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Soil Management Plan

OU1, Modified Zone 1, USS Lead Superfund Property
East Chicago, Indiana

March 2023

Prepared for:
Industrial Development Advantage of
East Chicago, LLC
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Contents

Figures

Appendices

List of Acronyms

ARARs	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
BGS	Below ground surface
COC	Contaminant of concern
CY	Cubic Yard
DHHS	Department of Health and Human Services
ECHA	East Chicago Housing Authority
EPA	U.S. Environmental Protection Agency
FS	Feasibility Study
HASP	Health and Safety Plan
HUD	Housing and Urban Development
IARC	International Agency for Research on Cancer
IC	Institutional Controls
ICS	Incremental Composite Sampling
IDA	Industrial Development Advantage of East Chicago, LLC
JHA	Job Hazard Analysis
mg/kg	Milligrams per kilograms
OU	Operable Unit
PPE	Personal protective equipment
ppm	Parts per million
RA	Remedial Action
RAL	Remedial Action Level
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
ROD	Record of Decision
RODA	Record of Decision Amendment
RI	Remedial Investigation
Site	USS Lead OU1 Modified Zone 1
SOW	Statement of Work
SMP	Soil Management Plan
TCLP	Toxicity Characteristic Leaching Procedure
USS Lead	U.S. Smelter and Lead Refinery, Inc.
WCHC	West Calumet Housing Complex

1.0 Introduction

Verdantas LLC (Verdantas) has prepared this Soil Management Plan (SMP) on behalf of Industrial Development Advantage of East Chicago, LLC (IDA) "Purchaser", of a portion of Operable Unit 1 (OU1), Modified Zone 1 of the U.S. Smelter and Lead Refinery, Inc. Superfund Site (USS Lead) located in East Chicago, Indiana purchased by the Purchaser (Property). OU1 Modified Zone 1 is defined in Section III of the Administrative Settlement Agreement for Remedial Action by Prospective Purchaser ("Settlement"). For definition purposes throughout this document and the companion OU1 planning documents, the term "Property" is used consistent with the definition in the Settlement to solely refer to the portion of "Modified Zone 1" purchased by the Purchaser in OU1. OU1 Modified Zone 1 encompasses the former West Calumet Housing Complex (WCHC), Goodman Park and adjacent utility corridor, generally bound by the former Carrie Gosch School to the north, East 151st Street to the south, McCook Avenue to the east and the Indiana Harbor Canal to the west (referred to as OU1 modified Zone 1). The Property Location is shown on Figure 1 and the Property Map is shown on Figure 2.

This SMP was prepared in connection with the Remedial Design/Remedial Action (RD/RA) Work Plan for the Property (Verdantas Document No. 15773.0001). The contaminants of concern (COCs) at the Property are lead and arsenic in soil. This SMP describes the activities required to control exposure to lead and arsenic contamination in Property soil and to protect human health and the environment during post-remedy related construction at the Property.

The responsibility for implementing this SMP belongs to the current operator(s) of the Property, which for purposes of this report, shall mean any current/future owner of any interest in the Property or any portion thereof, including, but not limited to, owners of an interest in fee simple, mortgagees, easement holders, and/or lessees of Property, collectively referred to herein as the "Operator(s)".

1.1 Background

The U.S. Smelter and Lead Refinery, Inc. Superfund Site is located in the City of East Chicago, Indiana and was placed on the National Priorities List (NPL) in April 2009. EPA divided the Superfund Site into two OUs. OU1 is a predominantly residential neighborhood, which is generally bounded on the north by East Chicago Avenue, on the east by Parrish Avenue, on the south by East 151st Street/149th Place, and on the west by the Indiana Harbor Canal. OU1 has been further subdivided into Zones 1, 2, and 3. OU-2 includes the surface and subsurface of the 79-acre former USS Lead facility as well as groundwater beneath the entire Site.

The former Anaconda Lead Products and International Lead Refining Company is included as part of the U.S. Smelter and Lead Refinery, Inc. Superfund Site. The former Anaconda Lead Products and International Lead Refining Company occupied the OU1 modified Zone 1 Property from at least the early 20th century until the early 1970's. The Anaconda facility operated three inter-related processes. In 1912, a lead refinery was built on the Anaconda facility, which used a pyrometallurgical process to refine lead bullion. In 1919, a white lead plant was constructed at the Anaconda facility to produce white lead for use as an ingredient in lead paint. Finally, in 1922, a zinc oxide plant was added to the Anaconda facility. These facilities consisted of a pulverizing mill, white-lead storage areas, a chemical laboratory, a machine shop, a zinc-oxide experimental unit building and plant, a silver refinery, a lead refinery, a baghouse, and other miscellaneous buildings and processing areas. Byproducts of these operations included slag, lead waste, and arsenic. Significant quantities of lead were refined at the Anaconda facility from 1912 until 1946, when Anaconda Copper Mining Company sold the Anaconda facility to Eagle-Picher Company.

Eagle-Picher Company appears to have continued operations at the Anaconda facility until at least 1952, though the extent of its operations is largely unknown. Sometime between 1952 and 1970, the Anaconda facility was demolished.

In the early 1970s, the West Calumet Housing Complex (WCHC) was constructed within the footprint of the former Anaconda facility and was used for multi-family, low-income housing, and recreation until 2018. In 2018, utilities were disconnected and capped, and the West Calumet Housing Complex (WCHC) housing complex was demolished due to elevated arsenic and lead in soils. Following demolition of the WCHC and surface infrastructure during the summer of 2018, the Site no longer contains structures or drives with the exception of a maintenance building and associated parking lot owned by the East Chicago Housing Authority in the east-central portion of the Site and well as a tennis/basketball court and asphalt parking lot in Goodman Park. On May 26, 2020, the East Chicago City Council approved rezoning the Property to an industrial land use.

1.1.1 Remedial Investigations and Studies

Extensive sampling and limited removal of shallow soils within the Site has been on-going since 2003. Previous investigations are summarized in detail in the June 2012 Remedial Investigation (RI) Report and Feasibility Study (FS) for the U.S. Smelter and Lead Refinery, Inc. Superfund Site and the August 2018 Feasibility Study for U.S. Smelter and Lead Refinery, Inc. Superfund Site OU1 Zone 1 each report prepared by SulTRACT.

Based on investigations between June 2009 and June 2012 and on the corresponding feasibility study, EPA issued its ROD for OU1 on November 30, 2012. The major components of the original remedy chosen in November 2012 called for the excavation of contaminated soils down to two feet, the off-site disposal of the soils in an appropriate landfill, placement of a demarcation barrier, the restoration of the excavated properties, and the imposition of institutional controls (ICs). The 2012 ROD anticipated that hardscapes would remain in-place and soils beneath hardscapes would not be remediated. The RALs established for residential land use are 400 ppm lead and 26 ppm arsenic.

Remedy design work was performed by EPA between November 2014 and April 2016 to determine the extent of contamination in the yards of the individual properties. EPA collected approximately 1,000 soil samples from various depths within Zone 1 and determined that the majority of all WCHC yards required remediation. The findings were provided to the East Chicago Housing Authority (ECHA) and to the City of East Chicago and the City made a decision recommending relocating the residents from the WCHC ECHA subsequently applied to the US Department of Housing and Urban Development (HUD) for approval and funding to demolish the WCHC in 2016 which was later granted in 2017 by HUD. Based on these developments, EPA implemented interim risk mitigation measures to protect residents. In 2018 the WCHC was demolished. These changes within modified Zone 1 resulted in EPA preparing an addendum to the 2012 Feasibility Study in 2018 and issue the March 2020 ROD Amendment. The ROD Amendment only applies to modified Zone 1 of the USS Lead Site and only address soil and not groundwater, other than identifying the need for groundwater use restrictions if soil above action levels is left in place at depth at the facility. Based on communications with the City, EPA has concluded it is likely that the end use of modified Zone 1will change from residential to commercial/industrial and the ROD Amendment should reflect the possibility of a change in land use. On May 26, 2020, the East Chicago City Council approved rezoning the Property to an industrial land use. To be protective for commercial/industrial usage, all soils within modified Zone 1 above the RALs for lead (800 ppm) and arsenic (26 ppm) will be excavated down to 12 inches bgs and disposed at an appropriate landfill and the areas restored with clean backfill.

In November 2020, Verdantas implemented the Decision Unit Sampling Work Plan for OU1 modified Zone 1. Sampling was based on a Geospatial Sample/Incremental Composite Sampling (ICS) Design with the Property divided into 55 Decision Units as shown on the attached Figure. Within each decision unit, sub-sample locations were arrayed in a "five on a die" pattern for compositing five (5) 0.0 to 1.0-foot depth interval sub-samples into a single sample within each decision unit for laboratory analysis of total arsenic and total lead. As the maintenance building and parking lot in the east-central portion of the Property will remain post-development and soil beneath the hardscape materials will not be excavated, the sampling pattern was modified such that sub-samples were collected from existing green space areas in affected decision units per the approved work plan. Triplicate sub-samples were collected within nine (9) of the decision units for statistical evaluation for determining a confidence level. Each composited decision unit sample was also analyzed for toxicity characteristic leaching procedure (TCLP) extraction for arsenic and lead to assist with determining the need for on-Property treatment (e.g., stabilization) prior to off-Property disposal, as applicable.

Using the data from the Decision Unit sampling in November 2020, a statistical evaluation of the data was performed by USEPA in which a 95% Confidence Interval was calculated using the global variance of the triplicate results. This provides a threshold value where there is 95% confidence that Decision Unit results less than 19 mg/kg for arsenic and 787 mg/kg for lead can be considered less than the RAL of 26 mg/kg for arsenic and 800 mg/kg for lead established in the ROD Amendment (EPA, 2020) for commercial/industrial land use (Alternate 4A).

Using the established statistically criteria, 13 Decision Units required no action, 10 Decision Units exceeded for lead only, five Decision Units exceeded for Arsenic only, and 27 Decision Units exceeded for both arsenic and lead. Based on this sampling, a total of 64,570 cubic yards of material to a depth of 1 foot will be excavated and properly disposed and that 36,228 cubic yards of this amount exceeds the lead threshold of 5 mg/L for characteristically hazardous and will require stabilization prior to excavation and disposal to render the material non-hazardous. An additional, 3,450 cubic yards will be stabilized in two of the decision units that met the statistical criteria for arsenic and lead by exceeded the TCLP threshold for lead.

A complete list of all documents completed for the USS Lead Superfund Site can be found online in the Administrative Records Collection at https://semspub.epa.gov/src/collections/05/AR62604.

1.2 Purpose of the Soil Management Plan

The purpose of this SMP is to outline mitigation measures to prevent exposures to remaining contaminated soil during post remedial construction activities at the Property and to provide guidance for the management of contaminated soil and other materials which may be encountered during construction such as former utilities, and/or demolition debris from the former WCHC or former USS Lead facility. This SMP has been developed for the protection of both commercial/industrial workers to surface soils and the construction/excavation workers involved in intrusive activities at the Property who may come into contact with COCs. This SMP contains a two-phased approach to meet these objectives, including risk mitigation measures and the handling and disposal of soil and excavated materials at the Property.

Risk Mitigation Measures
Construction/excavation workers are anticipated to be involved in intrusive subsurface activities during construction or excavation activities within the Remediation Area and may come in contact with soil. Risk mitigation measures have therefore been designed to protect these workers. Risk mitigation measures will be implemented as administrative controls, as provided by the Operator (i.e., current owner or lessee) to communicate the presence of the COCs present on the

Property (i.e., namely, lead and arsenic in soil), the potential health effects associated with exposure to said COCs, the precautions to be taken to avoid exposure, how to handle contaminated media on the Property, and actions to be taken should unacceptable exposure occur.

Soil and Excavated Materials Management:
Any excavation or soil disturbance activities within the Property will require the prior authorization of the Operator (i.e., current owner or lessee). The purpose of soil management procedures during drilling, construction or excavation activities is to ensure the proper handling, analysis and final disposition of the soil.

1.3 Implementing the Soil Management Plan

The responsibility for implementing this SMP belongs to the current Operator(s) and any approved Contractors and Sub-contractors. All risk mitigation measures should be periodically reviewed by the Operator(s) to assure their effectiveness and should be revised, as needed, based on any additional subsurface investigation results and/or the implementation of any remedial activities. The risk mitigation measures described herein are to be implemented across the Property to protect construction/excavation workers and contractors that may be involved in intrusive activities at the Property.

Changes in the conditions at the Property may warrant revisions to this SMP including, but not limited to, a change in media monitoring requirements, post-remedial removal of contaminated soil, or other significant changes to Property conditions. This SMP may only be revised after submitting a written proposal to U.S EPA and obtaining U.S. EPA's approval thereof. Approved revisions will be appended to the SMP that is retained in U.S. EPA's files.

2.0 Potential Health Risks

Concentrations of lead and arsenic exceeding RALs were identified in soil samples, collected at the Property during historical and recent environmental investigations. These concentrations were determined to constitute a potential health risk. Exposure to these COCs at the Property may occur through breathing, direct skin contact, and inadvertent ingestion with soil during intrusive activities. The remedial action includes the removal of one foot of soil across the property where lead or arsenic exceeds the RAL and replacement with clean soil. A demarcation barrier consisting of a construction fence or similar material will be placed on the surface following removal of contaminated soil prior to the placement of clean soil to serve as an indicator to potential future construction workers/excavators that soil beneath that horizon may be contaminated and requires special characterization and handling. Areas where soils were treated in place and remain, or where contaminated soils were removed and replaced are shown on Figure 3. The demarcation barrier is present only in areas where contaminated soils were removed and replaced with clean soil.

2.1 Current Potential Health Risks at the Property

Potential safety and health hazards to persons working at the Property have been identified. The key to risk mitigation is an ability to recognize situations that may produce hazardous conditions and to plan to mitigate those conditions before illnesses and/or injuries can occur. Exposures to concentrations of lead and arsenic in soil are of primary concern to construction/excavation workers and contractors involved in intrusive activities at the Property. A brief summary of these COCs and their associated health risks, based on Agency for Toxic Substances and Disease Registry (ATSDR) guidance, is included below:

2.2 Lead

Lead is a naturally occurring bluish-gray metal widely distributed in the environment. However, lead is rarely found naturally as a metal; it is usually found combined with two or more other elements to form lead compounds. Lead itself does not break down, but lead compounds are changed by sunlight, air, and water. When lead is released to the air, it may travel long distances before settling to the ground. Once lead falls onto soil, it usually sticks to soil particles. Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in the body, but particularly, it can potentially affect the nervous system, both in adults and children. Long-term exposure of adults to lead can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also can potentially cause small increases in blood pressure and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children, and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. Children are more sensitive to the health effects of lead than adults. No safe blood lead level in children has been determined. Fetuses exposed to lead in the womb, may be born prematurely and have lower weights at birth. Exposure in the womb, in infancy, or in early childhood also may slow mental development and cause lower intelligence later in childhood.

Please refer to Appendix A for the ATSDR ToxFAQs and Public Health Statement for lead, which contains more detailed information.

2.3 Arsenic

Arsenic is a naturally occurring element that is widely distributed in the Earth's crust. Arsenic is classified chemically as a metalloid, having both properties of a metal and a nonmetal; however, it is frequently referred to as a metal. Elemental arsenic (sometimes referred to as metallic arsenic) is a steel grey solid material. However, arsenic is usually found in the environment combined with other elements such as oxygen, chlorine, and sulfur. Arsenic combined with these elements is called inorganic arsenic. Arsenic combined with carbon and hydrogen is referred to as organic arsenic.

Most inorganic and organic arsenic compounds are white or colorless powders that do not evaporate. They have no smell, and most have no special taste. Thus, you usually cannot tell if arsenic is present in your food, water, or air.

Inorganic arsenic occurs naturally in soil and in many kinds of rock, especially in minerals and ores that contain copper or lead. When these ores are heated in smelters, most of the arsenic goes up the stack and enters the air as a fine dust. Smelters may collect this dust and take out the arsenic as a compound called arsenic trioxide (As2O3). However, arsenic is no longer produced in the United States; all of the arsenic used in the United States is imported.

Presently, about 90% of all arsenic produced is used as a preservative for wood to make it resistant to rotting and decay. The preservative is copper chromated arsenate (CCA) and the treated wood is referred to as "pressure-treated." In 2003, U.S. manufacturers of wood preservatives containing arsenic began a voluntary transition from CCA to other wood preservatives that do not contain arsenic in wood products for certain residential uses, such as play structures, picnic tables, decks, fencing, and boardwalks. This phase out was completed on December 31, 2003; however, wood treated prior to this date could still be used and existing structures made with CCA-treated wood would not be affected. CCA-treated wood products continue to be used in industrial applications. It is not known whether, or to what extent, CCA-treated wood products may contribute to exposure of people to arsenic.

In the past, inorganic arsenic compounds were predominantly used as pesticides, primarily on cotton fields and in orchards. Inorganic arsenic compounds can no longer be used in agriculture. However, organic arsenic compounds, namely cacodylic acid, disodium methyl arsenate (DSMA), and monosodium methyl arsenate (MSMA), are still used as pesticides, principally on cotton. Some organic arsenic compounds are used as additives in animal feed. Small quantities of elemental arsenic are added to other metals to form metal mixtures or alloys with improved properties. The greatest use of arsenic in alloys is in lead-acid batteries for automobiles. Another important use of arsenic compounds is in semiconductors and light-emitting diodes.

Effects you might experience from swallowing inorganic arsenic include decreased production of red and white blood cells, which may cause fatigue, abnormal heart rhythm, blood-vessel damage resulting in bruising, and impaired nerve function causing a "pins and needles" sensation in your hands and feet.

Perhaps the single-most characteristic effect of long-term oral exposure to inorganic arsenic is a pattern of skin changes. These include patches of darkened skin and the appearance of small "corns" or "warts" on the palms, soles, and torso, and are often associated with changes in the blood vessels of the skin. Skin cancer may also develop. Swallowing arsenic has also been

reported to increase the risk of cancer in the liver, bladder, and lungs. The Department of Health and Human Services (DHHS) has determined that inorganic arsenic is known to be a human carcinogen (a chemical that causes cancer). The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans. EPA also has classified inorganic arsenic as a known human carcinogen.

If you breathe high levels of inorganic arsenic, then you are likely to experience a sore throat and irritated lungs. You may also develop some of the skin effects mentioned above. The exposure level that produces these effects is uncertain, but it is probably above 100 micrograms of arsenic per cubic meter (µg/m3) for a brief exposure. Longer exposure at lower concentrations can lead to skin effects, and also to circulatory and peripheral nervous disorders. There are some data suggesting that inhalation of inorganic arsenic may also interfere with normal fetal development, although this is not certain. An important concern is the ability of inhaled inorganic arsenic to increase the risk of lung cancer. This has been seen mostly in workers exposed to arsenic at smelters, mines, and chemical factories, but also in residents living near smelters and arsenical chemical factories. People who live near waste properties with arsenic may have an increased risk of lung cancer as well.

If you have direct skin contact with high concentrations of inorganic arsenic compounds, your skin may become irritated, with some redness and swelling. However, it does not appear that skin contact is likely to lead to any serious internal effects.

Please refer to Appendix B for the ATSDR ToxFAQs and Public Health Statement for arsenic, which contains more detailed relevant information in nontechnical language.

3.0 Risk Mitigation Measures

Construction/excavation activities are anticipated to occur at the Property associated with construction of a new warehouse. This section details additional risk mitigation measures to be utilized at the Property to protect construction/excavation workers and contractors from exposures to COCs in soil. The risk mitigation measures discussed herein are to be implemented on all areas of the Property.

3.1 Precautions Against Exposures to Contaminated Media

Exposures to lead and arsenic in soil at the Property could occur when construction/excavation workers come in direct contact with soil. Contact can include dermal contact with exposed skin, such as bare hands and forearms, incidental or inadvertent ingestion when soil gets on food, such as transfer from dirty hands to food or tobacco or breathing in particles of contaminated soil as dust. Construction/excavation workers should always attempt to limit their exposure to bare soil or lessen the time after contact that the impacted soil remains on the skin. Specific precautions to be taken at all times when soil is contacted are as follows:

1. Wear personal protective equipment (PPE) (i.e., as appropriate and necessary for each individual task), to limit the skin area available for contact with the soil (*e.g.*, disposable coveralls/Tyvek suits, safety boots, rubber over boots, safety goggles, and chemical-resistant gloves).

2. Wash hands frequently, and always before eating, smoking, chewing gum or tobacco, or other activities that involve contact between the hands and items to be placed in the mouth. This will prevent the spread of any soil on the hands to the items being placed in the mouth. Furthermore, wash hands and other exposed areas, especially those areas with visible dirt, before leaving the work site for extended time periods. This limits the amount of time that the soil is potentially in contact with the skin, thereby reducing the amount of the chemicals that can be absorbed through the skin.

3. Do not apply ointments, cream, make-up or other substances before washing both the area to which the substance is to be applied and, if the substance is to be applied by hand, the hands. The application of such substances can provide a mechanism by which soil can be trapped next to the skin.

4. Cover cuts, scrapes and other open skin areas. Injured skin allows compounds in the soil to be more readily absorbed into the body than intact skin.

5. Change work clothes shortly after leaving the construction site, especially those work clothes having either visible dirt or made damp through sweat or other liquids. Wash such clothes prior to wearing them again. Gloves and other such items that come into direct contact with the soil should also be washed, if possible. Work boots should be left at the Property or rubber over boots should be worn.

6. Wash hair and other less accessible portions of the body shortly after leaving the construction site for the day. Dirt and dust that contain substances such as arsenic and lead can settle in the hair and spread by contact between the hands and the hair. Dirt and dust can also infiltrate under and through clothing, especially clothing becoming wet or sweaty.

7. Generally, avoid direct contact between the skin and the contaminated soil.

8. Minimize the suspension of dust to the degree possible and specify measures to be taken for minimizing dust (see Section 4.1). Dust masks should be worn when warranted.

3.2 Actions to Take if Unacceptable Exposures Occur

It is anticipated that work will be performed using Level D PPE and that contaminant exclusion zones will not always be required; however, it is the responsibility of the construction/excavation worker or contractor to establish the proper level of protection for the planned activities by completing a job hazard analysis (JHA) prior to execution of the invasive activity. Exclusion zones may be utilized for convenience to properly segregate operations and keep unauthorized personnel out of work area. The JHA and associated Health and Safety Plan (HASP) should contain the documentation of the proper procedures and chain of communication that should be followed in the event of an emergency and the appropriate emergency contacts.

Whenever unacceptable exposures to contaminated soil are suspected to have occurred at the Property, additional actions should be taken. If construction/excavation workers experience substantial increased exposures to soil, despite the mitigation measures and exposure precautions detailed above, the following steps must be taken:

1. Immediately remove contaminated clothing and decontaminate clothing and personnel by washing exposed areas, especially those with visible dirt.

2. Seek medical attention if adverse symptoms occur.

3. Restrict access to the contaminated area through temporary fencing, or limit/suspend work in the area, as necessary and appropriate.

4. Perform sampling and analysis, as required, to determine levels of PPE, decontamination of personnel and equipment, training needs, medical surveillance and waste management requirements, prior to resuming work at the area.

3.3 Decontamination and Cleanup Procedures

3.3.1 Personnel Decontamination

All personnel will perform cleanup prior to leaving the construction work area(s) at the Property. Under no circumstances, except for emergency evacuation, will contaminated personnel or equipment be allowed to leave a work area without first cleaning up. The following will be performed during personnel decontamination procedures:

1. tools, air monitoring equipment, samples and trash will be placed at designated stations (stations will be either plastic containers or drop sheets);

2. outer glove and boot wash;

3. tape and outer boot covers will be removed and placed in designated container;

4. outer gloves will be removed and placed in designated container;

5. hard hats will be removed and placed in designated area;
6. outer garments will be removed and placed in designated container;
7. inner gloves will be removed and placed in designated container; and
8. respirator (if necessary) will be removed and placed in designated area.

3.3.2 Equipment Decontamination

It is the responsibility of construction or utility worker to ensure that all decontamination of equipment be conducted in a manner that assures all contaminants remain in their appropriate work zone and are properly stored (e.g., drums, covered with visqueen, etc.).

Monitoring equipment will be protected from contamination as much as possible. This may be done by draping with plastic, masking, or covering instruments with plastic bags so as not to hinder proper operation.

If required, respirators shall be cleaned daily with respirator disinfectant, alcohol, or other appropriate disinfecting solution wetted paper wipes. At the beginning of each day, masks will be inspected, repaired as necessary and re-assembled. New respirator cartridges will be installed before each shift or when breakthrough is suspected. Each person will be responsible for his or her own respirator adjustments, care and fit.

3.3.3 Work Zone Cleanup

The construction or utility worker will ensure that all work zones are left in a clean and orderly condition. All disposable clothing, excess materials, rinseate water and other debris will remain at the decontamination/staging area in 55-gallon steel drums or roll-off boxes.

4.0 Soil, Dust, and Debris Management

When intrusive activities are completed at the Property such that potentially contaminated soil and/or debris is being disturbed, the environmental media must be appropriately managed and disposed of, as applicable. The following soil management procedures are applicable to all areas of the Property.

4.1 Dust Control

Reasonable precautions shall be taken to prevent particulate matter from becoming airborne during construction activities. A competent person will be designated by the Construction Contractor to be in responsible charge of visually monitoring for fugitive dust emissions during construction. This Designated Dust Monitor will document any corrective actions that were required and implemented to address unacceptable fugitive dust levels observed. Additionally, dust emissions will be monitored in accordance with the Dust and Air Monitoring Plan submitted under separate cover in conjunction with the RD/RA Work Plan. The following subsections detail sources that may contribute to fugitive dust emissions, as well as dust control methods.

4.1.1 Construction Activities

To minimize particulate matter from becoming airborne, visual inspections of earth disturbing construction activities will be conducted by the Designated Dust Monitor daily to verify compliance and determine the control method necessary to minimize dust emissions. Primary construction activities that may result in fugitive dust emissions include:

1. Clearing/Grubbing and Grading
   Site preparation and grading may result in fugitive dust emissions from earth disturbances and equipment operation.

2. Construction of New Warehouse and Associated Structures
   Construction involves earthwork and placement and compaction equipment operation. Material handling and placement, along with equipment operation, may result in the generation of some dust emissions.

The Construction Contractor shall apply water at a frequency sufficient to control visible emissions during construction to meet dust emissions requirements (or other means and methods approved by Operator).

4.1.2 Storage Piles

Soil stockpiles will be maintained to minimize particulate matter from becoming airborne. The stockpiles will be maintained through the establishment of vegetative cover, water spray, or covering with other material to reduce wind erosion (or other means and methods approved by Operator).

4.1.3 Paved Roadways

To minimize particulate matter from becoming airborne, visual inspections of construction traffic and equipment transport will be conducted by the Designated Dust Monitor daily to verify compliance and determine the control method necessary to minimize dust emissions. The Construction Contractor may employ a street sweeper and water truck (or other means and methods approved by Operator) at a frequency sufficient to control visible emissions on the paved portions of roadway and off-Property when necessary to meet the dust emissions

requirements. The Construction Contractor will use imported potable water or water from a source approved by the Operator to increase the moisture content of the road surface when necessary.

4.1.4 Unpaved Roadways

To minimize particulate matter from becoming airborne, visual inspections of construction traffic and equipment transport will be conducted by the Designated Dust Monitor daily to verify compliance and determine the control method necessary to minimize dust emissions. The Construction Contractor may employ a water truck (or other means and methods approved by Operator) at a frequency sufficient to control visible emissions on the unpaved portions of roadway and off-Property when necessary to meet the dust emission requirements. The Construction Contractor will use imported potable water or water from a source approved by the Operator to increase the moisture content of the road surface.

4.2 Erosion and Sediment Controls

Temporary and permanent features will be employed to control erosion and sedimentation. Temporary control features include, but are not limited to, limiting the surface area of erodible earth, Property and sediment fencing, providing temporary vegetation, and using straw, dikes, slope protection, sediment pits, mulches, or other controls. Permanent control features include the establishment of permanent vegetation in areas not covered by impermeable surfaces such as buildings, asphalt, or concrete pavement.

Filters, sedimentation traps, or stilling basins with overflows will be constructed and maintained as necessary to ensure that water containing suspended material from any part of the Construction Contractor's operations will be clarified before discharging to drains or streams or any location off-Property. All water discharged from the Property will be done in accordance with all applicable federal, state, and local laws, rules, regulations and ordinances.

4.3 Procedure for Excavated Soil

If any on-Property soil is being excavated and moved, the soil will be managed as follows:

1. Operator Authorization: Any excavation required at the Property will require the prior authorization of the current Operator. Soils excavated below the demarcation barrier are known to be contaminated with arsenic and lead and must be properly handled and disposed.

2. Documentation: Form A (refer to Appendix C) – Documentation of excavation activities must be completed to obtain authorization and must describe the excavation activity to be completed, including a description of the handling and disposal of soil and characterization of replacement soil, if required. If actual work activities deviate from the proposed excavation activities, the work must be documented on Form A. The excavation work must be verified and approved by the Operator and evidenced by signature of Operator on Form A.

3. Emergency Situation: For emergency excavation activities, where prior authorization by the Operator cannot be obtained, the Operator will meet with the excavation contractor as soon as practicable after the commencement of the excavation activity to complete Form A and ensure that the contractor is following the proper procedures provided herein. Any utility company or other party granted an easement by the Operator and/or Operator's designee shall be made aware

of all requirements contained in this SMP regarding excavation activities at the Property and, with respect to any future easements, prior to execution of the easement.

4. Excavated Material Storage: Any excavated material shall be completely and securely covered with an impermeable material of sufficient strength, thickness, anchoring, or weighting to prevent tearing or lifting of the cover, infiltration of precipitation or surface water run-on, and exposure of the soil to the atmosphere. Acceptable forms of storage include, but are not limited to, 55-gallon drums, covered roll-off boxes, placed on and covered by visqueen, or placed in other suitable containers and covered. The excavated material shall be stored as described until soil analytical results are evaluated to determine final disposition of the soil.

5. Excavation Personnel: Personnel trained in handling of lead- and arsenic-impacted materials and having appropriate PPE must be present during excavations.

6. Excavated Material Sample Collection: Any excavated soil shall be managed as regulated fill and characterized for proper disposition (i.e., sampled and submitted to a laboratory for the appropriate chemical analyses). Sampling and analytical methods for COCs will be conducted in accordance with the most current version of the U.S. EPA Resource Conservation and Recovery Act (RCRA) Manual, SW-846 (*Test methods for Evaluating Solid Waste, Physical/Chemical Methods Office of Solid Waste and Emergency Response*). Composite sampling of the material shall be collected by a third party (consultant or laboratory) in accordance with the following procedures or as required by the disposal facility:
   a) For areas where in-place concentrations have been adequately established and profiles have been approved by a licensed disposal or treatment facility, material may be direct loaded for disposal without additional sampling and analysis, unless requested by the disposal or treatment facility.
   b) For volumes of stockpiles or containers (e.g., rolloff boxes) without disposal profiles and equal to or less than 125 cubic yards, the stockpile shall be divided in two sections and the containers divided into two sets and a total of two composite samples shall be submitted for laboratory analysis of lead and arsenic, each containing four (4) representative grab samples from each half of the stockpile/container sets.
   c) For volumes of stockpiles or soil in containers without disposal profiles and greater than 125 cubic yards and less than or equal to 3,000 cubic yards, the stockpile shall be divided in three sections and the containers divided into three sets and a total of three composite samples shall be submitted for laboratory analysis of lead and arsenic, each containing a composite of four (4) representative grab samples from each third of the stockpile/container sets.
   d) For each additional 3,000 cubic yards of material without disposal profiles and or part thereof over the initial 3,000 cubic yards, three (3) additional composite samples shall be submitted for laboratory analysis of lead and arsenic, each containing a composite of four (4) representative grab samples from each third of the stockpile/container sets. For example, a 5,500 cubic yard stockpile or set of containers shall be divided into six (6) sections and a total of six (6) composite samples shall be submitted for

laboratory analysis each containing a composite of four (4) representative grab samples from each sixth of the stockpile/container sets.

	Cubic Yards of Soil & Backfill Material Generated		
	125 or less	125 - 3,000	>3,000
1. Minimum number of grab samples to collect to make up composite samples	8	12	12 plus 12 additional per each 3,000 cubic yards (or fraction thereof)
2. Minimum number of composite samples to submit to laboratory	2	3	3 plus 3 additional per each 3,000 cubic yards (or fraction thereof)

7. Soil Sample Analysis: Soil samples shall be submitted to the laboratory for analysis of lead and arsenic by the Toxicity Characteristic Leachate Procedure (TCLP), and pH.

   Note that if soil is to be disposed of off Property, the disposal facility should be contacted to determine any additional analytical requirements.

8. Sample Evaluation: Analytical concentrations of lead and arsenic will be compared to the RCRA TCLP hazardous waste thresholds for lead (5 milligrams per liter (mg/L)) and arsenic (5 mg/L) to characterize the material as hazardous or non-hazardous waste.

9. Personnel in the area of the excavation and stockpile/containers who may encounter impacted soil will wear appropriate PPE, based on the magnitude of impact encountered, including respiratory equipment, if deemed necessary.

10. Personnel (i.e., facility construction personnel or contractors) in the area of the excavation and roll-off boxes will wear appropriate PPE and respiratory equipment, if deemed necessary.

11. Based on the analytical results of the soil collected, appropriate procedures will be established to mitigate all risks based on the nature and duration of the work that will be conducted.

12. Fill material brought on the Property to replace excavated soil must meet applicable geotechnical and environmental Property requirements specified in the RD.

13. Upon completion, the work shall be inspected by a representative of the Operator, and the activities recorded on the authorization and work order form, Form A.

4.4 Procedure for Abandoned Utilities and Demolition Debris

If materials associated with abandoned utilities and/or demolition debris from former structures are excavated and off-Property disposal is required, they will be appropriately managed. Any material that will be transported off-Property will be properly characterized to determine if the material needs special handling and disposal. The management will include the verification and documentation of the disposal facility's compliance with the applicable requirements and regulations per the SOW.

5.0 Records and Reporting Mechanisms

The Operator and/or Operator's designee will be responsible for record keeping of all information documenting compliance with the requirements contained in the SMP. These records will include any "Documentation of Excavation Activities" forms (Appendix C).

The Operator and/or Operator's designee will retain all completed forms and any applicable supporting documentation (e.g., *excavation/backfilling documentation)*; these items can be supplied to U.S. EPA within 45 days of request. The inspection documentation will be retained by the Operator for 10 years from the date of inspection. Prior to the destruction of any reporting documentation, the Operator will notify the U.S. EPA of its intent to destroy the documents and allow the U.S. EPA 45 days to obtain the documents before disposal.

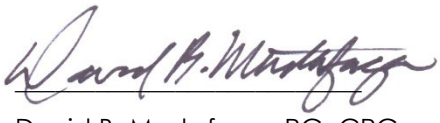
6.0 SMP Completion Criteria

The risk mitigation measures outlined in the SMP should be periodically reviewed to assure their effectiveness and should be revised, as needed, based on any changes in operations and worker activities, any potential additional subsurface investigation results, and the implementation of any additional remedial activities at the Property.

This SMP may be terminated upon implementation of a final corrective measure alternative.

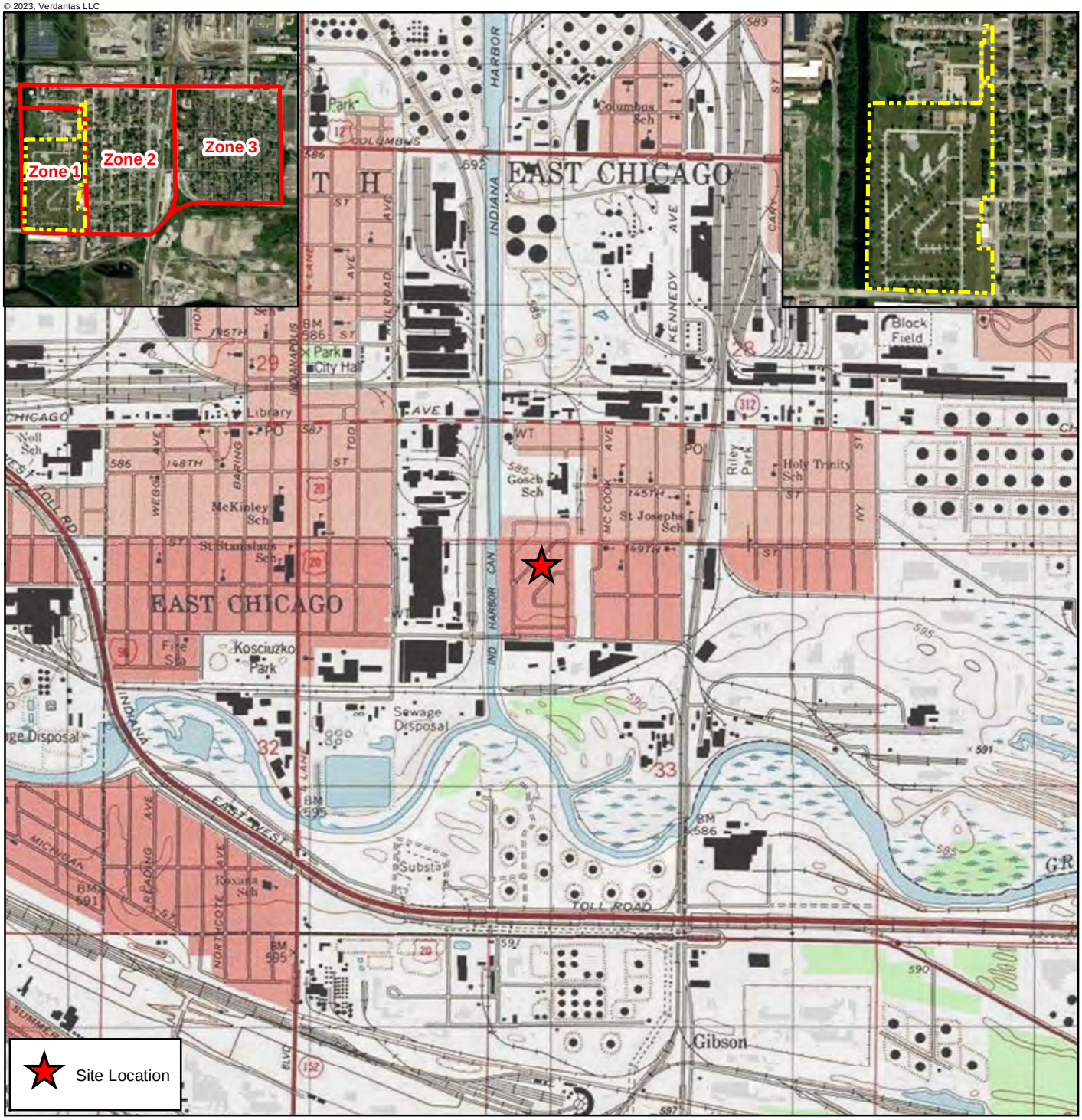
7.0 Certification by Project Coordinator

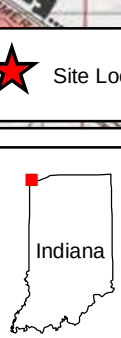
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



David B. Mustafaga, PG, CPG
Project Coordinator

Figures





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0 1,000 2,000 4,000 Feet

1:24,000

Quadrangles: Whiting and Highland, IN

Source: The topographic map was acquired through the USGS Topographic Map web service.

The aerial photo was acquired through the Esri Imagery Web Service. Aerial photography dated 2020.

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Soil Management Plan
OU1, Modified Zone 1, USS Lead Superfund Site

Property Location Map

East Chicago, Lake County, Indiana

Date:
March 2023

File Name:
15773_06_Fig01_PLM.mxd

Edited: 3/28/2023 By: kyusuf

Figure
1

Produced Using Esri's ArcGIS Software

0 100 200 400 Feet

1:2,400

PRIVATE ST

VERNON AV

MUNICIPAL DR

148TH ST

MCCOOK AV

149TH ST

149TH PL

150TH ST

150TH PL

151ST PL

151ST ST

MAGNOLIA ST

LARKSPUR ST

ASTER ST

JONQUIL LN

GLADIOLA ST

Indiana Harbor Canal

Former Goodman Park

Former WCHC Area

Zone 1

Zone 2

OU1MW6

OU1MW13

OU1MW14

OU1MW15

ECHA-MW-35

ECHA-MW-09

ECHA-MW-01

Property Boundary

Parcel

2019 Remediated Soil Area

Operable Unit 1

Existing Monitoring Wells

Notes:
1) The aerial photo was acquired through the Esri Imagery Web Service. Aerial photography dated 2020.
2) Road names in gray have been vacated and removed.

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March 2023

Soil Management Plan
OU1, Modified Zone 1, USS Lead Superfund Site

Property Plan

East Chicago, Lake County, Indiana

Figure 2

Produced Using Esri's ArcGIS Software

File Name: 15773_06_Fig02_PropertyPlan.mxd

Edited: 3/28/2023 By: kyusuf

- Property Boundary
- Decision Unit Grid
- Composite Sampling Location (0.0' - 1.0')
- Waste Disposal Profiling Sample Location
- Triplicate Sampling Locations
- Decision Unit not requiring Excavation
- Decision Unit requiring Excavation and No Stabilization
- Decision Unit requiring Excavation and Stabilization
- Decision Unit not requiring Excavation but Requires Stabilization (exceeds TCLP Lead)

0 100 200 400 Feet

1:2,400

Note:
The aerial photo was acquired through the Esri Imagery Web Service. Aerial photography dated 2020.

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March 2023

Soil Management Plan
OU1, Modified Zone 1, USS Lead Superfund Site

Remedial Areas Map

East Chicago, Lake County, Indiana

Figure 3

Produced Using Esri's ArcGIS Software

File Name: 15773_06_Fig03_PropSamps.mxd

Edited: 3/28/2023 By: kyusuf

Appendix A

ATSDR Public Health Statement and ToxFAQ for Lead

Lead - ToxFAQs™

What is lead?

Lead is a metal found naturally in the earth's crust. It can be found in all parts of our environment, including air, water, and soil. Lead can combine with other chemicals to make different compounds.

Lead is used in the production of batteries, ammunition, and metal products (solder and pipes). Because of health concerns, the use of lead in paints, ceramic products, caulking, and pipe solder has been dramatically reduced. The use of lead as an additive to automobile gasoline was banned in 1996 in the United States.

What happens to lead in the environment?

- Lead is an element, so it does not break down.
- When lead is released into the air, it may be transported long distances before it lands and stays on the ground.
- Once on the ground, lead can often stick to soil particles.
- Lead in soil can get into groundwater, but the amount of lead that moves into groundwater will depend on the lead compound and soil type.

How can I be exposed to lead?

Lead can cause health problems in almost every organ and system in your body.

- Eating food or drinking water that contains lead.
- Drinking water from pipes that were soldered with lead can cause exposure.
- Spending time or living in homes with lead-based paints can result in exposure when the paint breaks down and forms dust, which can get on your hands, or into your mouth and nose and be swallowed.
- Spending time in areas where the soil is contaminated with lead.
- Working in a job where lead is used or participating in certain hobbies where lead is used, such as making stained glass.
- Using healthcare products from other countries, alternative treatments, or folk remedies.

How can lead affect my health?

The effects of lead are the same whether it enters the body by breathing it in or eating it. Lead can affect almost every organ and system in your body. The nervous system is the main target for lead poisoning in children and adults. Long-term exposure can result in decreased learning, memory, and attention, and weakness in fingers, wrists, or ankles. Lead exposure can cause anemia (low iron in the blood) and damage to the kidneys. It can also cause increases in blood pressure, particularly in middle-aged and older individuals. Exposure to high lead levels can severely damage the brain and kidneys and can cause death. In pregnant women, exposure to high levels of lead may cause a miscarriage. In men, it can cause damage to reproductive organs.

Lead

How can lead affect children?

Children are more vulnerable to lead poisoning than adults because their nervous system is still developing. Children can be exposed to lead in their environment and before birth from lead in their mother's body. At lower levels of exposure, lead can decrease mental development, especially learning, intelligence, and behavior. Physical growth may also be decreased. A child who swallows large amounts of lead may develop anemia, severe stomachache, muscle weakness, and brain damage. Exposure to lead during pregnancy can also result in premature births. Some effects of lead poisoning in a child may continue into adulthood.

Can lead cause cancer?

Several agencies and organizations both in the United States and internationally have reviewed studies and made an assessment about whether lead can cause cancer.

- The Department of Health and Human Services (HHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens (causing cancer in people).
- The U.S. Environmental Protection Agency (EPA) has classified lead as a probable human carcinogen.
- The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans, and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

Can I get a medical test to check for lead?

A blood test is available to measure the amount of lead in your blood. Blood tests are commonly used to screen children for lead poisoning. Your doctor can draw blood samples and send them to appropriate laboratories for analysis. If you think you or anyone in your family has been exposed to lead, contact your doctor, nurse, or poison control center.

How can I protect my family from lead exposure?

- Avoid exposure to sources of lead.
- Do not allow children to chew or mouth surfaces that may have been painted with lead-based paint.
- If your home contains lead-based paint (built before 1978), or if you live in an area contaminated with lead, wash children's hands and faces often to remove lead dusts and soil, and regularly clean the house to remove lead dust and lead tracked in soil.
- Certain water pipes may contain lead, so if you know that pipes have lead solder, you should avoid drinking from that source.
- Check for lead in some products such as toys and jewelry and avoid such products.
- Lead is sometimes in candies imported from other countries or traditional home remedies; find out if yours has any lead and avoid using these products or giving them to children.
- You can learn more about preventing lead poisoning here: https://www.cdc.gov/nceh/lead/faqs/lead-faqs.htm

Want more information?

Call **CDC-INFO** at 1-800-232-4636, or submit your question online at https://wwwn.cdc.gov/dcs/ContactUs/Form

Go to ATSDR's Toxicological Profile for Lead

CDC Lead Poisoning Prevention Program https://www.cdc.gov/nceh/lead/default.htm

Environmental Protection Agency https://www.epa.gov/lead/protect-your-family-exposures-lead

Go to ATSDR's Toxic Substances Portal: https://wwwn.cdc.gov/TSP/index.aspx

If you have any more questions or concerns, you can also find & contact your ATSDR Regional Representative at http://www.atsdr.cdc.gov/DRO/dro_org.html

Appendix B

ATSDR Public Health Statement and ToxFAQ for Arsenic

Arsenic - ToxFAQs™

CAS # 7440-38-2

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the CDC Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occur mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found in at least 1,149 of the 1,684 National Priority List (NPL) sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Copper chromated arsenate (CCA) is used to make "pressure-treated" lumber. CCA is no longer used in the U.S. for residential uses; it is still used in industrial applications. Organic arsenic compounds are used as pesticides, primarily on cotton fields and orchards.

What happens to arsenic when it enters the environment?

- Arsenic occurs naturally in soil and minerals and may enter the air, water, and land from wind-blown dust and may get into water from runoff and leaching.
- Arsenic cannot be destroyed in the environment. It can only change its form.
- Rain and snow remove arsenic dust particles from the air.
- Many common arsenic compounds can dissolve in water. Most of the arsenic in water will ultimately end up in soil or sediment.
- Fish and shellfish can accumulate arsenic; most of this arsenic is in an organic form called arsenobetaine that is much less harmful.

How might I be exposed to arsenic?

- Ingesting small amounts present in your food and water or breathing air containing arsenic.
- Breathing sawdust or burning smoke from wood treated with arsenic.
- Living in areas with unusually high natural levels of arsenic in rock.
- Working in a job that involves arsenic production or use, such as copper or lead smelting, wood treating, or pesticide application.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs.

Ingesting very high levels of arsenic can result in death. Exposure to lower levels can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

Almost nothing is known regarding health effects of organic arsenic compounds in humans. Studies in animals show that some simple organic arsenic

Arsenic

CAS # 7440-38-2

compounds are less toxic than inorganic forms. Ingestion of methyl and dimethyl compounds can cause diarrhea and damage to the kidneys.

How likely is arsenic to cause cancer?

Several studies have shown that ingestion of inorganic arsenic can increase the risk of skin cancer and cancer in the liver, bladder, and lungs. Inhalation of inorganic arsenic can cause increased risk of lung cancer. The Department of Health and Human Services (DHHS) and the EPA have determined that inorganic arsenic is a known human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic arsenic is carcinogenic to humans.

How can arsenic affect children?

There is some evidence that long-term exposure to arsenic in children may result in lower IQ scores. There is also some evidence that exposure to arsenic in the womb and early childhood may increase mortality in young adults.

There is some evidence that inhaled or ingested arsenic can injure pregnant women or their unborn babies, although the studies are not definitive. Studies in animals show that large doses of arsenic that cause illness in pregnant females, can also cause low birth weight, fetal malformations, and even fetal death. Arsenic can cross the placenta and has been found in fetal tissues. Arsenic is found at low levels in breast milk.

How can families reduce the risks of exposure to arsenic?

- If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.
- If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.
- If you work in a job that may expose you to arsenic, be aware that you may carry arsenic home on your clothing, skin, hair, or tools. Be sure to shower and change clothes before going home.

Is there a medical test to determine whether I've been exposed to arsenic?

There are tests available to measure arsenic in your blood, urine, hair, and fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels of arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict whether the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

The EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or cancelled many of the uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit (PEL) of 10 micrograms of arsenic per cubic meter of workplace air (10 $\mu g/m^3$) for 8 hour shifts and 40 hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Arsenic (Update). Atlanta, GA: U.S. Department of Health and Human Services. Public Health Service.

Where can I get more information?

For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Human Health Sciences, 1600 Clifton Road NE, Mailstop F-57, Atlanta, GA 30329-4027.

Phone: 1-800-232-4636

ToxFAQs™ Internet address via WWW is http://www.atsdr.cdc.gov/toxfaqs/index.asp.

ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

Appendix C

Documentation of Excavation Activities

FORM A - DOCUMENTATION OF EXCAVATION ACTIVITIES

Submittal Date: _____

Status of Excavation: _____Planned _____Emergency

Contractor:
Address: _____ Address: _____
City, State, Zip: _____ City, State, Zip: _____

Contact: _____ Contact: _____
Phone: _____ Phone: _____

Proposed Excavation Activities:_____

Excavation Location (attach drawing as necessary): _____

Dates of Excavation: _____ Estimated No. of Days to Complete _____

Approximate Depth: _____ Utilities involved: _____

Backfill Material: _____ Backfill Source: _____

Borrow Source Questionnaire Form Completed? _____ If Yes, attach completed form to report.

The following will be adhered to during Excavation:

1. Any soil excavated from the Remediation Area must be characterized for final disposition in accordance with Section 4.0 of the SMP. Final disposition of the soil (i.e., disposal facility location or placement location on-Property) shall be noted in records for the Property. Soils excavated below the demarcation barrier are known to be contaminated with arsenic and lead and must be properly handled and disposed.
2. Fill material brought on the Property to replace excavated soil or to modify Property grade must meet applicable geotechnical and environmental Property requirements. This determination may be made by either completing a borrow source questionnaire form (included within the FSAP) or the collection of soil analytical data. If analytical data are collected from the borrow source material intended to be brought on-Property, a human health risk assessor must be engaged in order to determine if acceptable hazard and risk goals would be met with the inclusion of the borrow material.
3. Upon completion, the work shall be inspected by a representative of the Owner, and the activities recorded on the authorization and work order form herein.

This form will be submitted to the Operator no less than one week prior to planned excavation activities and as soon as reasonably possible for emergency situations. No excavation will occur on the Property until authorized by the Owner, unless it is an emergency situation.

Description of Deviation from Proposed Excavation Activities (attach drawings as necessary):
_____
_____
_____

Authorizations:

Work Authorized: _____ Date: _____
Completed Work _____ Date: _____

_____
Inspected and Approved: