land use and groundwater use conditions are proposed to formalize these corrective measure decisions. Since the Site-wide Use Restrictions are required to limit future exposure, no alternatives were considered. It is Textileather's understanding that U.S. EPA fully accepts the use of institutional and engineering controls as part of the final remedy at sites in the Corrective Action program, as set forth in *Use of Institutional Controls in the RCRA Corrective Action Program* (U.S. EPA, 2000b). The existing Administrative Order on Consent or an implementation order may be amended/established to implement an environmental covenant pursuant to the Uniform Environmental Covenants law (Ohio Revised Code 5301.80 - 5301.92). Further, these restrictions will be documented with the local municipality. Specifically, an informational notice will be recorded in the property deed records of Lucas County, Ohio, so that any future owner/operators will be aware that residual contamination exists at the Facility and that use restrictions are necessary to prevent unacceptable exposures.

4.2 AOI-01 - PCB Area

This area consists of AOC 1 (PCB Contaminated Soils) and SWMU 1 (Storm Sewer System) from the PA/VSI. AOC 1 is the outdoor area of PCB contaminated subsurface soils on the northwest side of the Facility. SWMU 1 consists of a sump beneath the calendar equipment and a storm sewer line. Between 1967 and 1972 PCBs were present in Therminol heat transferring oil in the calendering process. Therminol oil was transferred via underground piping which lead from above ground storage tanks outside the building to the calendering process equipment in buildings 50, 37 and 37A. The fluid was stored outside in ASTs and leaked from process equipment, pumps and underground piping.

The RFI results identified the following:

- Detections of aroclor-1242 and benzo(a)pyrene 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 these samples;
- RFI groundwater sampling in AOI-01 has been conducted in monitoring wells MW-1015 and MW-1017. Groundwater results were compared to MCLs and Vapor Intrusion Screening Values for Industrial Groundwater Targets, which indicated that groundwater concentrations do not exceed applicable screening criteria;
- Indoor air results collected from the Calender Basement were screened against the RSL for Industrial Air, with no exceedances;
- NAPL was identified in the groundwater seeps in the basement that contained PCBs (Arochlor-1242);

Based on these results, the HHRA presented in the RFI Report indicate that cancer risks are below or within the excess lifetime cancer risk range of 10^{-6} to 10^{-4} and non-cancer hazard index values are below 1, for all future land use receptor scenarios evaluated, with the exception of PCBs in soil and NAPL found in and around the Calender Basement. LNAPL in the Calender Basement area is currently being controlled through dewatering of the Calender Basement, which promotes an inward hydraulic gradient, and collection/separation of the LNAPL product for off-site disposal. However, this interim measure is not considered a final measure to address potential future site use. Therefore additional corrective measures are warranted for this AOI.

4.2.1 Corrective Measures Options

Four general categories of remediation were evaluated for AOI-01:

1. No Action,
2. Containment,
3. Treatment, and
4. Removal

These categories were evaluated against the three performance standards identified by the U.S. EPA (Fact Sheet #3, Final Remedy Selection For Results-Based RCRA Corrective Action, U.S. EPA March 2000):

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. Remediate the sources of releases so as to eliminate or reduce further releases of hazardous wastes or hazardous constituents that may pose a threat to human health and the environment, and using treatment to address principal threat wastes, unless alternative approaches are approved by the overseeing regulator.

The evaluation is presented in Table 2, and summarized below.

No Action (including no institutional controls)[3]:

- Protection of Human Health and the Environment: partially meets this criterion because it is protective under current conditions; it is not protective under certain reasonably anticipated future conditions.
- Achieve Media Cleanup Objectives: does not attain media cleanup objectives under future conditions because it does not eliminate exposure.
- Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: does not meet this criterion because it does not eliminate or reduce sources.

Containment: includes hydraulic controls, LNAPL collection, barrier walls, caps/contact barriers, institutional controls to maintain the containment systems, along with other engineering controls.

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

Treatment: limited to high energy systems such as in-situ thermal desorption, due to the stable nature of the NAPL and PCB compounds:

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

Removal: excavation and disposal of PCB-impacted LNAPL and soils, along with portions of the Calender Basement

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

[3] This alternative does not include institutional controls thereby resulting in a true no action alternative.

Based on the above, containment, treatment and removal all meet the performance criteria provided above. These general remedy technologies were further evaluated against one another for 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 2. This evaluation indicates that removal of PCB-impacted LNAPL along the Calender Basement and soils with off-site waste management/disposal provides the best balance of the criteria.

4.2.2 Proposed Corrective Measure

Based on the above, the proposed corrective measure to address AOI-01 PCB-impacted NAPL and soil is Removal via excavation with off-site waste management/disposal. The RFI soil results are presented in Figure 3, which shows the outline of the Calender Basement. The HHRA identified that PCB concentrations greater than 50 ug/kg, along with PCB-containing LNAPL, would need to be remediated to be protective of human health for future use in this area. Based on the soil results and observations of LNAPL seeps in the basement, it appears that the PCB-containing LNAPL is bounded to the south by the Calender Basement. The basement is constructed below the water table, such that it must be dewatered to stay dry. In addition, the bentonite wall constructed on the west side of the building during the previous interim measures PCB activities provides a westerly boundary for the PCBs in this area. The RFI soil sampling results north of the basement and east of the bentonite wall indicate a well defined boundary for the PCB-impacted soils that require remediation (Figure 3). Since the PCB-containing Therminol is lighter than water, the water table provides a lower bound for the LNAPL (and PCBs) in the area. Based on field measurements, we anticipate that the water table is 10-ft or less in this area. Therefore, the expected extent of soil that requires remediation is 10-ft or less in depth.

The outline shown in Figure 3 defines the PCB-impacted area based on the RFI results. The area of soil to be removed is estimated to be approximately 3205 square feet minus 725 square feet for the Calender Basement, yielding a net of approximately 2,480 square feet. The estimated depth of excavation is approximately 10 feet deep, which gives a net excavation volume of approximately 920 cubic yards. The excavation would include the removal of the entire Calender Basement. Post excavation soil samples will be collected and estimates of routine worker risk to soil concentrations remaining in the area will be determined to confirm that residual soil concentrations will not lead to unacceptable future risks. Based on preliminary estimates, the target soil clean-up concentration of 50 ug/kg would address the potential unacceptable future risks. Assuming the Site-wide use restrictions are in place, no long term monitoring or controls would be needed once remediation is complete. The concentrations in PCBs, soil, NAPL, and potentially debris from the Calender Basement indicate these materials would need to be disposed off-site as a TSCA waste. Assuming that the Calender Basement area is accessible, excavation of impacted soils and LNAPL could be completed in two months or less, including demolition of the Calender Basement. Utilizing total costs from a comparable site where PCBs-impacted soils were remediated, we estimate that soil excavation and off-site soil management for PCB-impacted material would

conservatively be approximately $385 per ton. This would equate to a total cost of approximately $578,000, based on a 1.6 ton per cubic yard conversion factor.

4.3 AOI-15 - South AST Farm

The South AST Farm is located to the southeast of Building 69. This tank farm was installed in 1990 and contains six 20,000 gallon ASTs and have contained various plasticizers. This AOI also includes the truck unloading area adjacent to the south of the tank farm and the former rail car unloading area to the east of the tank farm.

RFI activities at AOI-15 included the installation of five soil borings. A total of 13 soil samples and one NAPL sample were collected. The RFI soil results were screened against Industrial Screening Levels, which all concentrations were below the industrial screening criteria. As such, the RFI soil data from AOI-15 do not indicate that a potentially significant release of hazardous constituents to soils has occurred in this area. However, NAPL primarily comprised of phthalates, with detectable concentrations of PCBs was identified in PZ-31.

Based on these results, the HHRA presented in the RFI Report indicate that cancer risks are below or within the excess lifetime cancer risk range of 10^{-6} to 10^{-4} and non-cancer hazard index values are below 1, for all future land use receptor scenarios evaluated, with the exception of the NAPL identified in PZ-31. The risks identified with NAPL in PZ-31 in AOI-15 are attributable to Aroclor-1242 and bis(2-ethyhexyl)phthalate.

As discussed above, recovery of this NAPL is underway as required in the CA750 determination. However, this interim measure is not considered a final measure to address potential future site use. Therefore additional corrective measures are warranted for this AOI.

4.3.1 Corrective Measures Options

Similar to AOI-01, four general categories of remedial techniques were initially evaluated for AOI-15 as a first step in a streamlined approach to determine an appropriate and acceptable corrective measure for the potential future exposures:

1. No Action,
2. Containment,
3. Treatment, and
4. Removal

As with AOI-01, these categories were evaluated against the three performance standards identified by the U.S. EPA (Fact Sheet #3, Final Remedy Selection For Results-Based RCRA Corrective Action, U.S. EPA March 2000):

1. Protect human health and the environment,
2. Achieve media cleanup objectives, and
3. Remediate the sources of releases.

The evaluation is presented in Table 3, and summarized below.

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

- Protection of Human Health and the Environment: partially meets this criterion because it is protective under current conditions; it is not protective under certain reasonably anticipated future conditions.
- Achieve Media Cleanup Objectives: does not attain media cleanup objectives under future conditions because it does not eliminate exposure.
- Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: does not meet this criterion because it does not eliminate or reduce sources.

Containment: includes hydraulic controls, LNAPL collection, barrier walls, caps/contact barriers, institutional controls to maintain the containment systems, along with other engineering controls.

- Protection of Human Health and the Environment: meets this criterion because it is protective under current and future conditions by preventing certain unacceptable exposures.
- Achieve Media Cleanup Objectives: attains media cleanup objectives because it prevents certain unacceptable exposures.
- Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: meets this criterion because it reduces further releases from sources by controlling contaminant migration.

Treatment: in-situ treatment is not practical given site conditions; accordingly this general remedy type includes installation of product recovery systems (both high- and low-energy types) that removes LNAPL via wells or trenches, the collection of the LNAPL in appropriate containers and off-site disposal.

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

Removal: excavation and disposal of LNAPL and LNAPL-impacted soils in the vicinity of PZ-31.

- Protection of Human Health and the Environment: meets this criterion because it is protective under current and future conditions by eliminating exposures.
- Achieve Media Cleanup Objectives: attains media cleanup objectives because it eliminates exposures.

[4] This alternative does not include institutional controls thereby resulting in a true no action alternative.

- Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: meets this criterion because eliminates sources through removal and off-site disposal.

Based on the above, containment, treatment and removal all meet the performance criteria provided above. These general remedy technologies were further evaluated against one another for 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. 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 provided above. Further evaluation and discussion of the removal option is detailed below.

4.3.2 Proposed Corrective Measure

Based on the above, the proposed corrective measure to address NAPL identified in PZ-31 in AOI-15 is Removal via excavation with off-site soil management/disposal due to the surety of completion, cost of implementation, and ability to quickly return the area to beneficial re-use.

As detailed above, the initial NAPL thickness in PZ-31 was approximately 7-ft. Through bailing and passive collection, the product thickness dropped to less than 1.5-inches by October 2012. A review of soil borings completed in the area of PZ-31 does not suggest the presence of NAPL nor elevated PCB concentrations in soil (Figure 4). However, there are elevated detections of phthalates in soil in and around this AOI. To determine the extent of the excavation to remove the NAPL from the vicinity of PZ-31, a pre-excavation survey will be conducted utilizing in-situ techniques, such as UVOST^{tm} to identify the presence/absence of phthalate/PCB-bearing NAPL. If such in-situ techniques are not effective in identifying the limits of NAPL in the area, test pits will be completed to explore the limits of potential NAPL in the area. Due to the low-permeability nature of the soils, the test pits may be left open for several weeks to ascertain whether NAPL is present in the area.

The remedial goal of this proposed corrective measure will be to remove all of the NAPL-impacted soil. Based on the NAPL collection to date and soil concentrations in AOI-15, the area of NAPL-impacted soil to be removed will likely be limited to approximately 2,646 square feet to a depth of approximately 12 feet deep, for a volume of approximately 1,176 cubic yards. The approximate size and location of the excavation is shown on Figure 4. The NAPL impacted soil will be disposed off-site as a non-hazardous waste. Excavation of NAPL-impacted soils would likely be undertaken in conjunction with the BUSTR closure of the USTs in AOI-14 and would likely be completed in one month or less, depending upon the extent of NAPL encountered. Utilizing total costs from a comparable site where NAPL-impacted soils were remediated, we estimate that soil excavation and off-site soil management for PCB-impacted material would conservatively be approximately $110 per ton, including off-site disposal as non-hazardous/non-TSCA waste. This would equate to a total cost of approximately $155,000, based on a 1.6 ton per yard conversion factor.

Post excavation soil samples would be collected at the completion of the excavation, however the presence or absence of NAPL would guide the excavation. Revised estimates of routine worker risk to soil concentrations remaining in the area would be determined to confirm that residual soil concentrations are within the acceptable exposure criteria for future use.

4.4 AOI-28 – Former Sample Print Machines

This AOI was identified during the implementation of Field Event #1. According to Facility maintenance personnel, AOI-28 was the former location of three sample print machines. The machines operated in this area for over 20 years and were relocated to another area approximately 15 years ago.

RFI activities at AOI-28 included the installation of ten soil borings and one monitoring well. A total of 24 soil samples, one groundwater sample, three sub-slab soil vapor samples, and two indoor air samples were collected. The RFI results are summarized on Figures 5 and 6, and identified the following:

- Soil results were screened against Industrial Screening Levels, which indicated all concentrations were below the industrial screening criteria.
- Groundwater results from MW-1022 were compared to MCLs and Vapor Intrusion Screening Levels for Industrial Groundwater Targets, which indicated that, trichloroethene concentrations exceeded the MCL and the Vapor Intrusion Screening Levels.
- Three sub-slab soil vapor points were installed and sampled in AOI-28. The results were screened against Residential and Industrial Vapor Intrusion Screening Levels. The tetrachloroethene and trichloroethene sub-slab vapor concentrations from all three sample points exceeded the residential and industrial screening levels.
- Two indoor air samples were collected and analyzed from AOI-28 following the investigation of soil vapor. The results were screened against the RSL for Industrial Air. There are no Industrial Air exceedances in indoor air.

Based on these results, the HHRA presented in the RFI Report indicate that cancer risks are below or within the excess lifetime cancer risk range of 10^{-6} to 10^{-4} and non-cancer hazard index values are below 1, 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 are associated with tetrachloroethene and trichloroethene under the assumption that soil gas migrates to indoor air. Given the potential for redevelopment of the site land use changes, corrective measures are warranted for AOI-28.

4.4.1 Corrective Measures Options

Similar to AOI-01, four general categories of remedial techniques were initially evaluated for AOI-28 as a first step in a streamlined approach to determine an appropriate and acceptable corrective measure for the potential future exposures:

1. No Action,
2. Containment/Control,
3. Treatment, and
4. Removal

These categories were evaluated against the three performance standards identified by the U.S. EPA (Fact Sheet #3, Final Remedy Selection For Results-Based RCRA Corrective Action, U.S. EPA March 2000), similar to AOI-01:

1. Protect human health and the environment,
2. Achieve media cleanup objectives, and
3. Remediate the sources of releases.

The evaluation is presented in Table 4, and summarized below.

No Action (including no institutional controls)[5]:

- Protection of Human Health and the Environment: partially meets this criterion because it is protective under current conditions; it is not protective under certain reasonably anticipated future conditions.
- Achieve Media Cleanup Objectives: does not attain media cleanup objectives under future conditions because it does not eliminate exposure.
- Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: does not meet this criterion because it does not eliminate or reduce sources.

Containment: includes vapor barriers or sub-slab depressurization, along with institutional controls to maintain the containment systems.

- Protection of Human Health and the Environment: meets this criterion because it is protective under current and future conditions by preventing certain unacceptable exposures.
- Achieve Media Cleanup Objectives: attains media cleanup objectives because it prevents certain unacceptable exposures.
- Remediate Sources to Eliminate/Reduce Further Releases Including Treatment for Principal Threat Wastes: meets this criterion because it reduces further releases from sources by controlling contaminant migration.

Treatment (in-situ): Includes injection of bio-degradation and chemical degradation compounds to destroy the VOC compounds in soil.

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

Removal: excavation and disposal of LNAPL and LNAPL-impacted soils in the vicinity of PZ-31.

[5] This alternative does not include institutional controls thereby resulting in a true no action alternative.

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

Based on the above, containment, treatment and removal all meet the performance criteria provided above. These general remedy technologies were further evaluated against one another for 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 4. This evaluation indicates that removal of contaminants at AOI-28 with off-site waste management/disposal provides the best balance of the criteria provided above. Further evaluation and discussion of the removal option is detailed below.

4.4.2 Proposed Corrective Measure

Based on the above, the proposed corrective measure to address AOI-28 VOC-impacted soil is Removal. The VOC-impacted area in AOI-28 has been well defined through the RFI field activities and Figure 5 shows the proposed area of soil removal. The size is approximately 490 square feet by 4-feet deep. This gives a total volume of approximately 73 cubic yards, which equates to approximately 117 ton at 1.6 ton per cubic yard. Based on the existing soil concentrations, soil would be disposed off-site as non-hazardous waste. Given the size of the excavation, the removal could be completed in one to two weeks. Utilizing total costs from a comparable site where VOC-impacted soils were remediated, we estimate that soil excavation and off-site soil management would conservatively be approximately $138 per ton, including off-site disposal as non-hazardous. This would equate to a total cost of approximately $16,000.

4.5 AOI-02 - Solvent Recovery Area – RCRA Closure

This AOI contains SWMUs 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 16 and 19[6] from the PA/VSI. This area consists of the solvent recovery system in Building 31, associated storage and transfer equipment, and other waste handling operations. According to interviews with Facility personnel, many releases of various solvents occurred in this area throughout its operational history most notably from the north end of the solvent recovery building onto the pavement. Operations in this area began in the 1950s and continued until shutdown of the operations in 2009. The RCRA units were shut down in the early 1990's.

The area was a RCRA storage area undergoing closure at the time RCRA Corrective Action was initiated. Pre-RFI activities considered in the result summary include soil sampling events from February 1990 (Clayton), March 1995 (Hull), July 1995 (Midwest Environmental), and May 1996

[6] These SWMUs are generally adjacent to one another and together form one contiguous area.

(Midwest Environmental). From these events, 28 soil borings were installed and 43 soil samples were collected. RFI activities at AOI-02 included the installation of 16 soil borings and one monitoring well. A total of 49 soil samples and three groundwater samples were collected and analyzed. The sampling included collection of two samples from the water production well. The water production well was later abandoned following Ohio DNR well closure guidance.

The RFI results identified the following:

- Pre-RFI soil results were compared to Industrial Screening Levels, which indicated that arsenic and BTEX compounds have concentrations higher than the industrial screening criteria. Of the ten samples that were 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.
- RFI soil results were compared to Industrial Screening Levels, which indicated that bis(2-ethylhexyl)phthalate and benzo(a)pyrene are the only chemicals that have concentrations higher than the industrial screening criteria. Of the 40 samples that were analyzed for 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.
- One round of RFI groundwater sampling in AOI-02 was conducted in monitoring wells MW-19H, MW-23H, and MW-1018. Groundwater results were compared to MCLs and Vapor Intrusion Screening Values for Industrial Groundwater Targets, which indicated that arsenic concentration in MW-19H and the bis(2-ethylhexyl)phthalate concentration in MW-1018 exceed MCLs.
- Two groundwater samples, at depths of 108 and 188 feet from the top of casing, were collected from the water production well and indicted that the results were all below the MCLs.

Based on these results, the HHRA presented in the RFI Report did not identify any unacceptable current or future exposures. Therefore, this area can be clean closed under RCRA closure requirements. As such, no further action in this area is necessary and the unit should be formally (RCRA) closed.

4.6 AOI-14 - South UST Farm – BUSTR Closure

The South UST Farm (the Vinyl Finish Tank Farm) is located to the east of the 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 MEK, plasticizer, dimethylformamide, adsorber steamings, toluene, and 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 BUSTR regulations.

RFI activities at AOI-14 included the installation of three soil borings. A total of seven soil samples and two groundwater samples were collected. The RFI identified the following:

- Soil results were screened against Industrial Screening Levels, which indicated that benzo(a)pyrene was the only chemical that has concentrations higher than industrial screening criteria. Of the seven soil samples, benzo(a)pyrene was detected in one sample.
- RFI groundwater sampling in AOI-14 has been conducted at monitoring well MW-14H. Groundwater results were compared to MCLs and Vapor Intrusion Screening Values for Industrial Groundwater Targets. The RFI results indicated that only arsenic exceeds the MCL.

Based on these results, the HHRA presented in the RFI Report did not identify any unacceptable current or future exposures. Therefore no corrective measures are proposed for this area. The existing USTs will be removed and closed under BUSTR regulations.

5. SCHEDULE OF CORRECTIVE MEASURES IMPLEMENTATION

The proposed schedule of corrective measures implementation is presented on Figure 7. The start of the schedule is not fixed and is based from the date when the U.S. EPA issues the Final Decision and Response to Comments.

As discussed above, Textileather's preference is to return the site to beneficial re-use as soon as possible. During the U.S. EPA's review of the CMS and evaluation of the proposed remedy options, Textileather will begin the process of evaluating and selecting remediation contractors. This will facilitate implementation of the selected corrective measures, once the Final Decision is issued.

The first step in the corrective measures, after issuance of the Final Decision, will be preparation of a Corrective Measures Work Plan. It is anticipated that the Corrective Measures Work Plan will detail the additional data collection requirements for implementation of the corrective measures for AOI-15, along with the specifications for completion of the selected corrective measures for AOI-01 and AOI-28. The Corrective Measures Work Plan will also provide a more detailed schedule of implementation. Based on the proposed corrective measures, it is anticipated that the majority of the remedial measures can be completed in one to two years following issuance of the Final Decision.

6. SUMMARY

As detailed above, there are three areas (AOI-01, AOI-15, and AOI-28) that may present unacceptable risk for future site use, should site conditions change. Generally, Textileather has proposed the most aggressive remedial option, such that the Facility can be brought back to beneficial re-use in the shortest period of time, while minimizing the requirement for long-term maintenance. For the issues at the Facility, this turns out to be the most effective, permanent and often most cost-effective alternative:

- AOI-01 – excavation of PCB-impacted subsurface soils and NAPL,
- AOI-15 – excavation of the NAPL around PZ-31, and
- AOI 28 – excavation of VOC-impacted soils.

Based on the evaluation detailed above, removal of the impacted soils would satisfy the three performance criteria established by the U.S. EPA. In addition, removal would score high in comparison to the balancing criteria. Therefore, the removal option is considered to be the best corrective measures alternative for these areas.

In addition, Site-Wide Use Restrictions will be established in institutional control, to ensure that the site remains industrial/commercial and overburden groundwater is not used in the future. Two other areas are also proposed to be closed from a regulatory standpoint during the corrective measures implementation:

- AOI-02 – RCRA Clean Closure
- AOI-14 – BUSTR Closure

REFERENCES

1. Haley & Aldrich, 2009. Current Conditions Report for Textileather Corporation, December.

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5. Haley & Aldrich, 2010. Facility Investigation Work Plan Addendum #1 for Field Event #2 for Textileather Corporation, June.

6. Haley & Aldrich, 2010. Eastern Property Boundary Investigation Summary and Evaluation Report for Textileather Corporation, October.

7. Haley & Aldrich, 2010. Field Event #2 Data Results – RCRA Facility Investigation for Textileather Corporation, November.

8. Haley & Aldrich, 2011. Site Management Plan for Textileather Corporation, January.

9. Haley & Aldrich, 2011. Site Specific Health And Safety Plan for Textileather Corporation, January

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11. Haley & Aldrich, 2011. Field Event #2A and #2B Data Results – RCRA Facility Investigation for Textileather Corporation, July.

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15. Haley & Aldrich, 2011. RCRA Facility Investigation Report for Textileather Corporation, September.

16. Haley & Aldrich, 2012. Revised RCRA Facility Investigation Report for Textileather Corporation, December.

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18. USEPA, 2000. Fact Sheet #3, Final Remedy Selection For Results-Based RCRA Corrective Action, March.

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TABLES

TABLE 1
SUMMARY OF AREAS OF INVESTIGATION
TEXTILEATHER CORPORATION
TEXTILEATHER FACILITY
TOLEDO, OHIO

Areas of Interest	Area Designation	Summary of Materials Managed	Current/Historic	Further Investigation Recommended	AOI Investigated During Field Event					RFI HHRA Findings	
					#1	#2	#2A	#2B	#3	Potential Unacceptable Current Risk	Potential Unacceptable Future Risk
AOI-01	PCB Area	- PCBs - Oils	- Historic PCB releases - Active oil use at time of shut down	Yes	SO, GW	SO, GW, ST, SS	GW		IA	No	Yes
AOI-02	Solvent Recovery Area	- Virgin solvents - Waste inks (F003, F005, D001, D007, D008, and D035) - Solvent recovery still bottoms (F005) from on-site and off-site sources - PCBs - Nonhazardous waste - Unknowns	- Active at time of shut down - Historic solvent recycling from off-site sources	Yes	SO	SO, GW				No	No
AOI-03	Oil Interceptor Basins	- Storm water contaminated with oil	- Current	Yes	SO	SO				No	No
AOI-04	Eastern Refuse Handling Area	- Nonhazardous waste (scrap metal, broken wooden pallets, defective or scrap vinyl, and general refuse)	- Active at time of shut down	Yes						No	No
AOI-05	Northern Refuse and Oil Handling Area	- Nonhazardous waste (scrap metal, broken wooden pallets, defective or scrap vinyl, and general refuse) - Used oil	- Active at time of shut down	Yes	SO					No	No
AOI-06	General Refuse Hoppers	- Nonhazardous waste (scrap metal, broken wooden pallets, defective or scrap vinyl, and general refuse)	- Active at time of shut down	No (Inspection Only)							
AOI-07	Container Storage Area	- Waste inks (F003, F005, D001, D007, D008, and D035) and debris	- Active at time of shut down	No (Inspection Only)							
AOI-08	Buildings 2 through 6	- Waste plasticizer and debris (D002, D006, D007, and D008) - Solvents, dyes and other additives	- Active at time of shut down	Yes	SO	SO				No	No
AOI-09	Coater Lines	- Waste plasticizer and debris (D002, D006, D007, and D008) - Solvents, dyes and other additives	- Active at time of shut down	Yes	SO, GW					No	No
AOI-10	Dope Room and Can Wash	- Plasticizers, solvents, inks, dyes and other additives	- Active at time of shut down	Yes	SO					No	No
AOI-11	Print Finish Department	- Inks	- Active at time of shut down	Yes	SO					No	No
AOI-12	Hazardous Waste Storage Room	- Waste inks (F003, F005, D001, D007, D008, and D035) and debris - Waste plasticizer and debris (D002, D006, D007, and D008) - Solvent recovery still bottoms (F005) - Other hazardous and non-hazardous wastes	- Active at time of shut down	No							

TABLE 1
SUMMARY OF AREAS OF INVESTIGATION
TEXTILEATHER CORPORATION
TEXTILEATHER FACILITY
TOLEDO, OHIO

Areas of Interest	Area Designation	Summary of Materials Managed	Current/Historic	Further Investigation Recommended	AOI Investigated During Field Event					RFI HHRA Findings	
					#1	#2	#2A	#2B	#3	Potential Unacceptable Current Risk	Potential Unacceptable Future Risk
AOI-13	Building 69	- Solvents and plasticiers	- Active at time of shut down	Yes	SO	SO, GW				No	No
AOI-14	South UST Farm	- Solvents	- Active at time of shut down	Yes	SO	GW				No	No
AOI-15	South AST Farm	- Plasticizers	- Active at time of shut down	Yes	SO	SO				No	Yes
AOI-16	Powerhouse	- Fuel oil and diesel fuel	- Active at time of shut down	Yes	SO	SO				No	No
AOI-17	Former Fuel Oil AST and Former Hazardous Waste Storage Area	- Fuel oil, waste solvents, waste plasticizers, waste inks and dyes	- Historic	Yes	SO					No	No
AOI-18	Former Fire Response Training Area	- Wooden pallets	- Historic	No							
AOI-19	Battery Charging Area	- Acids and metals	- Active at time of shut down	Yes	SO	SO				No	No
AOI-20	Rail Car Unloading Area	- Plasticizers and solvents	- Active at time of shut down	Yes	SO	SO				No	No
AOI-21	North Former AST Farm and Current AST Farm	- Plasticizers	- Active at time of shut down	Yes	SO	GW				No	No
AOI-22	Former North Fuel Oil AST Farm	- Fuel oil	- Historic	Yes	SO	SO, GW				No	No
AOI-23	Northern Phthalate Leak Remediation Area	- Waste plasticizer	- Historic	Yes	SO, GW	GW				No	No
AOI-24	South East USTs	- Gasoline and diesel fuels	- Historic	Yes	SO					No	No
AOI-25	Tolex Courtyard Chiller	- Ethylene glycol	- Historic	Yes	SO					No	No
AOI-26	Outpost Outside Storage Area	- Unknown	- Historic	Yes	SO					No	No
AOI-27	Site-Wide Groundwater	- NA	- NA	Yes	GW	SO, GW, ST, SS				No	No
AOI-28	Former Sample Print Finish Room			Yes	SO	SO		SV	SO, GW, IA	No	Yes
	Background Soil Samples (Additional)	- NA	- NA	Yes	SO					No	No
	Eastern Property Boundary	- NA	- NA	Yes	GW		SV	GW, SV		No	No

Notes and Abbreviations:
SO: Soil
GW: Groundwater
SV: Soil Vapor
IA: Indoor Air
ST: Storm Sewer
SS: Sanitary Sewer

TABLE 2
EVALUATION OF POTENTIAL REMEDIAL TECHNIQUES
AOI-01 PCB AREA
TEXTILEATHER RCRA CORRECTIVE ACTION
TOLEDO, OHIO

	No Action	Containment	Treatment	Removal	Comments
Remedy Performance Standards					
1. Protect Human Health and the Environment	✓	✓	✓	✓	See Text
2. Achieve Media Cleanup Objectives	–	✓	✓	✓	See Text
3. Remediate Sources of Releases	–	✓	✓	✓	See Text
Balancing Criteria					
1. Long-term Effectiveness	Does Not Meet Performance Criteria				Containment and removal are proven technologies with a record of reliability and effectiveness. In-situ treatment, particularly below the water table in low-permeability soils, is not a proven reliable and effective technology.
2. Reduction of Toxicity, Mobility or Volume					In-situ treatment and removal both reduce the toxicity, mobility and volume of PCBs. Containment reduces the mobility of PCBs; however does not reduce its toxicity or volume.
3. Short-term Effectiveness					In-situ treatment would be short-term effective by extracting PCBs from the subsurface and carries a low short-term risk because of it does not require significant subsurface disturbance and, therefore has a low risk to workers and the community. Containment would also be short-term effective by eliminating exposures through engineering controls, but carries a higher risk of worker and community safety because of increased subsurface disturbance that require the use of heavy equipment on-site and on roadways. Removal is also short-term effective by removing PCBs from the subsurface but carries a higher short-term risk because of it requires significant subsurface disturbance using heavy equipment and truck travel on roadways.
4. Implementability					Containment and removal are both proven technologies that are implementable. In-situ treatment is implementable however it is not know if it will significantly reduce PCB concentrations at this Site.
5. Cost				$578,000	The lowest capital cost alternative would be containment and the highest capital cost alternatives would be removal or treatment. The lowest long-term cost would be removal because it does not require long-term O&M.
6. Community Acceptance					The Site is currently idle. The community has expressed an interest in returning the property to re-use to facilitate re-development for the area businesses. The removal option would facilitate re-development of the Site.
7. State Acceptance					The removal option addresses the source material and presents the highest surety of completion.

Notes:
✓ Meets Criterion
– Does Not Meet Criterion

Alternative best addresses criterion compared to other options.
Alternative moderately addresses criterion compared to other options.
Alternative least effective at addressing criterion compared to other options.

TABLE 3
EVALUATION OF POTENTIAL REMEDIAL TECHNIQUES
AOI-15 - SOUTH AST FARM (PZ-31 NAPL AREA)
TEXTILEATHER RCRA CORRECTIVE ACTION
TOLEDO, OHIO

	No Action	Containment	Treatment	Removal	Comments
Remedy Performance Standards					
1. Protect Human Health and the Environment	✓	✓	✓	✓	See Text
2. Achieve Media Cleanup Objectives	–	✓	✓	✓	See Text
3. Remediate Sources of Releases	–	✓	✓	✓	See Text
Balancing Criteria					
1. Long-term Effectiveness	Does Not Meet Performance Criteria				Containment, treatment and removal are proven technologies with a record of reliability and effectiveness.
2. Reduction of Toxicity, Mobility or Volume					Treatment and removal both reduce the toxicity, mobility and volume of LNAPL, although the treatment option will result in residuals remaining in soil after remedy completion. Containment reduces the mobility of LNAPLs; however does not reduce its toxicity or volume.
3. Short-term Effectiveness					Treatment would be short-term effective by extracting LNAPL from the subsurface and carries a low short-term risk because of it does not require significant subsurface disturbance and, therefore has a low risk to workers and the community. Containment would also be short-term effective by eliminating exposures through engineering controls, but carries a higher risk of worker and community safety because of increased subsurface disturbance that require the use of heavy equipment on-site and on roadways. Removal is also short-term effective by removing PCBs from the subsurface but carries a higher short-term risk because it requires subsurface disturbance using heavy equipment and truck travel on roadways.
4. Implementability					All options evaluated are proven technologies that are implementable.
5. Cost				$155,000	The lowest capital cost alternative would be containment, while the highest capital cost alternative would be treatment. The lowest long-term cost would be removal because it does not require long-term O&M.
6. Community Acceptance					The Site is currently idle. The community has expressed an interest in returning the property to re-use to facilitate re-development for the area businesses. The removal option would better facilitate re-development of the Site.
7. State Acceptance					The removal option addresses the source material and presents the highest surety of completion.

Notes:
✓ Meets Criterion
– Does Not Meet Criterion

Alternative best addresses criterion compared to other options.
Alternative moderately addresses criterion compared to other options.
Alternative least effective at addressing criterion compared to other options.

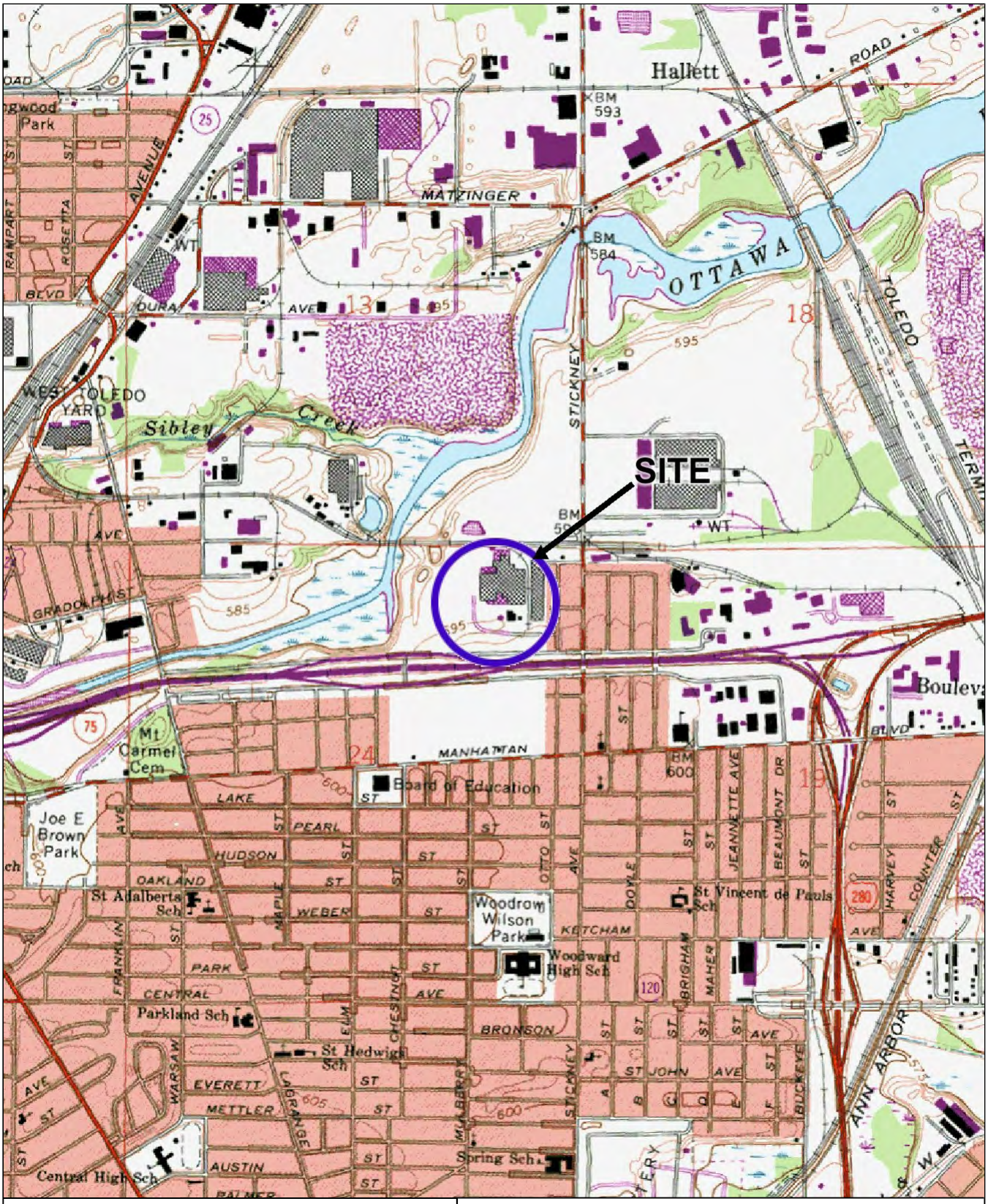
TABLE 4
EVALUATION OF POTENTIAL REMEDIAL TECHNIQUES
AOI-28 - FORMER SAMPLE PRINT MACHINES
TEXTILEATHER RCRA CORRECTIVE ACTION
TOLEDO, OHIO

	No Action	Containment	Treatment	Removal	Comments
Remedy Performance Standards					
1. Protect Human Health and the Environment	✓	✓	✓	✓	See Text
2. Achieve Media Cleanup Objectives	–	✓	✓	✓	See Text
3. Remediate Sources of Releases	–	✓	✓	✓	See Text
Balancing Criteria					
1. Long-term Effectiveness	Does Not Meet Performance Criteria				Containment and removal are proven technologies with a record of reliability and effectiveness. In-situ treatment, particularly in the low-permeability soils beneath the Site, may not be effective at reducing contaminant concentrations.
2. Reduction of Toxicity, Mobility or Volume					Treatment and removal both reduce the toxicity, mobility and volume of contaminants, although the treatment option may result in residuals remaining in soil after remedy completion. Containment reduces the mobility of contaminants; however does not reduce its toxicity or will not significantly reduce contaminant volume.
3. Short-term Effectiveness					Treatment would be short-term effective by destroying contaminants from the subsurface and carries a low short-term risk because it does not require significant subsurface disturbance and, therefore has a low risk to workers and the community. Containment would also be short-term effective by eliminating exposures through engineering controls, and would also have a low risk of worker and community safety. Removal is also short-term effective by removing contaminants from the subsurface but carries a higher short-term risk because it requires subsurface disturbance using heavy equipment and truck travel on roadways.
4. Implementability					All options evaluated are proven technologies that are implementable.
5. Cost				$16,000	The lowest capital cost alternative would be containment, while the highest capital cost alternative would be treatment. The lowest long-term cost would be removal because it does not require long-term O&M.
6. Community Acceptance					The Site is currently idle. The community has expressed an interest in returning the property to re-use to facilitate re-development for the area businesses. The removal option would better facilitate re-development of the Site.
7. State Acceptance					The removal option addresses the source material and presents the highest surety of completion.

Notes:
✓ Meets Criterion
– Does Not Meet Criterion

Alternative best addresses criterion compared to other options.
Alternative moderately addresses criterion compared to other options.
Alternative least effective at addressing criterion compared to other options.

FIGURES



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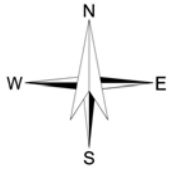


U.S.G.S. QUADRANGLE: TOLEDO, OH

HALEY & ALDRICH

TEXTILE LEATHER CORPORATION
3729 TWINING STREET
TOLEDO, OHIO

PROJECT LOCUS

SCALE: 1:24,000
NOVEMBER 2009

FIGURE 1

36005 1.PDF

LEGEND:

- APPROXIMATE PROPERTY LINE
- RAILROAD
- DRAINAGE SWALE
- FENCE
- AREA OF INTEREST (AOI) - FURTHER INVESTIGATION RECOMMENDED
- AREA OF INTEREST (AOI) - NO ADDITIONAL INVESTIGATION RECOMMENDED
- AREA OF INTERST (AOI) IDENTIFIED IN HUMAN HEALTH RISK ASSESSMENT (HHRA) WITH POTENTIAL UNACCEPTABLE FUTURE RISK
- VEGETATION
- BUILDING NUMBER

NOTES:

1. BASEPLAN PROVIDED BY CRA's eDAT DATABASE.

BLDG NO.	DEPARTMENT	TOTAL FLOOR AREA (SQ FT.)
1	WAREHOUSE	5,800
1A	WAREHOUSE	3,600
1B	WAREHOUSE	1,800
2	FRAME ROOM	13,900
3	COATING & DOPE STORAGE	9,500
4-5	DOPE MAKEUP & NAUTA MIXER	10,100
6	WAREHOUSE	14,100
7	SAMPLE ROOM	17,700
8	WAREHOUSE	3,300
9	WAREHOUSE	5,400
10	WAREHOUSE	7,900
10A & 10B	WAREHOUSE	4,800
11C	MAINT CRIB & STORAGE	750
14	WAREHOUSE & COATING	6,800
14A	WAREHOUSE & NO 3 STOCK	1,700
14B	REELING, WHSE & NO 3 STOCK	3,800
15	COATING	5,100
15A	FIRST AID	200
20	RECEIVING	5,000
21	EMBOSSING & ROLL STORAGE	3,000
22	EMBOSSING	7,800
23	ANNEALING	4,800
24	COATING & STORAGE	24,250
25	DOPE ROOM	13,100
28	DOPE ROOM	10,300
28A	CAN WASH & WAREHOUSE	4,800
29	BULK DOPE, WHSE & FK. TRK. REP.	3,100
31	SOLVENT RECOVERY	5,500
32	SOLVENT RECOVERY	300
37	CALENDER ROOM (NO 1 CAL)	4,800
37A	CALENDER ROOM (NO 2 CAL)	7,300
41	EMBOSSING & STORAGE	21,200
42	TOLEX WAREHOUSE	18,700
42A	RECEIVING DOCK	600
43	FINAL INSPECTION	18,000
45	FIRE PUMP NO 1	330
46	WAREHOUSE	14,400
47	WAREHOUSE	68,700
48	QUALITY CONTROL	3,000
49	STORAGE SHED	230
50	CALENDER ROOM (NO 3 CAL)	9,800
51	CONTROL ROOM (NO 3 CAL)	2,600
52	MAIN OFFICE BUILDING	24,000
53	SCRAP STORAGE (SOLVENT)	1,080
54	PRINT & FINISH	25,100
55	WAREHOUSE (DOPE ROOM)	3,100
56	TEXTILE WAREHOUSE	4,800
58	PLASTICIZER UNLOADING	140
59	FIRE PUMP NO 2	240
60	MAINTENANCE & RESEARCH	26,600
61	OUTPOST WAREHOUSE	4,800
62	STORAGE & BREAK ROOM	510
63	CONTROL ROOM (SOLVENT RECOVERY)	160
64	SILOS	1,030
66	POWER HOUSE	3,800
67	GAS METER HOUSE	240
68	RED LABEL ROOM	2,560
69	PUMP HOUSE	530
70	PURCHASING STORAGE	320
72	SHED BUILDING 9	300
73	SHED PILOT LINE	1,000
74	SHED BUILDING 6	400
79	GUARD HOUSE	40
81	DEVELOPMENT CENTER	3,170
	TOTAL AREA	462,060

AREAS OF INTEREST:

AOI-01 - PCB AREA
AOI-02 - SOLVENT RECOVERY AREA
AOI-03 - OIL INTERCEPTOR BASINS
AOI-04 - EASTERN REFUSE HANDLING AREA
AOI-05 - NORTHERN REFUSE AND OIL HANDLING AREA
AOI-06 - GENERAL REFUSE HOPPERS
AOI-07 - CONTAINER STORAGE AREA
AOI-08 - BUILDINGS 2 THROUGH 6
AOI-09 - COATER LINES
AOI-10 - DOPE ROOM AND CAN WASH
AOI-11 - PRINT FINISH DEPARTMENT
AOI-12 - HAZARDOUS WASTE STORAGE ROOM
AOI-13 - BUILDING 69
AOI-14 - SOUTH UST FARM
AOI-15 - SOUTH AST FARM
AOI-16 - POWERHOUSE
AOI-17 - FORMER FUEL OIL AST AND FORMER HAZARDOUS WASTE STORAGE AREA
AOI-18 - FORMER FIRE RESPONSE TRAINING AREA
AOI-19 - BATTERY CHARGING AREA
AOI-20 - RAIL CAR UNLOADING AREA
AOI-21 - NORTH FORMER AST FARM AND CURRENT AST FARM
AOI-22 - FORMER NORTH FUEL OIL AST FARM
AOI-23 - NORTHERN PHTHALATE LEAK REMEDIATION AREA
AOI-24 - SOUTH EAST USTS
AOI-25 - TOLEX COURTYARD CHILLER
AOI-26 - OUTPOST OUTSIDE STORAGE AREA
AOI-27 - SITE-WIDE GROUNDWATER
AOI-28 - FORMER SAMPLE PRINT MACHINE

N
W E
S

0 80 160 240 320
SCALE IN FEET

HALEY & ALDRICH

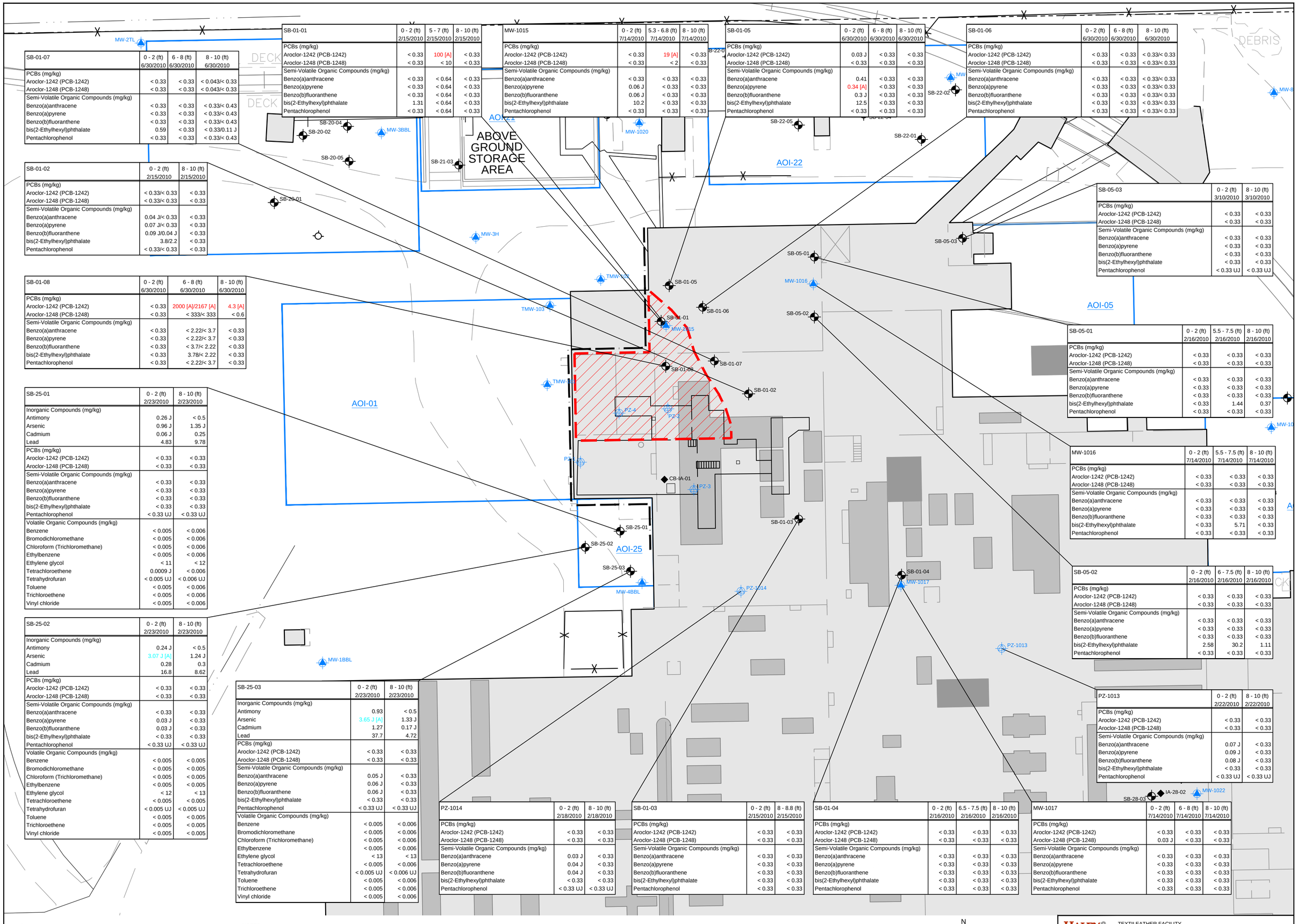
TEXTILEATHER FACILITY
3729 TWINING STREET
TOLEDO, OHIO

SITE PLAN SHOWING AOI LOCATIONS

SCALE: AS SHOWN
DECEMBER 2012

FIGURE 2

G:\36005 TEXTILEATHER012 - CORRECTIVE MEASURES STUDY\CMS\CAD\36005-SITE-PLAN_WITH_AOIS-NOV2010.DWG



SB-01-07	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.043/< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.043/< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33/< 0.43
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33/< 0.43
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33/< 0.43
bis(2-Ethylhexyl)phthalate	0.59	< 0.33	< 0.33/0.11 J
Pentachlorophenol	< 0.33	< 0.33	< 0.33/< 0.43

SB-01-01	0 - 2 (ft) 2/15/2010	5 - 7 (ft) 2/15/2010	8 - 10 (ft) 2/15/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	100 [A]	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 10	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.64	< 0.33
Benzo(a)pyrene	< 0.33	< 0.64	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.64	< 0.33
bis(2-Ethylhexyl)phthalate	1.31	< 0.64	< 0.33
Pentachlorophenol	< 0.33	< 0.64	< 0.33

MW-1015	0 - 2 (ft) 7/14/2010	5.3 - 6.8 (ft) 7/14/2010	8 - 10 (ft) 7/14/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	19 [A]	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 2	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	0.06 J	< 0.33	< 0.33
Benzo(b)fluoranthene	0.06 J	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	10.2	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33

SB-01-05	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	0.03 J	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	0.41	< 0.33	< 0.33
Benzo(a)pyrene	0.34 [A]	< 0.33	< 0.33
Benzo(b)fluoranthene	0.3 J	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	12.5	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33

SB-01-06	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.33/< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.33/< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33/< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33/< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33/< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33/< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33/< 0.33

SB-01-02	0 - 2 (ft) 2/15/2010	8 - 10 (ft) 2/15/2010
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33/< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33/< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.04 J/< 0.33	< 0.33
Benzo(a)pyrene	0.07 J/< 0.33	< 0.33
Benzo(b)fluoranthene	0.09 J/0.04 J	< 0.33
bis(2-Ethylhexyl)phthalate	3.8/2.2	< 0.33
Pentachlorophenol	< 0.33/< 0.33	< 0.33

SB-05-03	0 - 2 (ft) 3/10/2010	8 - 10 (ft) 3/10/2010
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ

SB-01-08	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	2000 [A]/2167 [A]	4.3 [A]
Aroclor-1248 (PCB-1248)	< 0.33	< 333/< 333	< 0.6
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 2.22/< 3.7	< 0.33
Benzo(a)pyrene	< 0.33	< 2.22/< 3.7	< 0.33
Benzo(b)fluoranthene	< 0.33	< 3.7/< 2.22	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	3.78/< 2.22	< 0.33
Pentachlorophenol	< 0.33	< 2.22/< 3.7	< 0.33

SB-05-01	0 - 2 (ft) 2/16/2010	5.5 - 7.5 (ft) 2/16/2010	8 - 10 (ft) 2/16/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	1.44	0.37
Pentachlorophenol	< 0.33	< 0.33	< 0.33

SB-25-01	0 - 2 (ft) 2/23/2010	8 - 10 (ft) 2/23/2010
Inorganic Compounds (mg/kg)		
Antimony	0.26 J	< 0.5
Arsenic	0.96 J	1.35 J
Cadmium	0.06 J	0.25
Lead	4.83	9.78
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.006
Bromodichloromethane	< 0.005	< 0.006
Chloroform (Trichloromethane)	< 0.005	< 0.006
Ethylbenzene	< 0.005	< 0.006
Ethylene glycol	< 11	< 12
Tetrachloroethene	0.0009 J	< 0.006
Tetrahydrofuran	< 0.005 UJ	< 0.006 UJ
Toluene	< 0.005	< 0.006
Trichloroethene	< 0.005	< 0.006
Vinyl chloride	< 0.005	< 0.006

MW-1016	0 - 2 (ft) 7/14/2010	5.5 - 7.5 (ft) 7/14/2010	8 - 10 (ft) 7/14/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	5.71	< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33

SB-05-02	0 - 2 (ft) 2/16/2010	6 - 7.5 (ft) 2/16/2010	8 - 10 (ft) 2/16/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	2.58	30.2	1.11
Pentachlorophenol	< 0.33	< 0.33	< 0.33

SB-25-02	0 - 2 (ft) 2/23/2010	8 - 10 (ft) 2/23/2010
Inorganic Compounds (mg/kg)		
Antimony	0.24 J	< 0.5
Arsenic	3.07 J [A]	1.24 J
Cadmium	0.28	0.3
Lead	16.8	8.62
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	0.03 J	< 0.33
Benzo(b)fluoranthene	0.03 J	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Ethylene glycol	< 12	< 13
Tetrachloroethene	< 0.005	< 0.005
Tetrahydrofuran	< 0.005 UJ	< 0.005 UJ
Toluene	< 0.005	< 0.005
Trichloroethene	< 0.005	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-25-03	0 - 2 (ft) 2/23/2010	8 - 10 (ft) 2/23/2010
Inorganic Compounds (mg/kg)		
Antimony	0.93	< 0.5
Arsenic	3.65 J [A]	1.33 J
Cadmium	1.27	0.17 J
Lead	37.7	4.72
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.05 J	< 0.33
Benzo(a)pyrene	0.06 J	< 0.33
Benzo(b)fluoranthene	0.06 J	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.006
Bromodichloromethane	< 0.005	< 0.006
Chloroform (Trichloromethane)	< 0.005	< 0.006
Ethylbenzene	< 0.005	< 0.006
Ethylene glycol	< 13	< 13
Tetrachloroethene	< 0.005	< 0.006
Tetrahydrofuran	< 0.005 UJ	< 0.006 UJ
Toluene	< 0.005	< 0.006
Trichloroethene	< 0.005	< 0.006
Vinyl chloride	< 0.005	< 0.006

PZ-1013	0 - 2 (ft) 2/22/2010	8 - 10 (ft) 2/22/2010
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.07 J	< 0.33
Benzo(a)pyrene	0.09 J	< 0.33
Benzo(b)fluoranthene	0.08 J	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ

PZ-1014	0 - 2 (ft) 2/18/2010	8 - 10 (ft) 2/18/2010
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.03 J	< 0.33
Benzo(a)pyrene	0.04 J	< 0.33
Benzo(b)fluoranthene	0.04 J	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ

SB-01-03	0 - 2 (ft) 2/15/2010	8 - 8.8 (ft) 2/15/2010
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33

SB-01-04	0 - 2 (ft) 2/16/2010	6.5 - 7.5 (ft) 2/16/2010	8 - 10 (ft) 2/16/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33

MW-1017	0 - 2 (ft) 7/14/2010	6 - 8 (ft) 7/14/2010	8 - 10 (ft) 7/14/2010
PCBs (mg/kg)			
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	0.03 J	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33

LEGEND:

- APPROXIMATE PROPERTY LINE
- RAILROAD
- DRAINAGE SWALE
- FENCE
- VEGETATION
- MONITORING WELL/PIEZOMETER
- SOIL BORING
- SOIL GAS LOCATION
- PRODUCTION WELL
- SUSPECTED PCB IMPACT AREA
- APPROXIMATE BENTONITE WALL LIMITS

NOTES:

1. BASEPLAN PROVIDED BY AERIAL SURVEY CONDUCTED ON 6 NOVEMBER 2009 BY AEROCON PHOTOGRAMMETRIC SERVICES AND SURVEY BY JC ANDRUS & ASSOCIATES, INC.
2. CONCENTRATIONS SHOWN IN DATABOXES ARE IN MG/KG.
3. <: RESULT IS BELOW INDICATED REPORTING LIMIT
   J: ESTIMATED RESULT
   R: REJECTED
4. ANALYTES SHOWN ARE THOSE THAT EXCEED IN ONE OR MORE SITEWIDE GROUNDWATER, SOIL, AND/OR SOIL VAPOR SAMPLES.
5. SEE SUMMARY TABLES FOR COMPLETE LIST OF ANALYTES.
6. RESULTS GREATER THAN SOIL SCREENING CRITERIA SHOWN IN RED, SPECIFIC SCREENING CRITERIA ARE INDICATED WITHIN [ ]:
   A: INDUSTRIAL DIRECT CONTACT (RSL, NOVEMBER 2012)
7. RESULTS GREATER THAN SOIL SCREENING CRITERIA ABOVE AND LESS THAN BACKGROUND ARE IN CYAN.
8. SOIL DATABOXES IN AOI-25 INCLUDE RESULTS OF ETHYLENE GLYCOL.

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SCALE IN FEET

HALEY & ALDRICH

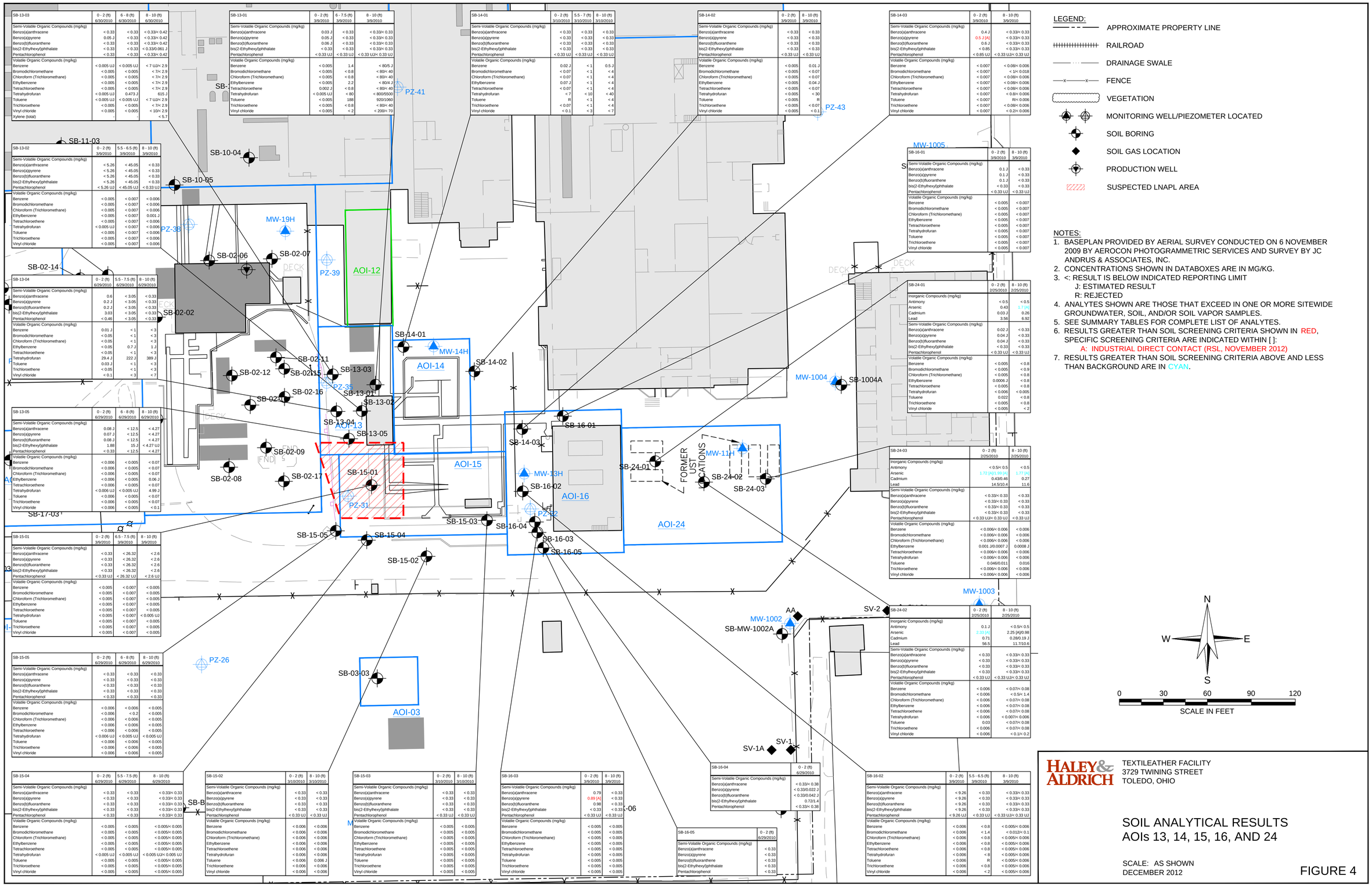
TEXTILEATHER FACILITY
3729 TWINING STREET
TOLEDO, OHIO

SOIL ANALYTICAL RESULTS
AOIs 01, 05, AND 25

SCALE: AS SHOWN
DECEMBER 2012

FIGURE 3

G:\36005 TEXTILEATHER\012 - CORRECTIVE MEASURES STUDY\CMS\CAD\36005-DATABOX-SO-D1.DWG



SB-13-03	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33/< 0.42
Benzo(a)pyrene	0.05 J	< 0.33	< 0.33/< 0.42
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33/< 0.42
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33/0.061 J
Pentachlorophenol	< 0.33	< 0.33	< 0.33/< 0.42
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.005 UJ	< 0.005 UJ	< 7 UJ/< 2.9
Bromodichloromethane	< 0.005	< 0.005	< 7/< 2.9
Chloroform (Trichloromethane)	< 0.005	< 0.005	< 7/< 2.9
Ethylbenzene	< 0.005	< 0.005	< 7/< 2.9
Tetrachloroethene	< 0.005	< 0.005	< 7/< 2.9
Tetrahydrofuran	< 0.005 UJ	0.473 J	615 J
Toluene	< 0.005 UJ	< 0.005 UJ	< 7 UJ/< 2.9
Trichloroethene	< 0.005	< 0.005	< 7/< 2.9
Vinyl chloride	< 0.005	< 0.005	< 10/< 2.9
Xylene (total)			< 5.7

SB-13-01	0 - 2 (ft) 3/9/2010	6 - 7.5 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	0.03 J	< 0.33	< 0.33/< 0.33
Benzo(a)pyrene	0.05 J	< 0.33	< 0.33/< 0.33
Benzo(b)fluoranthene	0.06 J	< 0.33	< 0.33/< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33/< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ	< 0.33 UJ/< 0.33 UJ
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.005	1.4	< 80/5 J
Bromodichloromethane	< 0.005	< 0.8	< 80/< 40
Chloroform (Trichloromethane)	< 0.005	< 0.8	< 80/< 40
Ethylbenzene	< 0.005	2.2	< 80/4 J
Tetrachloroethene	0.002 J	< 0.8	< 80/< 40
Tetrahydrofuran	< 0.005 UJ	< 80	< 800/5500
Toluene	< 0.005	188	920/1060
Trichloroethene	< 0.005	< 0.8	< 80/< 40
Vinyl chloride	< 0.005	< 2	< 200/< 70

SB-14-01	0 - 2 (ft) 3/10/2010	5.5 - 7 (ft) 3/10/2010	8 - 10 (ft) 3/10/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)			
Benzene	0.02 J	< 1	0.5 J
Bromodichloromethane	< 0.07	< 1	< 4
Chloroform (Trichloromethane)	< 0.07	< 1	< 4
Ethylbenzene	0.07 J	< 1	< 4
Tetrachloroethene	< 0.07	< 1	< 4
Tetrahydrofuran	< 7	< 10	< 40
Toluene	R	< 1	< 4
Trichloroethene	< 0.07	< 1	< 4
Vinyl chloride	< 0.1	< 3	< 7

SB-14-02	0 - 2 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	0.01 J
Bromodichloromethane	< 0.005	< 0.07
Chloroform (Trichloromethane)	< 0.005	< 0.07
Ethylbenzene	< 0.005	0.04 J
Tetrachloroethene	< 0.005	< 0.07
Tetrahydrofuran	< 0.005	< 30
Toluene	< 0.005	R
Trichloroethene	< 0.005	< 0.07
Vinyl chloride	< 0.005	< 0.1

SB-14-03	0 - 2 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.4 J	< 0.33/< 0.33
Benzo(a)pyrene	0.5 J [A]	< 0.33/< 0.33
Benzo(b)fluoranthene	0.6 J	< 0.33/< 0.33
bis(2-Ethylhexyl)phthalate	< 0.85	< 0.33/< 0.33
Pentachlorophenol	< 0.85 UJ	< 0.33 UJ/< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.007	< 0.008/< 0.006
Bromodichloromethane	< 0.007	< 1/< 0.018
Chloroform (Trichloromethane)	< 0.007	< 0.008/< 0.006
Ethylbenzene	< 0.007	< 0.008/< 0.006
Tetrachloroethene	< 0.007	< 0.008/< 0.006
Tetrahydrofuran	< 0.007	< 0.8/< 0.006
Toluene	< 0.007	R/< 0.006
Trichloroethene	< 0.007	< 0.08/< 0.006
Vinyl chloride	< 0.007	< 0.2/< 0.006

SB-13-02	0 - 2 (ft) 3/9/2010	5.5 - 6.5 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 5.26	< 45.05	< 0.33
Benzo(a)pyrene	< 5.26	< 45.05	< 0.33
Benzo(b)fluoranthene	< 5.26	< 45.05	< 0.33
bis(2-Ethylhexyl)phthalate	< 5.26	< 45.05	< 0.33
Pentachlorophenol	< 5.26 UJ	< 45.05 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.005	< 0.007	< 0.006
Bromodichloromethane	< 0.005	< 0.007	< 0.006
Chloroform (Trichloromethane)	< 0.005	< 0.007	< 0.006
Ethylbenzene	< 0.005	< 0.007	0.001 J
Tetrachloroethene	< 0.005	< 0.007	< 0.006
Tetrahydrofuran	< 0.005 UJ	< 0.007	< 0.006
Toluene	< 0.005	< 0.007	< 0.006
Trichloroethene	< 0.005	< 0.007	< 0.006
Vinyl chloride	< 0.005	< 0.007	< 0.006

SB-16-01	0 - 2 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.1 J	< 0.33
Benzo(a)pyrene	0.1 J	< 0.33
Benzo(b)fluoranthene	0.1 J	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.007
Bromodichloromethane	< 0.005	< 0.007
Chloroform (Trichloromethane)	< 0.005	< 0.007
Ethylbenzene	< 0.005	< 0.007
Tetrachloroethene	< 0.005	< 0.007
Tetrahydrofuran	< 0.005	< 0.007
Toluene	< 0.005	< 0.007
Trichloroethene	< 0.005	< 0.007
Vinyl chloride	< 0.005	< 0.007

SB-13-04	0 - 2 (ft) 6/29/2010	5.5 - 7.5 (ft) 6/29/2010	8 - 10 (ft) 6/29/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	0.6	< 3.05	< 0.33
Benzo(a)pyrene	0.2 J	< 3.05	< 0.33
Benzo(b)fluoranthene	0.2 J	< 3.05	< 0.33
bis(2-Ethylhexyl)phthalate	3.03	< 3.05	< 0.33
Pentachlorophenol	< 0.46	< 3.05	< 0.33
Volatile Organic Compounds (mg/kg)			
Benzene	0.01 J	< 1	< 3
Bromodichloromethane	< 0.05	< 1	< 3
Chloroform (Trichloromethane)	< 0.05	< 1	< 3
Ethylbenzene	< 0.05	0.7 J	1 J
Tetrachloroethene	< 0.05	< 1	< 3
Tetrahydrofuran	28.4 J	222 J	389 J
Toluene	0.03 J	< 1	< 3
Trichloroethene	< 0.05	< 1	< 3
Vinyl chloride	< 0.1	< 3	< 7

SB-24-01	0 - 2 (ft) 2/25/2010	8 - 10 (ft) 2/25/2010
Inorganic Compounds (mg/kg)		
Antimony	< 0.5	< 0.5
Arsenic	0.43	1.7 [A]
Cadmium	0.03 J	0.26
Lead	3.56	6.92
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.02 J	< 0.33
Benzo(a)pyrene	0.04 J	< 0.33
Benzo(b)fluoranthene	0.04 J	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.8
Bromodichloromethane	< 0.005	< 0.9
Chloroform (Trichloromethane)	< 0.005	< 0.8
Ethylbenzene	0.0006 J	< 0.8
Tetrachloroethene	< 0.005	< 0.8
Tetrahydrofuran	< 0.006	< 0.005
Toluene	0.022	< 0.8
Trichloroethene	< 0.005	< 0.8
Vinyl chloride	< 0.005	< 2

SB-24-03	0 - 2 (ft) 2/25/2010	8 - 10 (ft) 2/25/2010
Inorganic Compounds (mg/kg)		
Antimony	< 0.5/< 0.5	< 0.5
Arsenic	1.72 [A]/1.99 [A]	1.77 [A]
Cadmium	0.43/0.46	0.27
Lead	14.5/10.4	11.6
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33/< 0.33	< 0.33
Benzo(a)pyrene	< 0.33/< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33/< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33/< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ/< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.006/< 0.006	< 0.006
Bromodichloromethane	< 0.006/< 0.006	< 0.006
Chloroform (Trichloromethane)	< 0.006/< 0.006	< 0.006
Ethylbenzene	0.001 J/0.0007 J	0.0008 J
Tetrachloroethene	< 0.006/< 0.006	< 0.006
Tetrahydrofuran	< 0.006/< 0.006	< 0.006
Toluene	0.046/0.011	0.016
Trichloroethene	< 0.006/< 0.006	< 0.006
Vinyl chloride	< 0.006/< 0.006	< 0.006

SB-13-05	0 - 2 (ft) 6/29/2010	6 - 8 (ft) 6/29/2010	8 - 10 (ft) 6/29/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	0.08 J	< 12.5	< 4.27
Benzo(a)pyrene	0.07 J	< 12.5	< 4.27
Benzo(b)fluoranthene	0.08 J	< 12.5	< 4.27
bis(2-Ethylhexyl)phthalate	1.88	15 J	< 4.27 UJ
Pentachlorophenol	< 0.33	< 12.5	< 4.27
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.006	< 0.005	< 0.07
Bromodichloromethane	< 0.006	< 0.005	< 0.07
Chloroform (Trichloromethane)	< 0.006	< 0.005	< 0.07
Ethylbenzene	< 0.006	< 0.005	0.06 J
Tetrachloroethene	< 0.006	< 0.005	< 0.07
Tetrahydrofuran	< 0.006 UJ	< 0.005 UJ	4.99 J
Toluene	< 0.006	< 0.005	< 0.07
Trichloroethene	< 0.006	< 0.005	< 0.07
Vinyl chloride	< 0.006	< 0.005	< 0.1

SB-15-01	0 - 2 (ft) 3/9/2010	6.5 - 7.5 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 26.32	< 2.6
Benzo(a)pyrene	< 0.33	< 26.32	< 2.6
Benzo(b)fluoranthene	< 0.33	< 26.32	< 2.6
bis(2-Ethylhexyl)phthalate	< 0.33	< 26.32	< 2.6
Pentachlorophenol	< 0.33 UJ	< 26.32 UJ	< 2.6 UJ
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.005	< 0.007	< 0.005
Bromodichloromethane	< 0.005	< 0.007	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.007	< 0.005
Ethylbenzene	< 0.005	< 0.007	< 0.005
Tetrachloroethene	< 0.005	< 0.007	< 0.005
Tetrahydrofuran	< 0.005	< 0.007	< 0.005 UJ
Toluene	< 0.005	< 0.007	< 0.005
Trichloroethene	< 0.005	< 0.007	< 0.005
Vinyl chloride	< 0.005	< 0.007	< 0.005

SB-24-02	0 - 2 (ft) 2/25/2010	8 - 10 (ft) 2/25/2010
Inorganic Compounds (mg/kg)		
Antimony	0.1 J	< 0.5/< 0.5
Arsenic	2.33 [A]	2.25 [A]/0.98
Cadmium	0.71	0.28/0.19 J
Lead	56.5	11.7/10.6
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33/< 0.33
Benzo(a)pyrene	< 0.33	< 0.33/< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33/< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33/< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ/< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.006	< 0.07/< 0.08
Bromodichloromethane	< 0.006	< 0.5/< 1.4
Chloroform (Trichloromethane)	< 0.006	< 0.07/< 0.08
Ethylbenzene	< 0.006	< 0.07/< 0.08
Tetrachloroethene	< 0.006	< 0.07/< 0.08
Tetrahydrofuran	< 0.006	< 0.007/< 0.006
Toluene	0.03	< 0.07/< 0.08
Trichloroethene	< 0.006	< 0.07/< 0.08
Vinyl chloride	< 0.006	< 0.1/< 0.2

SB-15-05	0 - 2 (ft) 6/29/2010	6 - 8 (ft) 6/29/2010	8 - 10 (ft) 6/29/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.006	< 0.006	< 0.005
Bromodichloromethane	< 0.006	< 0.2	< 0.005
Chloroform (Trichloromethane)	< 0.006	< 0.006	< 0.005
Ethylbenzene	< 0.006	< 0.006	< 0.005
Tetrachloroethene	< 0.006	< 0.006	< 0.005
Tetrahydrofuran	< 0.006 UJ	< 0.005 UJ	< 0.005 UJ
Toluene	< 0.006	< 0.006	< 0.005
Trichloroethene	< 0.006	< 0.006	< 0.005
Vinyl chloride	< 0.006	< 0.006	< 0.005

SB-15-04	0 - 2 (ft) 6/29/2010	5.5 - 7.5 (ft) 6/29/2010	8 - 10 (ft) 6/29/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 0.33	< 0.33	< 0.33/< 0.33
Benzo(a)pyrene	< 0.33	< 0.33	< 0.33/< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33	< 0.33/< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33	< 0.33/< 0.33
Pentachlorophenol	< 0.33	< 0.33	< 0.33/< 0.33
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.005	< 0.005	< 0.005/< 0.005
Bromodichloromethane	< 0.005	< 0.005	< 0.005/< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005	< 0.005/< 0.005
Ethylbenzene	< 0.005	< 0.005	< 0.005/< 0.005
Tetrachloroethene	< 0.005	< 0.005	< 0.005/< 0.005
Tetrahydrofuran	< 0.005 UJ	< 0.005 UJ	< 0.005 UJ/< 0.005 UJ
Toluene	< 0.005	< 0.005	< 0.005/< 0.005
Trichloroethene	< 0.005	< 0.005	< 0.005/< 0.005
Vinyl chloride	< 0.005	< 0.005	< 0.005/< 0.005

SB-15-02	0 - 2 (ft) 3/10/2010	8 - 10 (ft) 3/10/2010
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.006	< 0.006
Bromodichloromethane	< 0.006	< 0.006
Chloroform (Trichloromethane)	< 0.006	< 0.006
Ethylbenzene	< 0.006	< 0.006
Tetrachloroethene	< 0.006	< 0.006
Tetrahydrofuran	< 0.006	< 0.006
Toluene	< 0.006	0.006 J
Trichloroethene	< 0.006	< 0.006
Vinyl chloride	< 0.006	< 0.006

SB-15-03	0 - 2 (ft) 3/10/2010	8 - 10 (ft) 3/10/2010
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	< 0.005	< 0.005
Tetrahydrofuran	< 0.005	< 0.005
Toluene	< 0.005	< 0.005
Trichloroethene	< 0.005	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-16-03	0 - 2 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	0.79	< 0.33
Benzo(a)pyrene	0.89 [A]	< 0.33
Benzo(b)fluoranthene	0.98	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33 UJ	< 0.33 UJ
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	< 0.005	< 0.005
Tetrahydrofuran	< 0.005	< 0.005
Toluene	< 0.005	< 0.005
Trichloroethene	< 0.005	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-16-04	0 - 2 (ft) 6/29/2010
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	< 0.33/< 0.38
Benzo(a)pyrene	< 0.33/0.022 J
Benzo(b)fluoranthene	< 0.33/0.042 J
bis(2-Ethylhexyl)phthalate	0.721.4
Pentachlorophenol	< 0.33/< 0.38

SB-16-05	0 - 2 (ft) 6/29/2010
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(a)anthracene	< 0.33
Benzo(a)pyrene	< 0.33
Benzo(b)fluoranthene	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33
Pentachlorophenol	< 0.33

SB-16-02	0 - 2 (ft) 3/9/2010	5.5 - 6.5 (ft) 3/9/2010	8 - 10 (ft) 3/9/2010
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	< 9.26	< 0.33	< 0.33/< 0.33
Benzo(a)pyrene	< 9.26	< 0.33	< 0.33/< 0.33
Benzo(b)fluoranthene	< 9.26	< 0.33	< 0.33/< 0.33
bis(2-Ethylhexyl)phthalate	< 9.26	< 0.33	< 0.33/< 0.33
Pentachlorophenol	< 9.26 UJ	< 0.33 UJ	< 0.33 UJ/< 0.33 UJ
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.006	< 0.8	< 0.005/< 0.006
Bromodichloromethane	< 0.006	< 1.4	< 0.012/< 0.1
Chloroform (Trichloromethane)	< 0.006	< 0.8	< 0.005/< 0.006
Ethylbenzene	< 0.006	< 0.8	< 0.005/< 0.006
Tetrachloroethene	< 0.006	< 0.8	< 0.005/< 0.006
Tetrahydrofuran	< 0.006	< 8	< 0.005/< 0.006
Toluene	< 0.006	R	< 0.005/< 0.006
Trichloroethene	< 0.006	< 0.8	< 0.005/< 0.006
Vinyl chloride	< 0.006	< 2	< 0.005/< 0.006

LEGEND:

- APPROXIMATE PROPERTY LINE
- RAILROAD
- DRAINAGE SWALE
- FENCE
- VEGETATION
- MONITORING WELL/PIEZOMETER LOCATED
- SOIL BORING
- SOIL GAS LOCATION
- PRODUCTION WELL
- SUSPECTED LNAPL AREA

NOTES:

1. BASEPLAN PROVIDED BY AERIAL SURVEY CONDUCTED ON 6 NOVEMBER 2009 BY AEROCON PHOTOGRAMMETRIC SERVICES AND SURVEY BY JC ANDRUS & ASSOCIATES, INC.
2. CONCENTRATIONS SHOWN IN DATABOXES ARE IN MG/KG.
3. <: RESULT IS BELOW INDICATED REPORTING LIMIT
   J: ESTIMATED RESULT
   R: REJECTED
4. ANALYTES SHOWN ARE THOSE THAT EXCEED IN ONE OR MORE SITEWIDE GROUNDWATER, SOIL, AND/OR SOIL VAPOR SAMPLES.
5. SEE SUMMARY TABLES FOR COMPLETE LIST OF ANALYTES.
6. RESULTS GREATER THAN SOIL SCREENING CRITERIA SHOWN IN RED, SPECIFIC SCREENING CRITERIA ARE INDICATED WITHIN [ ]:
   A: INDUSTRIAL DIRECT CONTACT (RSL, NOVEMBER 2012)
7. RESULTS GREATER THAN SOIL SCREENING CRITERIA ABOVE AND LESS THAN BACKGROUND ARE IN CYAN.

HALEY & ALDRICH

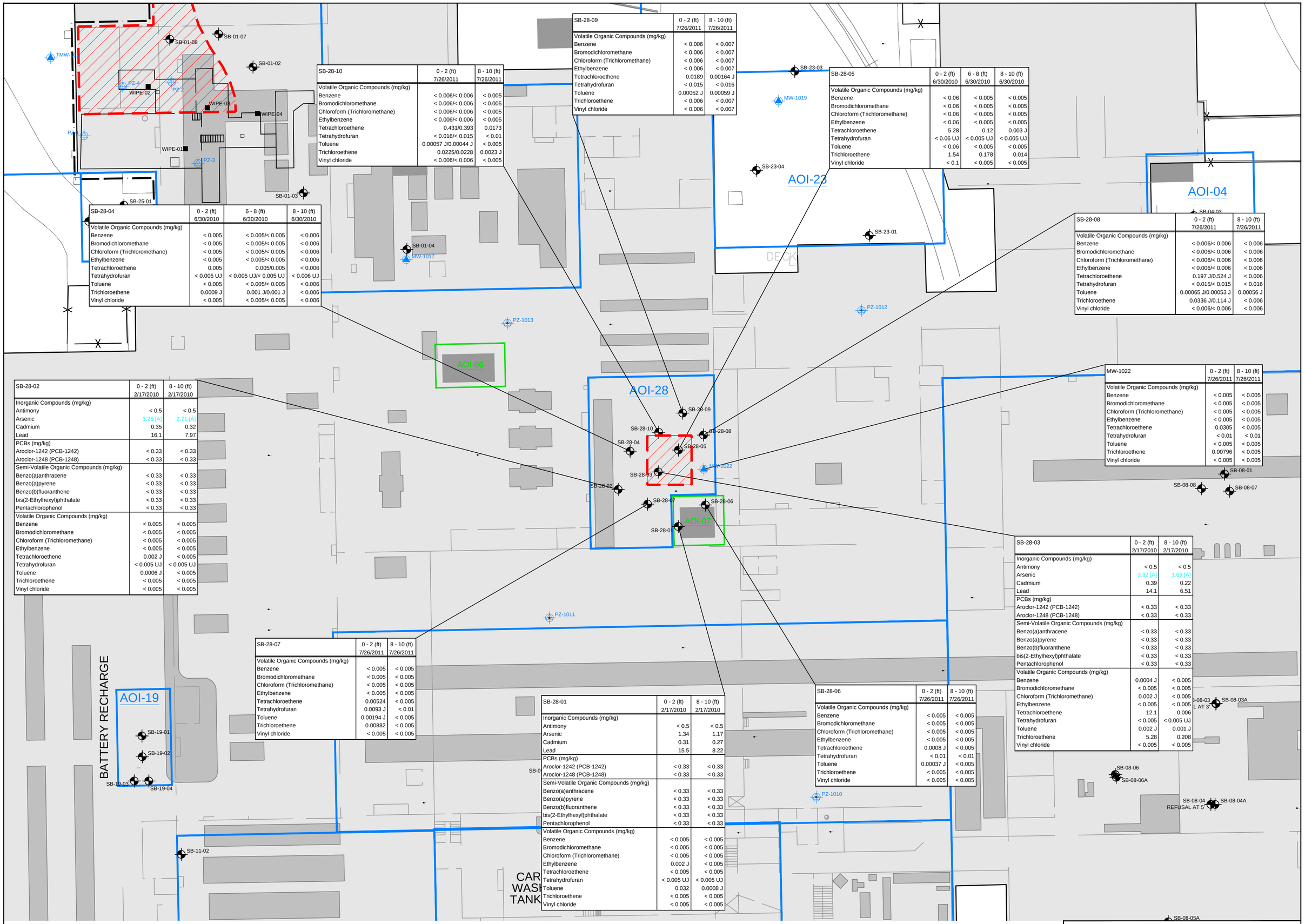
TEXTILEATHER FACILITY
3729 TWINING STREET
TOLEDO, OHIO

SOIL ANALYTICAL RESULTS AOIs 13, 14, 15, 16, AND 24

SCALE: AS SHOWN
DECEMBER 2012

FIGURE 4

G:\36005 TEXTILEATHER\012 - CORRECTIVE MEASURES STUDY\CMS\CAD\36005-DATABOX-SO-D1.DWG



SB-28-09	0 - 2 (ft) 7/26/2011	8 - 10 (ft) 7/26/2011
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.006	< 0.007
Bromodichloromethane	< 0.006	< 0.007
Chloroform (Trichloromethane)	< 0.006	< 0.007
Ethylbenzene	< 0.006	< 0.007
Tetrachloroethene	0.0189	0.00164 J
Tetrahydrofuran	< 0.015	< 0.016
Toluene	0.00052 J	0.00059 J
Trichloroethene	< 0.006	< 0.007
Vinyl chloride	< 0.006	< 0.007

SB-28-10	0 - 2 (ft) 7/26/2011	8 - 10 (ft) 7/26/2011
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.006/< 0.006	< 0.005
Bromodichloromethane	< 0.006/< 0.006	< 0.005
Chloroform (Trichloromethane)	< 0.006/< 0.006	< 0.005
Ethylbenzene	< 0.006/< 0.006	< 0.005
Tetrachloroethene	0.431/0.393	0.0173
Tetrahydrofuran	< 0.016/< 0.015	< 0.01
Toluene	0.00057 J/0.00044 J	< 0.005
Trichloroethene	0.0225/0.0228	0.0023 J
Vinyl chloride	< 0.006/< 0.006	< 0.005

SB-28-05	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.06	< 0.005	< 0.005
Bromodichloromethane	< 0.06	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.06	< 0.005	< 0.005
Ethylbenzene	< 0.06	< 0.005	< 0.005
Tetrachloroethene	5.28	0.12	0.003 J
Tetrahydrofuran	< 0.06 UJ	< 0.005 UJ	< 0.005 UJ
Toluene	< 0.06	< 0.005	< 0.005
Trichloroethene	1.54	0.178	0.014
Vinyl chloride	< 0.1	< 0.005	< 0.005

SB-28-04	0 - 2 (ft) 6/30/2010	6 - 8 (ft) 6/30/2010	8 - 10 (ft) 6/30/2010
Volatile Organic Compounds (mg/kg)			
Benzene	< 0.005	< 0.005/< 0.005	< 0.006
Bromodichloromethane	< 0.005	< 0.005/< 0.005	< 0.006
Chloroform (Trichloromethane)	< 0.005	< 0.005/< 0.005	< 0.006
Ethylbenzene	< 0.005	< 0.005/< 0.005	< 0.006
Tetrachloroethene	0.005	0.005/0.005	< 0.006
Tetrahydrofuran	< 0.005 UJ	< 0.005 UJ/< 0.005 UJ	< 0.006 UJ
Toluene	< 0.005	< 0.005/< 0.005	< 0.006
Trichloroethene	0.0009 J	0.001 J/0.001 J	< 0.006
Vinyl chloride	< 0.005	< 0.005/< 0.005	< 0.006

SB-28-08	0 - 2 (ft) 7/26/2011	8 - 10 (ft) 7/26/2011
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.006/< 0.006	< 0.006
Bromodichloromethane	< 0.006/< 0.006	< 0.006
Chloroform (Trichloromethane)	< 0.006/< 0.006	< 0.006
Ethylbenzene	< 0.006/< 0.006	< 0.006
Tetrachloroethene	0.197 J/0.524 J	< 0.006
Tetrahydrofuran	< 0.015/< 0.015	< 0.016
Toluene	0.00065 J/0.00053 J	0.00056 J
Trichloroethene	0.0336 J/0.114 J	< 0.006
Vinyl chloride	< 0.006/< 0.006	< 0.006

MW-1022	0 - 2 (ft) 7/26/2011	8 - 10 (ft) 7/26/2011
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	0.0305	< 0.005
Tetrahydrofuran	< 0.01	< 0.01
Toluene	< 0.005	< 0.005
Trichloroethene	0.00796	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-28-02	0 - 2 (ft) 2/17/2010	8 - 10 (ft) 2/17/2010
Inorganic Compounds (mg/kg)		
Antimony	< 0.5	< 0.5
Arsenic	3.25 [A]	2.71 [A]
Cadmium	0.35	0.32
Lead	16.1	7.97
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	0.002 J	< 0.005
Tetrahydrofuran	< 0.005 UJ	< 0.005 UJ
Toluene	0.0006 J	< 0.005
Trichloroethene	< 0.005	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-28-03	0 - 2 (ft) 2/17/2010	8 - 10 (ft) 2/17/2010
Inorganic Compounds (mg/kg)		
Antimony	< 0.5	< 0.5
Arsenic	3.92 [A]	1.69 [A]
Cadmium	0.39	0.22
Lead	14.1	6.51
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33
Volatile Organic Compounds (mg/kg)		
Benzene	0.0004 J	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	0.002 J	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	12.1	0.006
Tetrahydrofuran	< 0.005	< 0.005 UJ
Toluene	0.002 J	0.001 J
Trichloroethene	5.28	0.208
Vinyl chloride	< 0.005	< 0.005

SB-28-07	0 - 2 (ft) 7/26/2011	8 - 10 (ft) 7/26/2011
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	0.00524	< 0.005
Tetrahydrofuran	0.0093 J	< 0.01
Toluene	0.00194 J	< 0.005
Trichloroethene	0.00882	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-28-01	0 - 2 (ft) 2/17/2010	8 - 10 (ft) 2/17/2010
Inorganic Compounds (mg/kg)		
Antimony	< 0.5	< 0.5
Arsenic	1.34	1.17
Cadmium	0.31	0.27
Lead	15.5	8.22
PCBs (mg/kg)		
Aroclor-1242 (PCB-1242)	< 0.33	< 0.33
Aroclor-1248 (PCB-1248)	< 0.33	< 0.33
Semi-Volatile Organic Compounds (mg/kg)		
Benzo(a)anthracene	< 0.33	< 0.33
Benzo(a)pyrene	< 0.33	< 0.33
Benzo(b)fluoranthene	< 0.33	< 0.33
bis(2-Ethylhexyl)phthalate	< 0.33	< 0.33
Pentachlorophenol	< 0.33	< 0.33
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	0.002 J	< 0.005
Tetrachloroethene	< 0.005	< 0.005
Tetrahydrofuran	< 0.005 UJ	< 0.005 UJ
Toluene	0.032	0.0008 J
Trichloroethene	< 0.005	< 0.005
Vinyl chloride	< 0.005	< 0.005

SB-28-06	0 - 2 (ft) 7/26/2011	8 - 10 (ft) 7/26/2011
Volatile Organic Compounds (mg/kg)		
Benzene	< 0.005	< 0.005
Bromodichloromethane	< 0.005	< 0.005
Chloroform (Trichloromethane)	< 0.005	< 0.005
Ethylbenzene	< 0.005	< 0.005
Tetrachloroethene	0.0008 J	< 0.005
Tetrahydrofuran	< 0.01	< 0.01
Toluene	0.00037 J	< 0.005
Trichloroethene	< 0.005	< 0.005
Vinyl chloride	< 0.005	< 0.005

LEGEND:

- APPROXIMATE PROPERTY LINE
- RAILROAD
- DRAINAGE SWALE
- FENCE
- VEGETATION
- MONITORING WELL/PIEZOMETER
- SOIL BORING
- SOIL GAS LOCATION
- PRODUCTION WELL
- APPROXIMATE VOC IMPACT AREA

NOTES:

1. BASEPLAN PROVIDED BY AERIAL SURVEY CONDUCTED ON 6 NOVEMBER 2009 BY AEROCON PHOTOGRAMMETRIC SERVICES AND SURVEY BY JC ANDRUS & ASSOCIATES, INC.
2. CONCENTRATIONS SHOWN IN DATABOXES ARE IN MG/KG.
3. <: RESULT IS BELOW INDICATED REPORTING LIMIT
   J: ESTIMATED RESULT
   R: REJECTED
4. ANALYTES SHOWN ARE THOSE THAT EXCEED IN ONE OR MORE SITEWIDE GROUNDWATER, SOIL, AND/OR SOIL VAPOR SAMPLES.
5. SEE SUMMARY TABLES FOR COMPLETE LIST OF ANALYTES.
6. RESULTS GREATER THAN SOIL SCREENING CRITERIA SHOWN IN RED, SPECIFIC SCREENING CRITERIA ARE INDICATED WITHIN [ ]:
   A: INDUSTRIAL DIRECT CONTACT (RSL, NOVEMBER 2012)
7. RESULTS GREATER THAN SOIL SCREENING CRITERIA ABOVE AND LESS THAN BACKGROUND ARE IN CYAN.

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SCALE IN FEET

HALEY & ALDRICH

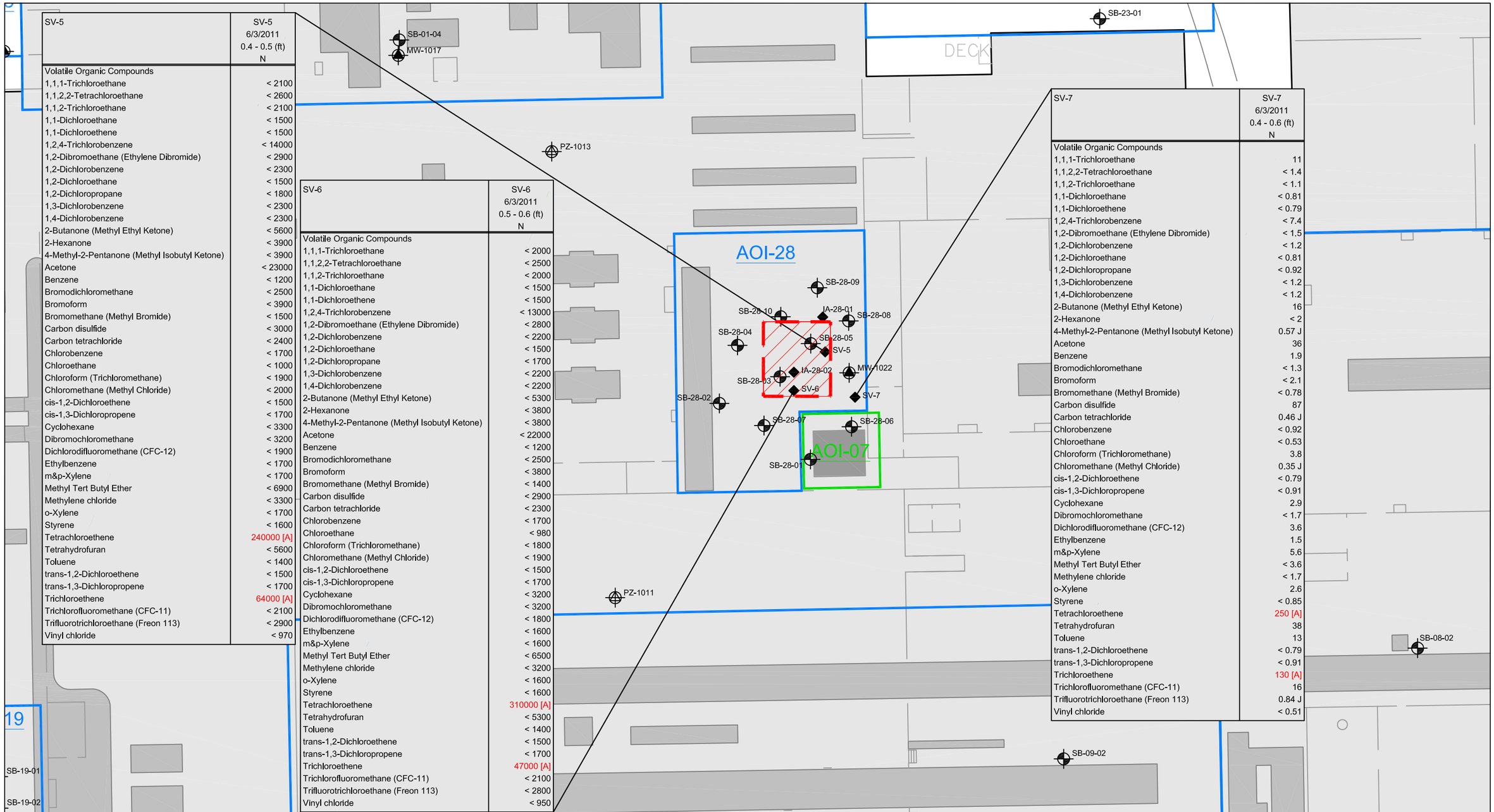
TEXTILEATHER FACILITY
3729 TWINING STREET
TOLEDO, OHIO

SOIL ANALYTICAL RESULTS
AOI-28

SCALE: AS SHOWN
DECEMBER 2012

FIGURE 5

G:\36005 TEXTILEATHER\012 - CORRECTIVE MEASURES STUDY\CMS\CAD\36005-DATABOX-SO-D1.DWG



SV-5	SV-5 6/3/2011 0.4 - 0.5 (ft) N
Volatile Organic Compounds	
1,1,1-Trichloroethane	< 2100
1,1,2,2-Tetrachloroethane	< 2600
1,1,2-Trichloroethane	< 2100
1,1-Dichloroethane	< 1500
1,1-Dichloroethene	< 1500
1,2,4-Trichlorobenzene	< 14000
1,2-Dibromoethane (Ethylene Dibromide)	< 2900
1,2-Dichlorobenzene	< 2300
1,2-Dichloroethane	< 1500
1,2-Dichloropropane	< 1800
1,3-Dichlorobenzene	< 2300
1,4-Dichlorobenzene	< 2300
2-Butanone (Methyl Ethyl Ketone)	< 5600
2-Hexanone	< 3900
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	< 3900
Acetone	< 23000
Benzene	< 1200
Bromodichloromethane	< 2500
Bromoform	< 3900
Bromomethane (Methyl Bromide)	< 1500
Carbon disulfide	< 3000
Carbon tetrachloride	< 2400
Chlorobenzene	< 1700
Chloroethane	< 1000
Chloroform (Trichloromethane)	< 1900
Chloromethane (Methyl Chloride)	< 2000
cis-1,2-Dichloroethene	< 1500
cis-1,3-Dichloropropene	< 1700
Cyclohexane	< 3300
Dibromochloromethane	< 3200
Dichlorodifluoromethane (CFC-12)	< 1900
Ethylbenzene	< 1700
m&p-Xylene	< 1700
Methyl Tert Butyl Ether	< 6900
Methylene chloride	< 3300
o-Xylene	< 1700
Styrene	< 1600
Tetrachloroethene	240000 [A]
Tetrahydrofuran	< 5600
Toluene	< 1400
trans-1,2-Dichloroethene	< 1500
trans-1,3-Dichloropropene	< 1700
Trichloroethene	64000 [A]
Trichlorofluoromethane (CFC-11)	< 2100
Trifluorotrichloroethane (Freon 113)	< 2900
Vinyl chloride	< 970

SV-6	SV-6 6/3/2011 0.5 - 0.6 (ft) N
Volatile Organic Compounds	
1,1,1-Trichloroethane	< 2000
1,1,2,2-Tetrachloroethane	< 2500
1,1,2-Trichloroethane	< 2000
1,1-Dichloroethane	< 1500
1,1-Dichloroethene	< 1500
1,2,4-Trichlorobenzene	< 13000
1,2-Dibromoethane (Ethylene Dibromide)	< 2800
1,2-Dichlorobenzene	< 2200
1,2-Dichloroethane	< 1500
1,2-Dichloropropane	< 1700
1,3-Dichlorobenzene	< 2200
1,4-Dichlorobenzene	< 2200
2-Butanone (Methyl Ethyl Ketone)	< 5300
2-Hexanone	< 3800
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	< 3800
Acetone	< 22000
Benzene	< 1200
Bromodichloromethane	< 2500
Bromoform	< 3800
Bromomethane (Methyl Bromide)	< 1400
Carbon disulfide	< 2900
Carbon tetrachloride	< 2300
Chlorobenzene	< 1700
Chloroethane	< 980
Chloroform (Trichloromethane)	< 1800
Chloromethane (Methyl Chloride)	< 1900
cis-1,2-Dichloroethene	< 1500
cis-1,3-Dichloropropene	< 1700
Cyclohexane	< 3200
Dibromochloromethane	< 3200
Dichlorodifluoromethane (CFC-12)	< 1800
Ethylbenzene	< 1600
m&p-Xylene	< 1600
Methyl Tert Butyl Ether	< 6500
Methylene chloride	< 3200
o-Xylene	< 1600
Styrene	< 1600
Tetrachloroethene	310000 [A]
Tetrahydrofuran	< 5300
Toluene	< 1400
trans-1,2-Dichloroethene	< 1500
trans-1,3-Dichloropropene	< 1700
Trichloroethene	47000 [A]
Trichlorofluoromethane (CFC-11)	< 2100
Trifluorotrichloroethane (Freon 113)	< 2800
Vinyl chloride	< 950

SV-7	SV-7 6/3/2011 0.4 - 0.6 (ft) N
Volatile Organic Compounds	
1,1,1-Trichloroethane	11
1,1,2,2-Tetrachloroethane	< 1.4
1,1,2-Trichloroethane	< 1.1
1,1-Dichloroethane	< 0.81
1,1-Dichloroethene	< 0.79
1,2,4-Trichlorobenzene	< 7.4
1,2-Dibromoethane (Ethylene Dibromide)	< 1.5
1,2-Dichlorobenzene	< 1.2
1,2-Dichloroethane	< 0.81
1,2-Dichloropropane	< 0.92
1,3-Dichlorobenzene	< 1.2
1,4-Dichlorobenzene	< 1.2
2-Butanone (Methyl Ethyl Ketone)	16
2-Hexanone	< 2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	0.57 J
Acetone	36
Benzene	1.9
Bromodichloromethane	< 1.3
Bromoform	< 2.1
Bromomethane (Methyl Bromide)	< 0.78
Carbon disulfide	87
Carbon tetrachloride	0.46 J
Chlorobenzene	< 0.92
Chloroethane	< 0.53
Chloroform (Trichloromethane)	3.8
Chloromethane (Methyl Chloride)	0.35 J
cis-1,2-Dichloroethene	< 0.79
cis-1,3-Dichloropropene	< 0.91
Cyclohexane	2.9
Dibromochloromethane	< 1.7
Dichlorodifluoromethane (CFC-12)	3.6
Ethylbenzene	1.5
m&p-Xylene	5.6
Methyl Tert Butyl Ether	< 3.6
Methylene chloride	< 1.7
o-Xylene	2.6
Styrene	< 0.85
Tetrachloroethene	250 [A]
Tetrahydrofuran	38
Toluene	13
trans-1,2-Dichloroethene	< 0.79
trans-1,3-Dichloropropene	< 0.91
Trichloroethene	130 [A]
Trichlorofluoromethane (CFC-11)	16
Trifluorotrichloroethane (Freon 113)	0.84 J
Vinyl chloride	< 0.51

LEGEND:

- APPROXIMATE PROPERTY LINE
- RAILROAD
- DRAINAGE SWALE
- FENCE
- VEGETATION
- MONITORING WELL/PIEZOMETER
- SOIL BORING
- SOIL GAS LOCATION
- PRODUCTION WELL
- APPROXIMATE VOC IMPACT AREA

NOTES:

1. BASEPLAN PROVIDED BY CRA's eDAT DATABASE.
2. DATABOX RESULT UNITS ARE UG/M3.
3. <: RESULT IS BELOW INDICATED REPORTING LIMIT
   J: ESTIMATED RESULT
   R: REJECTED
4. SAMPLE TYPE CODES ARE INCLUDED IN THE COLUMN HEADERS OF THE DATABOXES BELOW THE SAMPLE DEPTH AND ARE ARE DESCRIBED AS FOLLOWS:
   N: NORMAL SAMPLE
   FR: FIELD REPLICATE
5. RESULTS GREATER THAN SHALLOW GAS SCREENING CRITERIA SHOWN IN RED, SPECIFIC SCREENING CRITERIA ARE INDICATED WITHIN [ ]:
   A: COMMERCIAL VISLs FOR TARGET SUB-SLAB AND EXTERIOR SOIL GAS CONCENTRATIONS (MAY 2012 RSLs)

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SCALE IN FEET

HALEY & ALDRICH

TEXTILEATHER FACILITY
3729 TWINING STREET
TOLEDO, OHIO

SOIL GAS ANALYTICAL RESULTS
AOI-28

SCALE: AS SHOWN
DECEMBER 2012

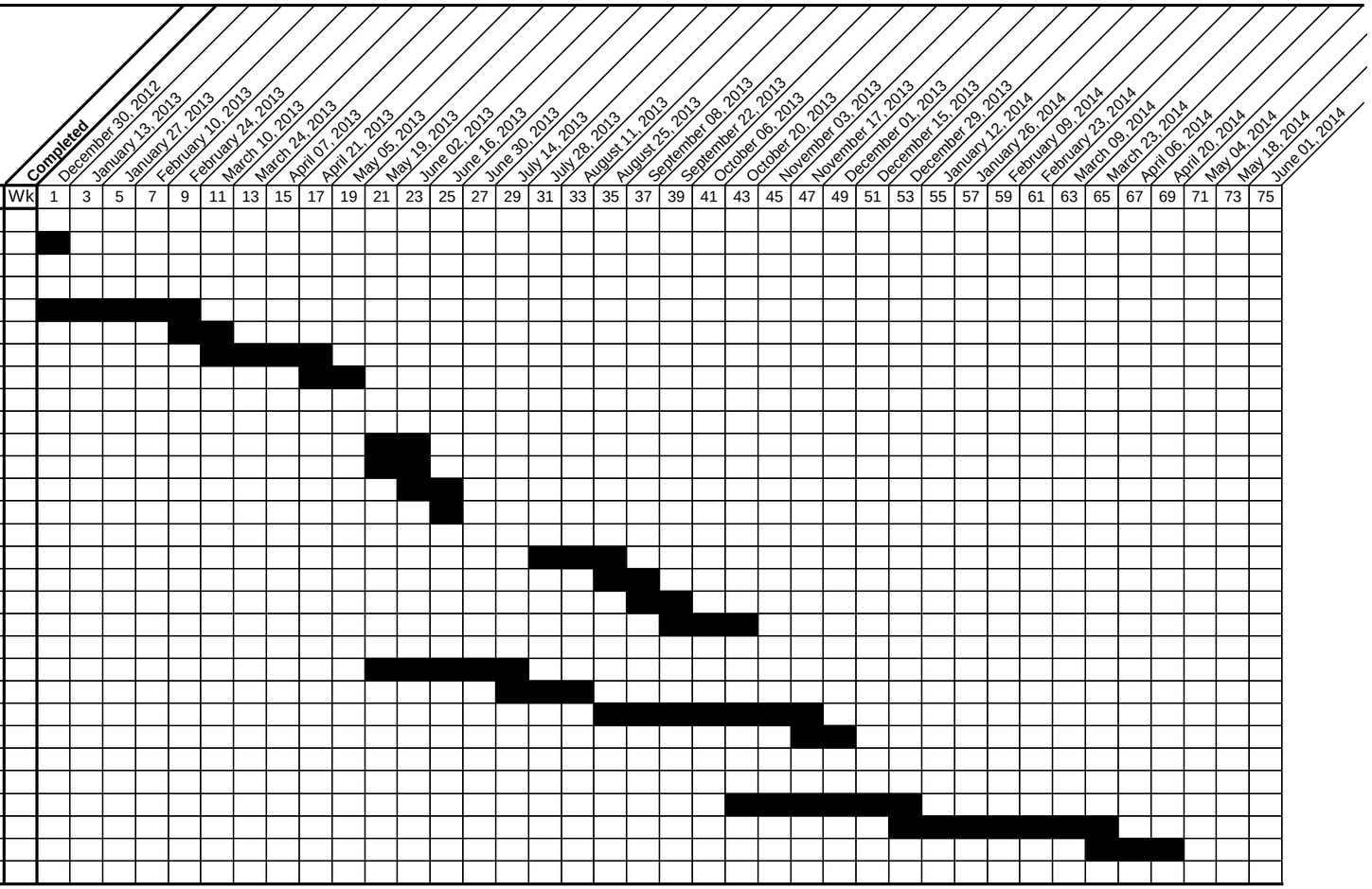
FIGURE 6

G:\36005 TEXTILEATHER\012 - CORRECTIVE MEASURES STUDY\CMS\CAD\36005-DATABOX-GS-AOI28.DWG

FIGURE 7
PROPOSED SCHEDULE OF CORRECTIVE MEASURES IMPLEMENTATION

TEXTILEATHER RCRA CORRECTIVE ACTION
TOLEDO, OHIO

Task ID	Project Tasks and Milestones	Dates Start	Dates Finish
1	**Corrective Measures Study Submittal**		
	Submission of CMS	12/31/12 Mon	12/31/12 Mon
2	**Agency Review and Acceptance**		
	U.S. EPA Review of CMS and Discussions	01/02/13 Wed	03/04/13 Mon
	U.S. EPA Prepares Statement of Basis	03/04/13 Mon	03/18/13 Mon
	U.S. EPA Public Notification of Selected Remedies	03/18/13 Mon	05/03/13 Fri
	U.S. EPA Issues Final Decision and Response to Comments	05/03/13 Fri	05/17/13 Fri
3	**Corrective Measures Implementation**		
	Corrective Measures Work Plan	05/20/13 Mon	06/03/13 Mon
	Prepare Bid Specification Based on Submitted CMS	05/20/13 Mon	06/03/13 Mon
	Submit Bid Specifications to Contractors	06/03/13 Mon	06/24/13 Mon
	Contractor Selection	06/24/13 Mon	06/29/13 Sat
	Excavation, Confirmation Sampling & Backfill		
	AOI-01	07/29/13 Mon	08/30/13 Fri
	AOI-28	09/02/13 Mon	09/11/13 Wed
	AOI-15	09/11/13 Wed	09/25/13 Wed
	AOI-14 UST Closure/Removal	09/25/13 Wed	10/24/13 Thu
	Site Wide Use Restrictions		
	Draft Deed Restrictions	05/20/13 Mon	07/22/13 Mon
	U.S. EPA Review of Draft Deed Restrictions	07/22/13 Mon	08/23/13 Fri
	Finalize Deed Restrictions	08/26/13 Mon	11/25/13 Mon
	Record Deed Restrictions	11/25/13 Mon	12/06/13 Fri
4	**Remedy Construction Completion Report**		
	Report Preparation and Submission	10/24/13 Thu	12/31/13 Tue
	U.S. EPA Review and Approval	12/31/13 Tue	03/31/14 Mon
	U.S. EPA Corrective Action Complete With Controls Determination	03/31/14 Mon	04/30/14 Wed



Notes:
*Anticipated Schedule is based on Agency approval within 60 days of submittal of CMS