



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

US EPA RECORDS CENTER REGION 5



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MEMORANDUM

REPLY TO THE ATTENTION OF

SUBJECT: ACTION MEMORANDUM – Request for a Time-Critical Removal Action and Exemption from the \$2 Million and 12-Month Statutory Limits at the American Lead Site, Indianapolis, Marion County, Indiana (Site ID #B56J)

FROM: Shelly Lam, OSC
Emergency Response Branch 1

THRU: Jason H. El-Zein, Chief
Emergency Response Branch 1

TO: Douglas Ballotti, Acting Director
Superfund Division

I. PURPOSE

This memorandum requests and documents your approval to expend up to \$5,068,877 to conduct a time-critical removal action and for an exemption from the \$2 million and 12-month statutory limits at the American Lead Site (the Site) in Indianapolis, Marion County, Indiana.

The response actions proposed herein are necessary in order to mitigate threats to public health, welfare, and the environment posed by the presence of uncontrolled hazardous substances at the Site. The U.S. Environmental Protection Agency (EPA) documented elevated levels of lead in surface soil at the Site. Lead is a hazardous substance as defined by Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

The time-critical removal action proposed herein is to prepare site plans, including a Work Plan, Quality Assurance Project Plan (QAPP), site-specific Health and Safety Plan (HASp), and Emergency Contingency Plan; excavate soil up to two feet below ground surface (bgs) to eliminate the direct contact threat; collect and analyze confirmation samples from the bottom of the excavation; replace excavated soil with clean soil; restore landscaping and grass destroyed during removal actions and repair any damage to property caused by excavation activities; collect samples for disposal analysis; and transport and dispose off-site any hazardous substances, pollutants and contaminants at a CERCLA-approved disposal facility in accordance with EPA's Off-Site Rule (40 Code of Federal Regulations [CFR] § 300.440).

Response actions will be conducted in accordance with Section 104(a)(1) of CERCLA, 42 U.S. Code (USC) § 9604(a)(1) and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR § 300.415, to abate or eliminate the immediate threat

posed to public health and/or the environment by the presence of the hazardous substances at the Site. The uncontrolled conditions of the hazardous substances present at the Site and the potential threats they present require that this action be classified as a time-critical removal action. EPA's actions will require approximately 100 working days to complete.

There are no nationally significant or precedent-setting issues associated with the site.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: IND980606404

RCRA ID: Pending

Category: Time-Critical Removal Action

A. Site Description

The Former American Lead Facility (the Facility) is located at 2102 Hillside Avenue, formerly 1600 E. 21st Street, in Indianapolis, Indiana, 46218 (Figure 1). The Facility is located in the central part of Indianapolis in the historic Martindale-Brightwood neighborhood.

Martindale-Brightwood is located northeast of downtown Indianapolis. It is bounded by 34th Street to the north, Emerson Avenue to the east, Interstate 70 (I-70) to the south, and the Monon Trail to the west (Figure 2). Historical information in the book *Greater Indianapolis: The History, the Industries, the Institutions, and the People of a City of Homes* by Jacob Piatt Dunn (1910) documents that Martindale-Brightwood was an extensive swamp, known as Fletcher's Swamp. Because of concerns over flooding and malaria, low-lying swampy areas were eventually filled in.

According to Trevor K. Fuller's *Environmental Justice and Activism in Indianapolis* (2015), "Martindale-Brightwood has long been a 'warehouse' for various manufacturing and industrial processes in Indianapolis and the associated environmental hazard." A review of historical city directories showed that in 1960, Martindale-Brightwood had 147 sites that could "reasonably be classified as environmental hazards," including foundries, tool and die makers, and plating operations.

One of the industrial facilities in Martindale-Brightwood was American Lead. American Lead was used for industrial purposes dating back to at least the late 1800s. Sanborn and Baist maps from 1898 and 1915 show that the Lyons-Atlas Company operated a steam, gasoline, and diesel engine manufacturer on this property. The property was used for secondary lead smelting operations from 1946 to 1965. Historical aerial photographs show that the lead smelter operated in a building on the western portion of the property (Administrative Record [AR] #19).

The property was transferred from the American Lead Company to the National Lead Company (NL) in 1949; however, NL continued to call the Facility the American Lead Plant. NL was involved in the reclamation of lead from car batteries and other sources. As indicated in a "Notification of Hazardous Waste Site" form, NL generated slag piles, heavy metals, and

inorganics (AR #4). The original lead smelter burned down during a fire in 1970. NL subsequently sold the property.

The Site is an area surrounding the former American Lead Facility. The Area of Concern (AOC) is shown in Figure 3, and is roughly defined as 25th Street to the north, Ralston Avenue to the northeast, along the railroad to Interstate 70 (I-70) with I-70 forming the southern border, and the Monon Trail to the west. The Site boundaries were determined by sampling conducted by the Indiana Department of Environmental Management (IDEM) in 2015 (see *Removal Site Evaluation* section). The Site includes a mixture of industrial, commercial, residential properties, including single-family homes, vacant lots, community centers, playgrounds, parks, churches, and schools.

On February 3, 2005, EPA approved an Action Memorandum determining a threat to public health and the need for a time-critical removal action at the American Lead Site (AR #4). NL Industries, the potentially responsible party (PRP), removed lead-contaminated soil at 224 properties between 2005 and 2007 (AR #7) under an Administrative Order on Consent. The cleanup area for that removal action was determined by an airborne depositional model, and divided into two areas: the North and South Time-Critical Removal Areas (TCRA) (Figure 4). The North TCRA was defined by 23rd Street to the north, Ralston Avenue to the east, a vacated rail line to the south, and Arsenal Avenue to the west. The South TCRA was defined as 21st Street to the north, Tallman Avenue to the east, Roosevelt Avenue and 19th Street to the south, and Hovey and Sheldon Streets to the west.

NL Industries removed and disposed of soil contaminated with lead at or greater than 400 milligrams per kilogram (mg/kg), which was EPA's cleanup level. Soil was removed to a maximum excavation depth of one foot in general residential areas and up to a maximum excavation depth of two feet in gardens and play areas. If post-excavation confirmation sampling indicated that the yard was above the 400 mg/kg action level, an orange snow fence marker was installed to identify the presence of impacted soil below the marker. Markers were installed at 201 properties, indicating residual contamination below the removal depth (AR # 8).

1. Removal Site Evaluation

The February 2005 Action Memorandum (AR #4) provides an extensive description of the site background and assessment prior to the previous time-critical removal action. This section describes assessment activities that have occurred since 2007.

Site Reassessment

IDEM conducted a Site Reassessment in 2009 to assess conditions after the time-critical removal action and to obtain additional data to determine if any additional CERCLA activities were required (AR #9). IDEM conducted soil screening using a x-ray fluorescence (XRF) detector on properties located outside of the TCRA. Screening results for lead ranged from 35 to 972 parts per million (ppm). IDEM concluded that further investigation was required.

Additionally, IDEM's Site Reassessment report documented that in about 2008, an IDEM employee observed disregard for the snow fence marker during demolition of residential

property within the TCRA. It is possible that disregard for the marker may have exposed contaminated soils and redeposited contamination.

Improving Kids' Environment (IKE)

In 2011, EPA awarded an Environmental Justice (EJ) Small Grant to and Indiana University-Purdue University Indianapolis (IUPUI) and IKE, a 501(c)(3) not-for-profit corporation that works to reduce environmental threats to children's health (AR #10). In part, the grant was to assess the spatial distribution of lead in surface soils in the Martindale-Brightwood community. IUPUI/IKE collected and analyzed soil samples from 66 properties in Martindale-Brightwood¹. Lead exceeded 400 mg/kg at approximately 17 properties in the AOC. Lead was detected as high as 6,496 mg/kg in the AOC. IUPUI/IKE concluded that "that the human health burden of Pb [lead] exposure remains in these urban core neighborhoods, leading to an environmental justice issue."

Removal Assessment

In May 2014, EPA conducted a Removal Site Assessment because IDEM's Site Reassessment and IUPUI/IKE's sampling documented that high concentrations of lead were present in the community (AR # 12). EPA's assessment was comprised of several components, including air sampling to determine if contamination at the Facility was an ongoing source for releases; soil sampling at the Facility to collect samples of source material for attribution; and soil sampling in the community to determine nature and extent of contamination.

Air Results

EPA collected four air samples - one upwind and three downwind from the Facility - for total metals analysis. In air sample AMLSAAUW-01-050814, lead was detected at a concentration of 0.0027 milligrams per cubic meter (mg/m³). The National Ambient Air Quality Standard (NAAQS) for lead is 0.0015 mg/m³. Although the sample contained lead above the NAAQS benchmark, the sample was collected upwind of the Facility. Downwind air samples did not contain lead above the laboratory reporting limit, which suggests that the former American Lead Facility is not likely a source of ongoing releases based on this limited data.

Soil Results

EPA collected five composite samples from surface soil (0 to 2 feet bgs) at the Facility. EPA also collected soil samples from 33 community locations within a ½-mile radius of the Facility. Samples were analyzed for total metals, coarse and fine fraction lead, isotope analysis, and bioavailability.

Lead exceeded the Removal Management Level (RML) (November 2015) for industrial soils of 800 mg/kg in all samples collected at the Facility. Total lead concentrations ranged from 10,100 to 32,300 mg/kg. Lead was detected in the fine fraction (less than 150 microns [µm]) at a maximum concentration of 44,600 mg/kg. Lead in the fine fraction of soil is more commonly ingested incidentally, so measuring it independently is preferred for assessing risks to human health. Additionally, arsenic was detected in soil at the Facility above the RML of 300 mg/kg in one sample.

¹ Several sample locations identified in the report as being collected in Martindale-Brightwood were not located in that community. Samples outside of Martindale-Brightwood were eliminated from this discussion.

Total lead was above the RML for residential soils (400 mg/kg) at 12 community locations. Those concentrations ranged from 402 to 2,300 mg/kg (Figure 5).

EPA submitted soil samples for isotopic lead analysis to determine if contamination within the community could be attributed to contamination at the Facility. Relative isotopic abundance of isotopes ^{204}Pb , ^{206}Pb , ^{207}Pb , and ^{208}Pb were measured and compared for source and community samples. The results were inconclusive, meaning that contamination within the community could not definitively be attributed to the former American Lead Facility using this technology.

EPA submitted samples for bioavailability analysis for the purpose of assessing human health risks from metals ingested from soil. The bioavailability of the five lead samples collected at the former American Lead Facility ranged from 51% to 117% *in-vitro* bioavailable (IVBA) lead, while the five lead samples collected in the community ranged from 10% to 148% IVBA Pb. A high percentage (>60%) means that more of the ingested lead can be absorbed by the body, and is more of a health risk. There was no distinct pattern to the lead bioavailability distribution, but these analyses showed that some of the lead at the Facility and in the community has high bioavailability and presents a danger to human health. It should be noted that bioavailability as defined above should not exceed 100%. The most likely cause of results exceeding 100% is the heterogeneous distribution of lead in soil. Specifically, bioavailability could be above 100% if the portion of the sample extracted by IVBA contained more lead than the portion of the sample extracted for total lead.

In addition to the laboratory analysis, EPA's Field Environmental Decision Support (FIELDS) Team compared the abundance of lead to other metals to determine if a "fingerprint" for contamination from the Facility could be identified (AR #11). The analysis determined that there was no pattern in any of the ratios between arsenic, copper, selenium, thorium, or zinc to lead in samples collected from the Facility and community. The FIELDS team also conducted a spatial pattern analysis of lead concentrations. This analysis showed a distinct correlation between elevated lead concentrations found in the community with distance from the American Lead Facility. FIELDS determined that elevated lead concentrations were significantly more prevalent within 600 meters of the Facility than at distances beyond 600 meters.

Based on the results of this assessment, EPA concluded the following.

- High levels of lead are still present in soil at the former American Lead Facility. However, the current owner of the Facility has applied for a comfort letter as a *bona fide* prospective purchaser from the Indiana Brownfields Program (IBP). The current owner is cooperating with IBP to implement engineering controls and take reasonable steps with respect to lead remaining on the property.
- The Facility is not likely a source of on-going releases of lead in the community, based on limited air sample results.
- High levels of lead still exist in the soil of the community surrounding the Facility.
- Soil with lead concentrations above the EPA RML appears to be mainly located within 600 meters of the former American Lead Facility, although some samples beyond this distance had lead concentrations above 400 mg/kg.

- With a few exceptions, lead levels are typically higher in the fine fraction ($\leq 150 \mu\text{m}$) of soil in the community, and the fine fraction presents a greater risk to human health due to incidental ingestion.
- Lead in the community has a wide range of bioavailability, some of which is high enough to present a risk to human health.
- Fourteen of the samples collected from the community were within 500 feet of current and/or historic industrial properties that were identified as potential sources of lead. Six of these samples contained lead above 400 mg/kg. However, only one sample had lead greater than the industrial RML at a concentration of 1,130 mg/kg. These data suggest that these other facilities were not likely significant contributors to lead in the environment.
- Lead isotope and trace metals analyses were inconclusive. Although American Lead could not be eliminated as the source of lead in the community, it could not be confirmed either.

Expanded Site Investigation (ESI)

Based on the conclusions of the 2009 Reassessment and EPA's Removal Assessment, IDEM conducted an ESI in August 2015 (AR #19). IDEM expanded the study area beyond the TCRA. Due to the large scale of areas potentially impacted, the project boundaries were divided into two areas: the North and South project areas. The North project area boundaries extended north to 25th Street, beyond Ralston Avenue to the east, west to Yandes Street, and south along 21st Street and the vacated rail line. The South project area boundaries extended south to 16th Street and along I-70, east along Winter Avenue, west along Alvord Street, and to the north largely bounded by 21st Street.

IDEM collected samples in grassy or bare soil areas, and did not collect samples in areas covered by concrete or other impervious surfaces or underneath any structures. The depth of the soil samples varied depending on the location. Soil samples that were collected in areas that were not included in the past TCRA were sampled at a depth of approximately one to six inches bgs, or just below the grass roots. In areas that were excavated during the prior removal action, samples were collected at a depth of approximately 12 to 24 inches bgs based on the depth of the previous excavation. Samples were collected directly underneath the orange construction fence placed down during the removal action, where applicable. All samples were collected no deeper than a maximum depth of 24 inches.

IDEM collected 304 samples from 239 properties for XRF screening. IDEM submitted 138 samples to the laboratory; these included 121 samples that screened near 300 ppm with the XRF and 17 samples from eight background locations. Of the samples submitted for laboratory analysis, 94 samples were collected from 0-6 inches, and 44 samples were collected from 12-24 inches.

Lead concentrations exceeded 400 mg/kg at 76 properties (Figure 6). Lead was detected at a maximum concentration of 27,300 mg/kg at a depth of 13 inches. For samples collected from 0-4 inches, the highest lead concentration was 7,230 mg/kg. This sample was collected near the western boundary of the project area, approximately 0.3 miles from the American Lead Facility.

With an average population of 2.3 people per household, preliminary results indicated that the site did not score high enough to move forward in proposing the Site for the National Priorities List (NPL).

Additional Analyses

EPA conducted additional analyses using IDEM's 2015 ESI results and/or sample aliquots collected by IDEM.

Antimony Analysis

Chapter 12.11 of AP 42, Fifth Edition, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources* (EPA, 2010), contains information on secondary lead processing. According to AP 42, "more than 60 percent of all secondary lead is derived from scrap automobile batteries," producing "hard or antimonial lead containing about 10 percent antimony." The American Lead Facility reclaimed lead from car batteries; therefore, EPA evaluated antimony as an indicator of contamination from the Facility.

To determine if there was a relationship between antimony and lead, EPA performed regression analysis on the sample results from the ESI. The coefficient of variation (R^2) estimates the relationship between the two variables – lead and antimony. The closer to R^2 is to 1, the stronger the relationship between the variables. For data collected from the ESI, R^2 was equal to 0.986, indicating a very strong relationship between lead and antimony (AR #18). Background concentrations of antimony ranged from non-detect to 1.1 mg/kg with a mean value of 0.71 mg/kg. Antimony concentrations at the Facility ranged from 19.6 to 5,340 mg/kg. Within the project area, antimony ranged from 0.65 to 377 mg/kg. Antimony results above background are likely related to contamination from the American Lead Facility.

Scanning Electron Microscope with Energy Dispersive X-Ray Spectroscopy (SEM/EDS) Analysis
EPA submitted 20 samples collected during the ESI for SEM/EDS analysis. The analysis was to determine if there was a correlation between contamination at the Facility and within the community. EPA submitted six samples from the Facility and 14 samples from residential yards. Only samples with lead concentrations greater than 1,200 mg/kg were submitted.

SEM results from the Facility showed that samples contained coal, coal ash, slag, and/or lead-based paint, with coal and coal ash present in all samples (AR #17). Samples collected from residential yards contained coal, coal ash, slag, lead-based paint, wood ash, fly ash, tar, and/or asphalt, with all samples containing coal and/or coal ash.

According to AP 42, secondary lead smelting was done in blast or reverberatory furnaces. "In blast furnaces pretreated scrap metal, rerun slag, scrap iron, coke, recycled dross, flue dust, and limestone are used as charge materials to the furnace. The process heat needed to melt the lead is produced by the reaction of the charged coke with blast air that is blown into the furnace. Some of the coke combusts to melt the charge, while the remainder reduces lead oxides to elemental lead." However, reverberatory furnaces were "charged with lead scrap, metallic battery parts, oxides, drosses, and other residues. The charge is heated directly to a temperature of 1260°C (2300°F) using natural gas, oil, or coal."

According to information in AP 42, coal or coke (made from coal) would likely have been used in the Facility's furnaces to smelt lead. The SEM analysis documented the presence of coal and coal ash in all samples collected at the Facility. Furthermore, all samples submitted for SEM analysis from residential yards contained coal and/or coal ash. This further substantiates attribution between contamination in residential properties and Facility contamination.

Of the six samples submitted from the Facility, three contained slag. The presence of slag in residential yards may indicate that the fill is from the Facility. However, the absence of slag does not mean that the fill did not originate from the Facility.

The EDS analysis showed a lack of lead in most samples. However, the particles analyzed by SEM/EDS were generally larger than 1 millimeter (mm). The coarse/fine analysis EPA conducted showed that lead was highest in the fine fraction - 150 microns (or 0.15 mm) or smaller. The SEM/EDS did not analyze particles small enough to be found in the fine fraction. However, lead concentrations were greater than 1,200 mg/kg in all the samples submitted for SEM/EDS analysis. EDS analysis corroborates previous analysis conducted by EPA – lead is higher in the fine fraction, which is the fraction that is most ingestible and the greatest risk to human health.

Summary

Sampling has been conducted by EPA, IDEM, and IUPUI/IKE in the Martindale-Brightwood community since the completion of the 2005-2007 time-critical removal action. Sampling was conducted in areas in and beyond the original TCRA. The original TCRA was determined using lead particulate depositional modeling. Analytical and field screening results since 2007 indicate that high levels of lead remain in the community beyond the TCRA.

Lead concentrations are inconsistently distributed. Lead concentrations in subsurface soils were greater than surface soils in many places. Also there was no consistent decreasing gradient of lead concentrations moving away from the Facility. Historical documentation of the Martindale-Brightwood community indicates that the area was low-lying and swampy in the past and filled in. As such, it is likely that contamination beyond the TCRA is the result of contaminated fill and not the result of airborne deposition. Residents and workers in the community anecdotally reported that waste piles from the American Lead Facility were used as fill in the community.

Antimony results above background concentrations and the presence of coal and/or coal ash are an indicator of the presence of contamination from the Facility.

The Site does not meet the minimum score to be placed on the NPL. However, lead concentrations in the community present a significant risk to human health as determined by total lead concentrations, lead in the fine fraction, and bioavailability analysis.

2. Physical Location

The Site is an area surrounding the former American Lead Facility, which is located at 2102 Hillside Avenue in Indianapolis, Indiana, 46218 (Figure 1). Facility coordinates are 39.796085 degrees north latitude and 86.130080 degrees west longitude. The Site is located northeast of

downtown Indianapolis in the historic Martindale-Brightwood neighborhood. Indianapolis is Indiana's largest city with a total population of 853,173, according to U.S. Census QuickFacts (2015).

The AOC is roughly delineated by 25th Street to the north, Ralston Avenue to the northeast, along the railroad to I-70 with I-70 forming the southern border, and the Monon Trail to the west (Figure 3). The Site includes a mixture of industrial, commercial, and residential properties, including single-family homes, vacant lots, community centers, playgrounds, parks, and schools.

EPA conducted an EJ analysis for the Site (see Attachment I). Screening of the surrounding area used Region 5's EJ Screen Tool. Region 5 has reviewed environmental and demographic data for the area surrounding the American Lead Site, and determined there is high potential for EJ concerns at this location.

3. Site Characteristics

The Site is an AOC surrounding the former American Lead Facility. The former American Lead Facility has been used for industrial purposes since the late 1800s. Between 1949 and 1970, secondary lead smelter operated at the Facility. Properties within the AOC were likely contaminated by smelting operations at the Facility either by deposition of fugitive emissions or by placement of contaminated fill.

Between 2005 and 2007, EPA directed a time-critical removal action conducted by NL Industries at the American Lead Site. NL Industries removed lead-contaminated soil at 224 properties under an Administrative Order on Consent. The cleanup area for that removal action was determined by an airborne depositional model, and divided into two areas - the North and South TCRA. NL Industries removed and disposed of soil contaminated with lead at or greater than 400 mg/kg. Soil was removed to a maximum excavation depth of one foot in general residential areas and up to a maximum excavation depth of two feet in gardens and play areas. If confirmation sampling indicated that the yard was above the 400 mg/kg action level, an orange snow fence marker was installed to identify the presence of possible impacted soil below the marker. 201 properties had fence markers installed on their properties, indicating residual contamination below the removal depth.

4. Release or threatened release into the environment of a hazardous substance, or pollutant or contaminant

EPA documented a release of hazardous substances, pollutants, or contaminants in the soil. The table below lists the components of the completed environmental exposure pathways (i.e., human exposure has occurred or is occurring). Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil. Potential human receptors include residents, including children under seven years of age and pregnant or nursing women; and construction and utility workers.

| Pathway Name | Contaminants | Point of Exposure | Route of Exposure | Exposed Population |
|--------------|--------------|-------------------|-------------------|--------------------|
|--------------|--------------|-------------------|-------------------|--------------------|

| | | | | |
|-------------------|-------------|----------------|---------------------------------|--|
| Soil/Dust | Lead | Yards | Ingestion Inhalation | Residents, including children; construction and utility workers |
| Vegetables | Lead | Gardens | Ingestion | Gardeners who eat home grown vegetables from contaminated areas |

5. NPL status

IDEM evaluated the Site for the NPL. Preliminary results indicated that the site did not score high enough to move forward in proposing the Site for the NPL (AR #19). The actual numeric HRS score is confidential, and has not been included in this Action Memorandum.

6. Maps, pictures and other graphic representations

Maps include:

- Figure 1 – Site Location Map
- Figure 2 – Martindale-Brightwood Neighborhood
- Figure 3 – Area of Concern
- Figure 4 – 2005-2007 Time-Critical Removal Area
- Figure 5 – Removal Assessment Results
- Figure 6 – Expanded Site Investigation Results

B. Other Actions to Date

1. Previous actions

Between 2005 and 2007, NL Industries conducted a time-critical removal action in the community around the American Lead Site. NL removed lead-contaminated soil from 108 vacant properties, eight churches, and 108 residential properties (AR #8).

In 2015, IDEM evaluated the Site for the NPL. Preliminary results indicated that the site did not score high enough to move forward in proposing the Site for the NPL. However, high levels of lead are still present in the community.

2. Current actions

King Park Community Development Corporation (CDC) is targeting redevelopment for three blocks at the Site. King Park CDC purchased properties in the area bounded by 21st Street to the north, Yandes Street to the east, 17th Street to the south, and Alvord Street to the west. King Park CDC is planning removal at those properties contaminated with lead.

The current owner of the American Lead Facility is cooperating with IBP to implement engineering controls and take reasonable steps with respect to lead remaining on the property.

C. State and Local Authorities' Roles

On May 20, 2016, Rex Osborn, Federal Programs Section Chief with IDEM, sent an email requesting assistance from EPA (AR #13). He indicated that state authorities do not have the resources to mitigate the releases and threats of release at the Site.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the American Lead Site present a threat to the public health or welfare, and the environment, and meet the criteria for a time-critical removal action as provided for in the NCP, 40 CFR 300.415(b)(2). These criteria include, but are not limited to, the following:

300.415(b)(2)(i) - Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

IDEM documented the presence of lead in soil at concentrations above the RML for residential soil of 400 mg/kg. Lead was detected at a maximum concentration of 27,300 mg/kg in a residential yard. Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil. Potential human receptors include residents, including children under seven years of age and pregnant or nursing women; construction and utility workers.

Lead is a hazardous substance, as defined by Section 101(14) of CERCLA. 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. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults 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 causes small increases in blood pressure, particularly in middle-aged and older people 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. High-level exposure in men can damage the organs responsible for sperm production (AR #6).

300.415(b)(2)(iv) - High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

EPA identified lead in the top two feet of soil above the RML. Lead-contaminated soil may migrate as airborne particulate matter, surface runoff, percolation into groundwater, through construction activities, by children transporting soil/dust into their homes after playing in contaminated soil, and by tracking in homes via foot traffic into residences.

300.415(b)(2)(v) - Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

There is a threat of release from high winds dispersing surface particulate matter containing lead, resulting in exposure to children and adults who reside in the AOC.

300.415(b)(2)(vii) - The availability of other appropriate federal or state response mechanisms to respond to the release;

IDEM requested EPA assistance in mitigating the threat of release. The state agency does not have the resources to respond to the release.

IV. EXEMPTION FROM STATUTORY LIMITS

Section 104(c) under CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), limits a Federal response action to 12 months and \$2 million unless response actions meet emergency and/or consistency exemptions. Based on cost accounting at other lead removal sites and the number of anticipated properties exceeding the action level, the total cost is expected to exceed \$2 million. In addition, construction and yard restoration are limited to the months in which grass can root. It is anticipated that the removal action will take longer than 12 months because of seasonal limitations to construction and restoration.

The conditions present at the American Lead Site warrant the 12-month and \$2 million exemption based on the emergency exemption.

Emergency Exemption:

A. There is an immediate risk to public health or welfare or the environment;

Concentrations of lead in soil represent an immediate risk to public health. As documented in the *Removal Site Evaluation* section, EPA, IDEM, and IUPUI/IKE detected lead above 400 mg/kg at numerous properties. Lead was detected at a residential property at a maximum concentration of 27,300 mg/kg. According to data provided by Marion County Public Health Department (MCPHD), the three zip codes (46202, 46205, and 46218) that comprise Martindale-Brightwood have elevated blood lead levels (BLL) compared to the rest of Marion County (AR #1). The percentage of the population tested with elevated BLL (>10 micrograms per deciliter [$\mu\text{g/dL}$]) ranged from 3.12 to 4.48%, while the average for Marion County was 2.49%. The percentage of the Martindale-Brightwood community with highly elevated BLL (>20 $\mu\text{g/dL}$) was higher on average than the rest of Marion County. In Martindale-Brightwood the percentage with highly elevated BLL ranged from 0.67 to 0.92%, while the rest of Marion County averaged 0.52%. The BLL data confirms an immediate risk to public health.

B. Continued response actions are immediately required to prevent, limit, or mitigate an emergency;

The high concentrations of lead in soil constitute an imminent threat to human health as documented above. Continued response actions are immediately required to mitigate

exposure to nearby residents to hazardous substances through the soil pathway. The response actions will prevent, limit, and mitigate threats to human health.

C. Assistance will not otherwise be provided on a timely basis.

In an e-mail dated May 20, 2016, IDEM requested assistance from EPA to address the potential threats to the community. IDEM indicated that they do not have the resources to conduct this work. Without a time-critical removal action by EPA, assistance will not otherwise be provided on a timely basis.

V. ENDANGERMENT DETERMINATION

Given the site conditions, the nature of the known and suspected hazardous substances on site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

VI. PROPOSED ACTIONS

A. Proposed Actions

1. Proposed action description

The response actions described in this memorandum directly address actual or potential releases of hazardous substances, which may pose an imminent and substantial endangerment to public health, or welfare, or the environment.

The proposed action involves excavation and removal of lead-contaminated soil, backfilling excavated areas to original grade with clean topsoil, and restoring landscaping. Removal and proper disposal of contaminated soil that exceeds the action level is necessary due to elevated bioavailability of lead in surface soil that present an imminent and substantial endangerment to public health. This approach is consistent with Office of Solid Waste and Emergency Response (OSWER) Publication 9285.7-50 *Superfund Lead-Contaminated Residential Sites Handbook* (Handbook) (2003) (AR #3).

Residential properties are defined as “any area with high accessibility to sensitive populations,” including “single- and multi-family dwellings, apartment complexes, vacant lots in residential areas, schools, day-care centers, community centers, playgrounds, parks, greenways, and any other areas where children may be exposed,” according to the Handbook. The AOC includes over 1,300 properties. Of these, over 1,200 properties are defined as residential by the Handbook, although over 500 properties are currently zoned “vacant.” It is anticipated that a large number of properties may meet the criteria for a removal action.

According to data from the 2010-2014 American Community Survey (AR #16), approximately 72 percent of homes in the census blocks that comprise the AOC were constructed prior to 1979. Many homes built before 1978 have lead-based paint that can pose serious health hazards

(www.epa.gov/lead). EPA's Superfund Program does not usually remediate contamination from lead-based paint.

Due to the factors listed above, EPA will use multiple lines of evidence in determining which properties are eligible for cleanup. EPA will remove lead-contaminated soil at properties that meet the following criteria:

- Lead concentrations are greater than or equal to 400 mg/kg as identified by IDEM and/or IUPUI/IKE;
- Antimony concentrations are above background levels; and
- Zoning is classified as residential, day-care center, community center, playground, park, place of worship, or school, and the property is occupied or otherwise in use.

EPA will sample additional residential properties, as requested. Additional properties that meet the above criteria will be cleaned up during the removal action. For cost accounting purposes, EPA estimated the scope of this removal action to include approximately 100 properties.

EPA will prioritize cleanup of residential properties as detailed in the table below. The Handbook defined sensitive populations as young children under seven years of age and pregnant or nursing women.

| Priority | Lead Concentration (mg/kg) | Land Use | Sensitive Populations |
|----------|----------------------------|-------------------|-----------------------|
| 1 | >400 | Residential | Present |
| | | Child's Play Area | Present |
| | | Garden | Not applicable |
| 2 | >1,200 | Residential | Not present |
| 3 | 400 – 1,200 | | |

Removal activities will include:

1. Preparing site plans, including a Work Plan, QAPP, site-specific HASP, and Emergency Contingency Plan.
2. Sampling at eligible properties within the project area to determine the need for a removal action. Soil sampling will be conducted in accordance with the Handbook. Residential yards will be divided into sections representing front yard, back yard, side yard (if warranted), and garden areas. One five-point composite sample will be collected from each section of yard. EPA will analyze soil samples for lead content using XRF spectroscopy using the procedures detailed in Environmental Response Team (ERT) Standard Operating Procedure (SOP) 1713-R10 (AR #2) and Solid Waste (SW) 846 Method 6200, Field Portable X-Ray Fluorescence Spectroscopy for the Determination of Elemental concentrations in Soil and Sediment (AR #5). A representative number of samples will be sent to an off-site laboratory for confirmation analysis in accordance with the QAPP.

3. Excavating soil at properties where lead exceeded 400 mg/kg. Soil will be excavated to a maximum depth of two feet bgs. Excavation will cease if lead concentrations are less than 400 mg/kg after the top 12 inches of soil have been removed.
4. Collecting and analyzing confirmation samples from the bottom of each excavation. If lead levels below 400 mg/kg cannot be achieved at an excavation depth of two feet bgs, excavation will cease and a visible barrier will be placed at the bottom of the excavation to alert the property owner of the existence of high levels of lead.
5. Replacing excavated soil with clean soil. Excavated areas will be backfilled with clean soil to original grade. Clean soil must contain lead concentrations less than naturally-occurring background and all other hazardous substances, pollutants, or contaminants at concentrations below residential RML.
6. Restoring landscaping and grass destroyed during removal actions and repairing any damage to property caused by excavation activities.
7. Collecting samples for disposal analysis. Soil samples for disposal analysis will be tested using Toxicity Characteristic Leaching Procedure (TCLP). Soil that exceeds the criteria in 40 CFR § 261.24 for toxicity will be treated prior to disposal.
8. Transporting and disposing off-site any hazardous substances, pollutants and contaminants at a CERCLA-approved disposal facility in accordance with U.S. EPA's Off-Site Rule (40 CFR § 300.440).
9. Taking any other response actions to address any release or threatened release of a hazardous substance, pollutant or contaminant that the EPA On-Scene Coordinator (OSC) determines may pose an imminent and substantial endangerment to the public health or the environment.

The removal actions will be conducted in a manner not inconsistent with the NCP.

EPA has initiated planning for provision of post-removal site control (PRSC) consistent with the provisions of the NCP at § 300.415(l). PRSC measures will help minimize the potential for future human exposure to any remaining contamination and protect the integrity of the remedy. The City of Indianapolis has agreed to implement and manage governmental controls to minimize exposure to remaining contamination. Control measures will consist of the City requiring soil sampling prior to issuing building/excavation permits for properties within the AOC that either were not cleaned up or where excavation beyond the cleanup depth is planned. Where soil sampling indicates high levels of lead, the developer would be required to clean up contaminated soil or would not be issued a permit for development.

The threats posed by uncontrolled substances considered hazardous meet the criteria listed in the NCP at § 300.415(b)(2), and the response actions proposed herein are consistent with any long-term remedial actions which may be required. Elimination of hazardous substances, and

pollutants and contaminants that pose a substantial threat of release is expected to minimize substantial requirements for post-removal site controls.

Off-Site Rule

All hazardous substances, pollutants, or contaminants removed off-site pursuant to this removal action for treatment, storage, and disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by EPA, with the EPA Off-Site Rule, 40 C.F.R. § 300.440.

2. Contribution to remedial performance

The proposed action should not impede future remedial performance.

3. Engineering Evaluation/Cost Analysis (EE/CA)

Not Applicable

4. Applicable or relevant and appropriate requirements (ARARs)

On May 24, 2016, the OSC sent a letter requesting ARARs to IDEM (AR #14). IDEM provided the following ARARs in a letter dated June 1, 2016 (AR #15).

Action Specific:

1. Pursuant to 326 Indiana Administrative Code (IAC) 6-4-2(4), visible fugitive dust must not cross an adjacent property line.
2. Pursuant to 326 IAC 6-4-4, any vehicle driven on any public right of way must not allow its contents to escape and form fugitive dust.
3. If this action will result in leaving contamination in place such that unrestricted land use is not permitted, an Environmental Restrictive Covenant (ERC) should be recorded for the property per Indiana Code (IC) 13-25-4-24.

Chemical Specific:

4. 329 IAC 3.1 regulates the management of hazardous wastes. Indiana Rule 329 IAC 3.1-1-1 adopts Resource Conservation and Recovery Act (RCRA) regulations of 40 CFR 260 through 40 CFR 270. More specifically:
 - 40 CFR 262.11 (329 IAC 3.1-6) requires that a proper hazardous waste determination must be made on all wastes generated from remedial actions.
 - All hazardous waste must be properly packaged, with labels, markings and placards, prior to transport (40 CFR 262.30, 262.31, 262.32, and 262.33)(329 IAC 3.1-7 and 329 IAC 3.1-8).
 - Hazardous waste stored onsite in containers for 90 days or less shall be managed in accordance with the standards of 40 CFR 265, Subpart I (329 IAC 3.1-10). Hazardous waste stored onsite in containers for greater than 90 days shall be managed in accordance with 40 CFR 264, Subpart I (329 IAC 3.1-9).
 - 40 CFR 261, Subpart B requires that hazardous waste must be manifested as such for transport to a permitted treatment, storage, or disposal facility

(TSDF) in accordance with 40 CFR 262, Subpart B (329 IAC 3.1-7 and 329 IAC 3.1-8).

- For all hazardous waste related equipment, remove or decontaminate all hazardous waste residues, contaminated containment components, contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste unless 40 CFR 261.3(d) applies.
- Any excavated contaminated soils must not be placed back on the ground so as to create a waste pile as defined in 40 CFR 264, Subpart L. Covered roll-offs may be used.
- Hazardous waste destined for land disposal (as defined in 40 CFR 268.2) must meet the applicable Land Disposal Restrictions of 40 CFR 268.

5. 329 IAC 10 regulates the management of solid wastes.

- 329 IAC 10-7.2-1 requires all wastes to undergo a waste determination, and if found to be nonhazardous, be disposed of in a permitted solid waste disposal facility.

6. 327 IAC 2-11 regulates groundwater quality impacts and would be relevant if private drinking water wells exist in the area of the removal action. More specifically:

- 327 IAC 2-11-2(e) states that no person shall cause the groundwater in a drinking water supply well to have a contaminant concentration that results in an exceedance of numeric criteria contained within the rule for drinking water class groundwater, creates a condition that is injurious to human health, creates an exceedance of specific indicator criteria levels contained within the rule, or renders the well unusable for normal domestic use.

Additionally, the OSC identified the following ARARs:

1. Hazardous substances, pollutants or contaminants removed off-site pursuant to this emergency response action for treatment, storage and disposal shall be treated, stored, or disposed at a facility in compliance, as determined by EPA, with the EPA Off-Site Rule, 40 C.F.R. § 300.440.
2. Subtitle D of RCRA, Section 1008 and Section 4001, *et seq.*, 42 USC § 691, *et seq.*, regulates solid waste.
3. Subtitle C of RCRA, 42 USC § 6901 *et seq.*, 40 CFR Part 260 *et seq.* implements federal and state regulations for contaminated soil that exhibit the characteristic of toxicity and are considered RCRA hazardous waste.
4. 40 CFR § 50.6 and § 50.12 establish national ambient air quality standards for air quality pertaining to particulate matter and lead. Engineering controls will be used at the Site to achieve those standards.

5. 49 U.S.C. § 5101 *et seq.* regulates the transportation of hazardous waste and hazardous substances by aircraft, railcars, vessels, and motor vehicles to or from a site.
6. 29 CFR § 1910 promulgates occupational safety and health standards for hazardous waste operations and emergency response. It regulates cleanup operations at uncontrolled hazardous waste sites.

EPA will comply with ARARs to the extent practicable.

5. Project Schedule

The time-critical removal actions will require approximately 100 working days to complete.

B. Removal Project Ceiling Estimate – Extramural Costs:

| | |
|--|--------------------|
| <u>Regional Removal Allowance Costs:</u> | |
| Total Cleanup Contractor Costs (Includes a 10% contingency) | \$4,309,270 |
| <u>Other Extramural Costs Not Funded from the Regional Allowance</u> | |
| Total START, including multiplier costs | \$298,800 |
| Subtotal, Extramural Costs | \$4,608,070 |
| Extramural Costs Contingency (10% of Subtotal, Extramural Costs) | \$460,807 |
| TOTAL REMOVAL ACTION PROJECT CEILING | \$5,068,877 |

The response actions described in this memorandum directly address the actual or threatened release of hazardous substances, pollutants, or contaminants at the site which may pose an imminent and substantial endangerment to public health or welfare or to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

VII. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the site conditions, the nature of the hazardous substances and pollutants or contaminants documented on site, and the potential exposure pathways to nearby populations described in Section II, III, IV, and V above, actual or threatened releases of hazardous substances and pollutants or contaminants from this Site, if not addressed by implementing or delaying the

response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment, increasing the potential that hazardous substances will be released, thereby threatening the adjacent population and the environment.

VIII. OUTSTANDING POLICY ISSUES

The proposed time-critical removal actions will be consistent with the *Superfund Lead-Contaminated Residential Sites Handbook* (2003).

IX. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this site is contained in the Confidential Enforcement Addendum.

The total EPA costs of this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$9,100,029².

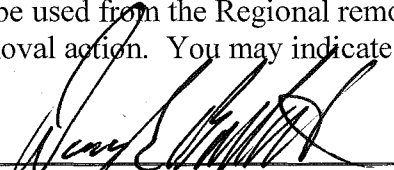
$$(\$5,068,877 + \$66,000) + (77.22\% \times \$5,134,877) = \$9,100,029$$

X. RECOMMENDATION

This decision document represents the selected removal actions for the American Lead Site located in Indianapolis, Marion County, Indiana, developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the site.

Conditions at the site meet the NCP § 300.415(b)(2) criteria for a time-critical removal action and the CERCLA section 104(c) emergency exemption from the \$2 million and 12-month limitations. The total project ceiling, if approved, will be \$5,068,877, of which, as much as \$4,770,077 may be used from the Regional removal allowance. I recommend your approval of the proposed removal action. You may indicate your decision by signing below.

APPROVE


Acting Director, Superfund Division

DATE:

8/4/2016

DISAPPROVE

Acting Director, Superfund Division

DATE:

² Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgement interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States right to cost recovery.

Enforcement Addendum

Figures:

- 1 – Site Location Map
- 2 – Martindale-Brightwood Neighborhood
- 3 – Area of Concern
- 4 – 2005-2007 Time-Critical Removal Area
- 5 – Removal Assessment Results
- 6 – Expanded Site Investigation Results

Attachments:

- I. Environmental Justice Analysis
- II. Administrative Record Index
- III. Detailed Cleanup Contractor Estimate
- IV. Independent Government Cost Estimate

cc: Brian Schlieger, U.S. EPA, 5104A/B517F (**Schlieger.Brian@epa.gov**)
Lindy Nelson, U.S. DOI, **w/o Enf. Addendum** (**Lindy_Nelson@ios.doi.gov**)
Rex Osborn, IDEM **w/o Enf. Addendum** (**rosborn@idem.in.gov**)

BCC PAGE HAS BEEN REDACTED

**NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ENFORCEMENT ADDENDUM

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ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

FIGURES

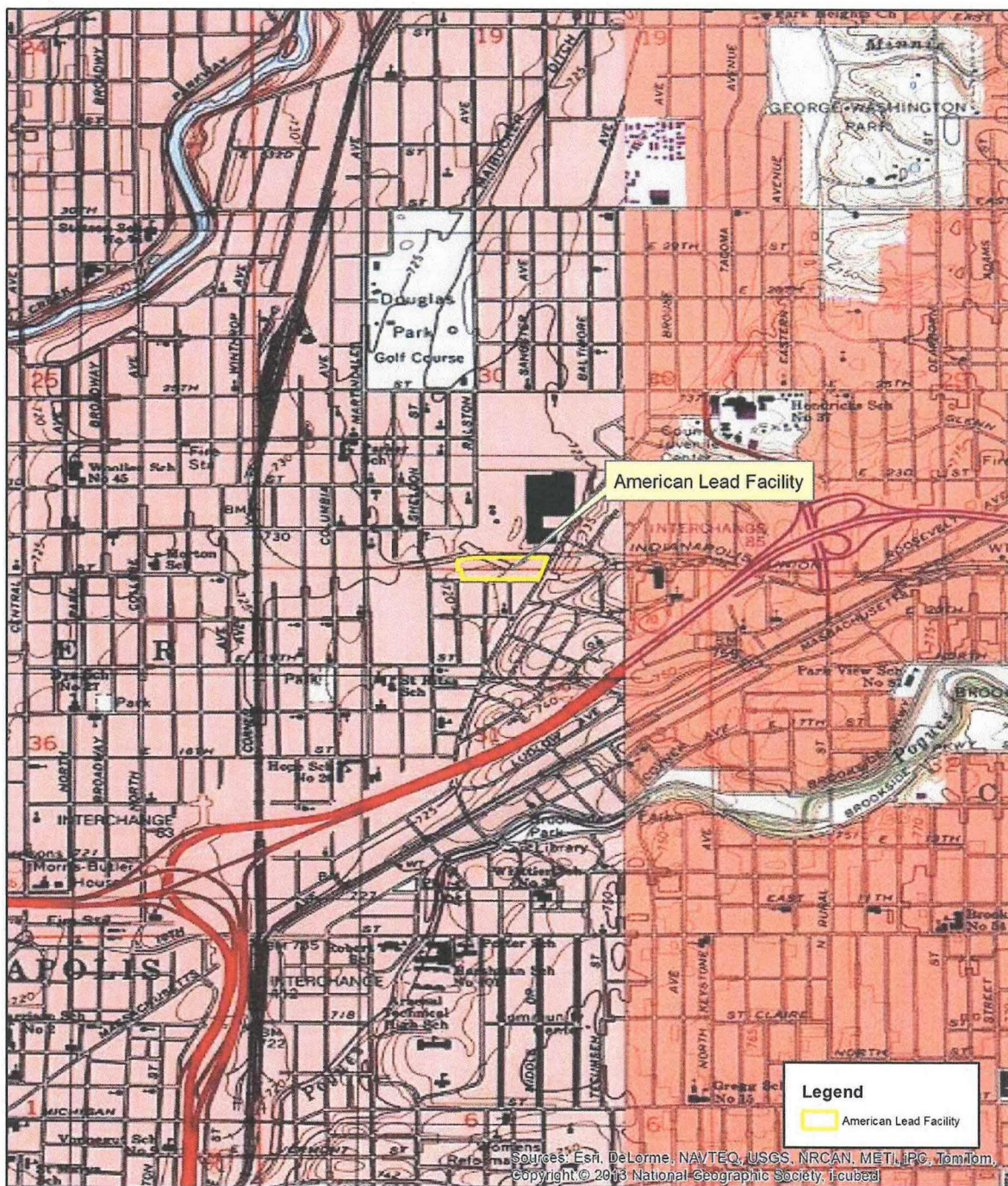


FIGURE 1
SITE LOCATION MAP
AMERICAN LEAD SITE
INDIANAPOLIS, MARION COUNTY, INDIANA



0 1,000 2,000
 Feet



FIGURE 2
MARTINDALE-BRIGHTWOOD NEIGHBORHOOD
AMERICAN LEAD SITE
INDIANAPOLIS, MARION COUNTY, INDIANA



0 2,000 4,000
 Feet

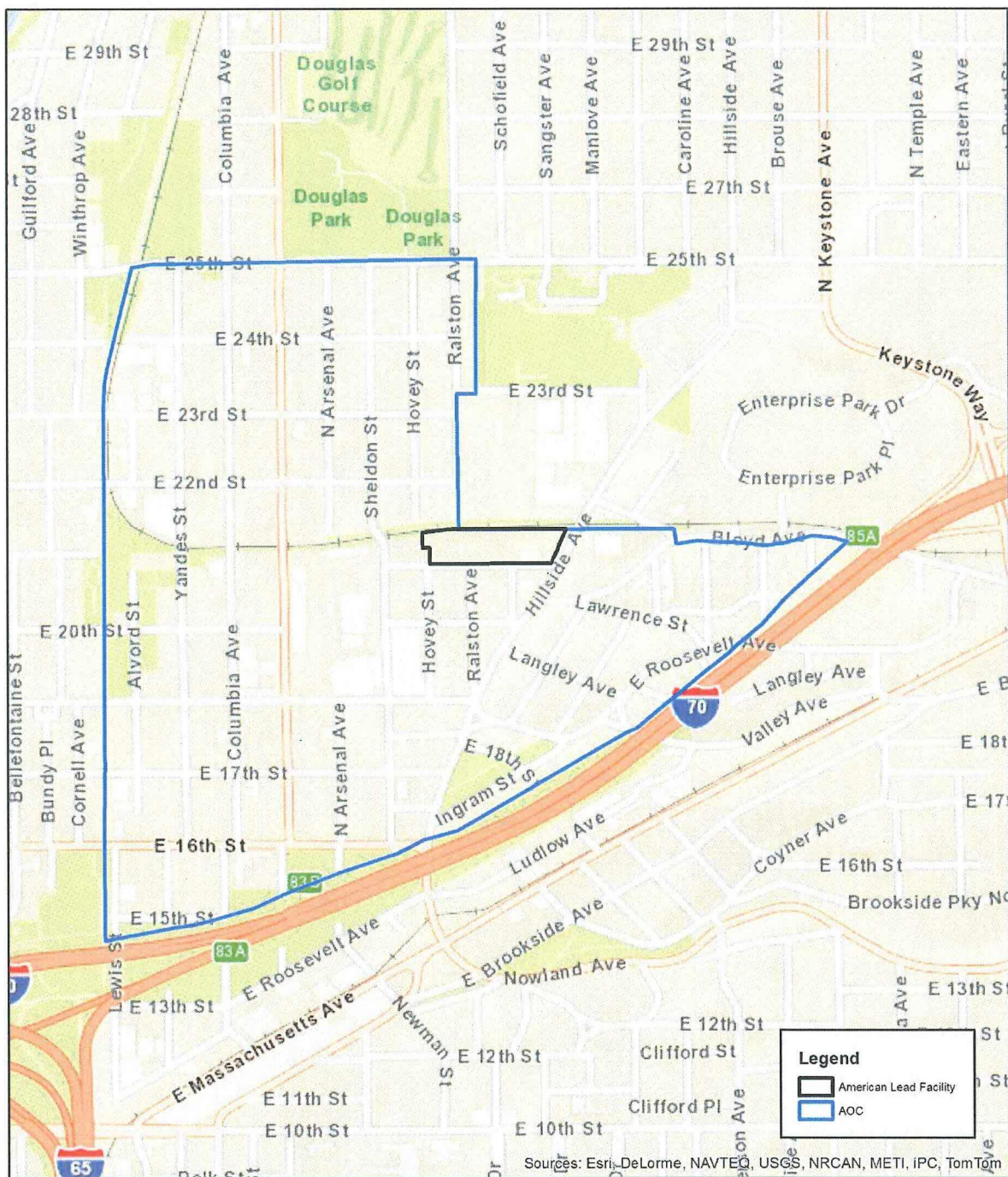


FIGURE 3
AREA OF CONCERN
AMERICAN LEAD SITE
INDIANAPOLIS, MARION COUNTY, INDIANA



0 1,000 2,000
 Feet

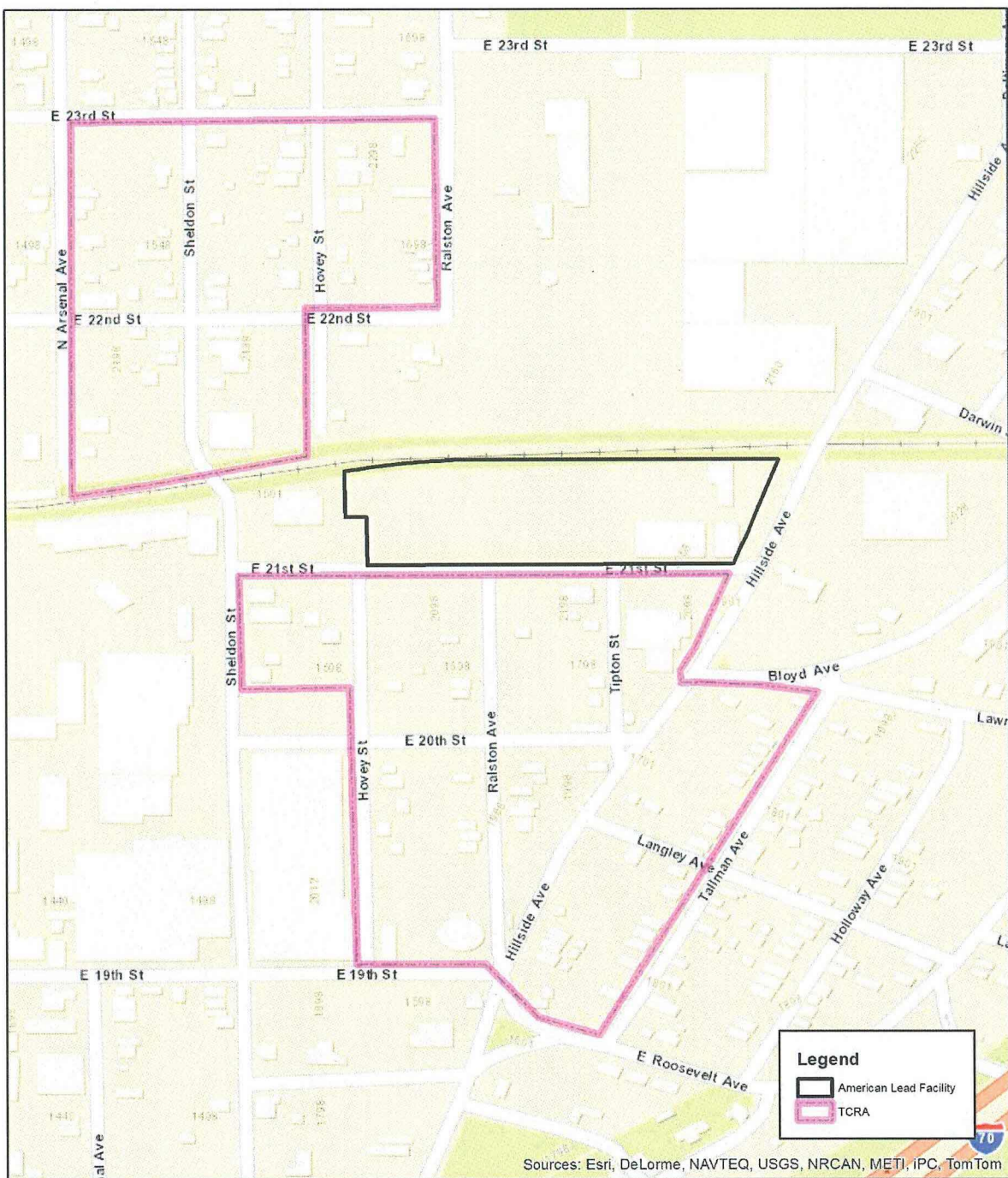


FIGURE 4
2005-2007 TIME-CRITICAL REMOVAL AREA
AMERICAN LEAD SITE
INDIANAPOLIS, MARION COUNTY, INDIANA



0 250 500
 Feet

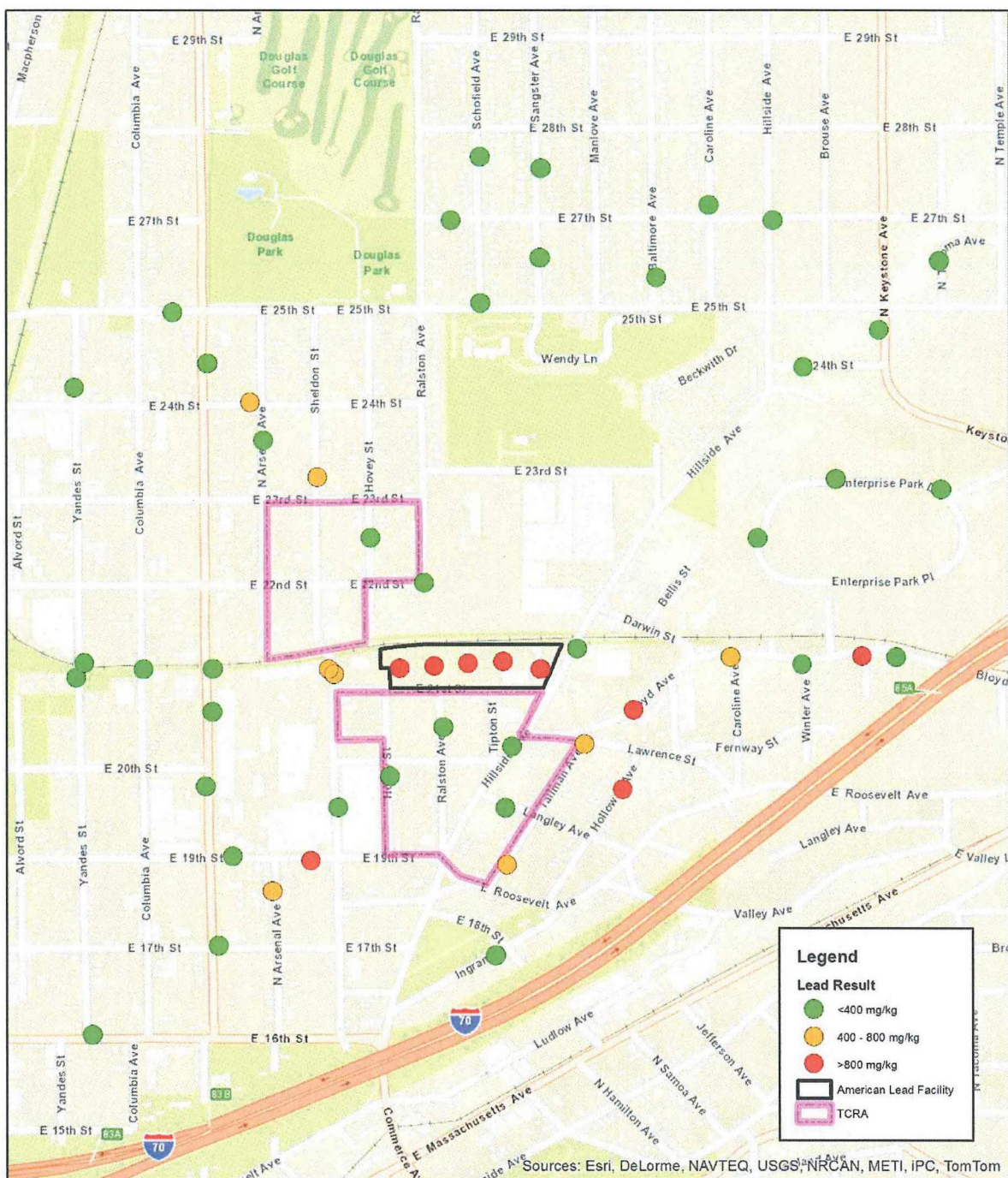


FIGURE 5
REMOVAL ASSESSMENT RESULTS
AMERICAN LEAD SITE
INDIANAPOLIS, MARION COUNTY, INDIANA



0 500 1,000
 Feet



0 500 1,000 Feet

ATTACHMENT I

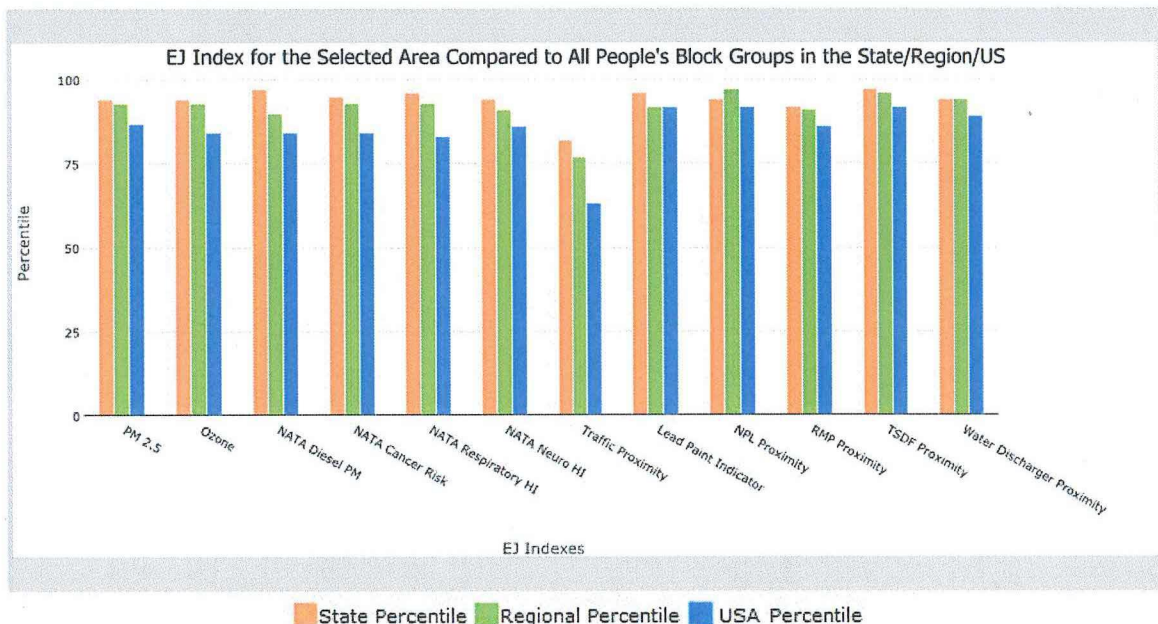
**U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION**

**ENVIRONMENTAL JUSTICE ANALYSIS
FOR
AMERICAN LEAD SITE
INDIANAPOLIS, MARION COUNTY, INDIANA**

for 1 mile Ring Centered at 39.795635,-86.128370, INDIANA, EPA Region 5

Approximate Population: 9048

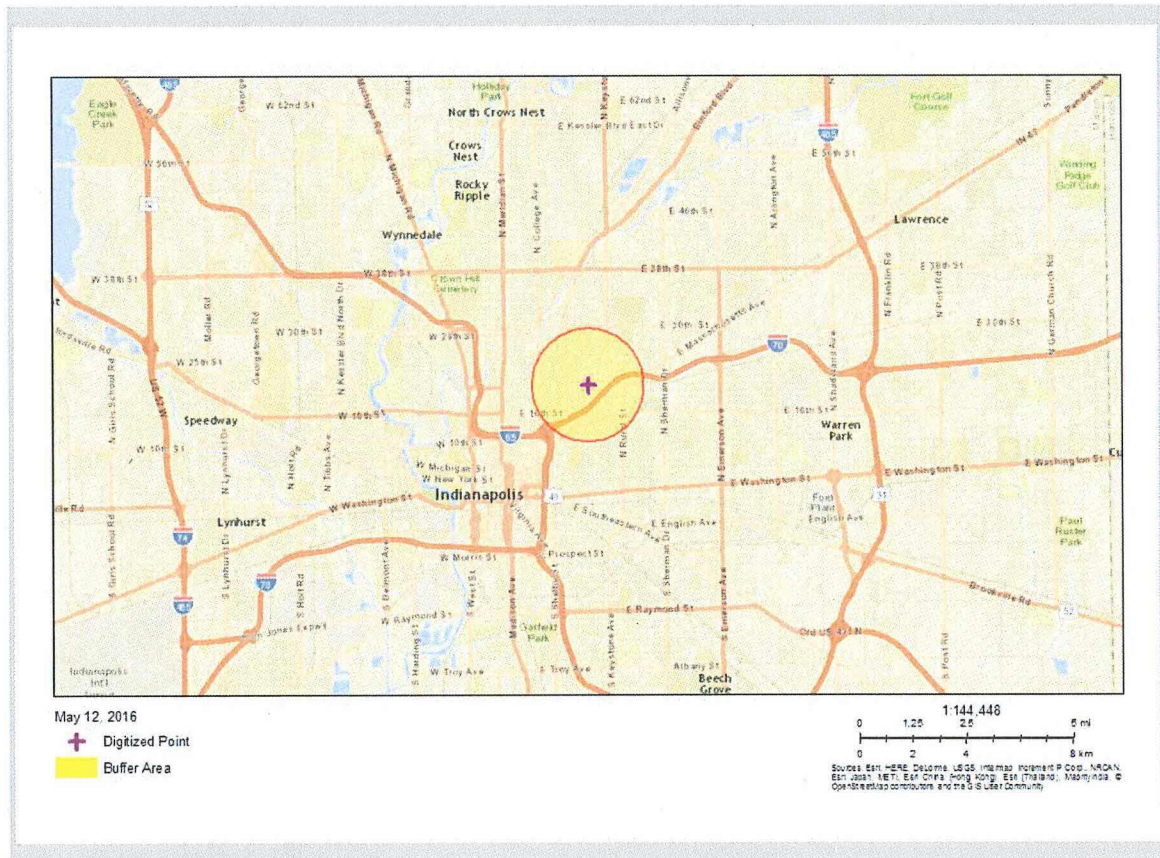
| Selected Variables | State Percentile | EPA Region Percentile | USA Percentile |
|--|------------------|-----------------------|----------------|
| EJ Indexes | | | |
| EJ Index for PM _{2.5} | 94 | 93 | 87 |
| EJ Index for Ozone | 94 | 93 | 84 |
| EJ Index for NATA Diesel PM | 97 | 90 | 84 |
| EJ Index for NATA Air Toxics Cancer Risk | 95 | 93 | 84 |
| EJ Index for NATA Respiratory Hazard Index | 96 | 93 | 83 |
| EJ Index for NATA Neurological Hazard Index | 94 | 91 | 86 |
| EJ Index for Traffic Proximity and Volume | 82 | 77 | 63 |
| EJ Index for Lead Paint Indicator | 96 | 92 | 92 |
| EJ Index for Proximity to NPL sites | 94 | 97 | 92 |
| EJ Index for Proximity to RMP sites | 92 | 91 | 86 |
| EJ Index for Proximity to TSDFs | 97 | 96 | 92 |
| EJ Index for Proximity to Major Direct Dischargers | 94 | 94 | 89 |



This report shows environmental, demographic, and EJ indicator values. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block group or buffer area compares to the entire state, EPA region, or nation. For example, if a given location is at the 95th percentile nationwide, this means that only 5 percent of the US population has a higher block group value than the average person in the location being analyzed. The years for which the data are available, and the methods used, vary across these indicators. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports.

for 1 mile Ring Centered at 39.795635,-86.128370, INDIANA, EPA Region 5

Approximate Population: 9048





EJSCREEN Report



for 1 mile Ring Centered at 39.795635, -86.128370, INDIANA, EPA Region 5

Approximate Population: 9048

| Selected Variables | Raw Data | State Avg. | %ile in State | EPA Region Avg. | %ile in EPA Region | USA Avg. | %ile in USA |
|---|----------|------------|---------------|-----------------|--------------------|----------|-------------|
| Environmental Indicators | | | | | | | |
| Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$) | 12.4 | 11.3 | 97 | 10.8 | 92 | 9.78 | 95 |
| Ozone (ppb) | 47.9 | 46.5 | 70 | 44.4 | 83 | 46.1 | 59 |
| NATA Diesel PM ($\mu\text{g}/\text{m}^3$)* | 0.91 | 0.341 | 96 | 0.712 | 70-80th | 0.824 | 60-70th |
| NATA Cancer Risk (lifetime risk per million)* | 58 | 36 | 98 | 42 | 80-90th | 49 | 70-80th |
| NATA Respiratory Hazard Index* | 2.4 | 1.1 | 98 | 1.5 | 80-90th | 2.3 | 60-70th |
| NATA Neurological Hazard Index* | 0.082 | 0.059 | 86 | 0.067 | 80-90th | 0.063 | 80-90th |
| Traffic Proximity and Volume (daily traffic count/distance to road) | 2.3 | 24 | 13 | 69 | 7 | 110 | 5 |
| Lead Paint Indicator (% Pre-1960 Housing) | 0.64 | 0.37 | 80 | 0.4 | 75 | 0.3 | 82 |
| NPL Proximity (site count/km distance) | 0.18 | 0.11 | 86 | 0.086 | 90 | 0.096 | 89 |
| RMP Proximity (facility count/km distance) | 0.3 | 0.35 | 69 | 0.33 | 71 | 0.31 | 75 |
| TSDF Proximity (facility count/km distance) | 0.12 | 0.042 | 93 | 0.051 | 92 | 0.054 | 91 |
| Water Discharger Proximity (facility count/km distance) | 0.27 | 0.26 | 71 | 0.23 | 76 | 0.25 | 77 |
| Demographic Indicators | | | | | | | |
| Demographic Index | 74% | 26% | 96 | 28% | 94 | 35% | 91 |
| Minority Population | 76% | 19% | 95 | 24% | 90 | 36% | 83 |
| Low Income Population | 72% | 34% | 94 | 32% | 94 | 34% | 93 |
| Linguistically Isolated Population | 2% | 2% | 74 | 2% | 70 | 5% | 55 |
| Population With Less Than High School Education | 27% | 13% | 90 | 12% | 91 | 14% | 83 |
| Population Under 5 years of age | 8% | 7% | 69 | 6% | 73 | 7% | 70 |
| Population over 64 years of age | 10% | 13% | 37 | 13% | 37 | 13% | 41 |

* The National-Scale Air Toxics Assessment (NATA) is EPA's ongoing, comprehensive evaluation of air toxics in the United States. EPA developed the NATA to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that NATA provides broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. More information on the NATA analysis can be found at: <http://www.epa.gov/ttn/atw/natamain/index.html>.

For additional information, see: www.epa.gov/environmentaljustice

EJSCREEN is a screening tool for pre-decisional use only. It can help identify areas that may warrant additional consideration, analysis, or outreach. It does not provide a basis for decision-making, but it may help identify potential areas of EJ concern. Users should keep in mind that screening tools are subject to substantial uncertainty in their demographic and environmental data, particularly when looking at small geographic areas. Important caveats and uncertainties apply to this screening-level information, so it is essential to understand the limitations on appropriate interpretations and applications of these indicators. Please see EJSCREEN documentation for discussion of these issues before using reports. This screening tool does not provide data on every environmental impact and demographic factor that may be relevant to a particular location. EJSCREEN outputs should be supplemented with additional information and local knowledge before taking any action to address potential EJ concerns.

May 12, 2016

3/3

ATTACHMENT II

U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

ADMINISTRATIVE RECORD FOR THE AMERICAN LEAD SITE INDIANAPOLIS, MARION COUNTY, INDIANA

ORIGINAL
JUNE 2016

| <u>NO.</u> | <u>SEMS ID</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|----------------|-------------|---|--------------------------|--|--------------|
| 1 | 926949 | Undated | Johnson, K., Marion County Public Health Department | File | Blood Lead Test Data 2004-2014 – Martindale-Brightwood Zip Codes and All Marion County | 1 |
| 2 | 926946 | 5/13/99 | Scientific, Engineering, Response & Analytical Services (SERAS) | File | Standard Operating Procedures – Spectrace 9000 Field Portable X- Ray Fluorescence | 29 |
| 3 | 919190 | 8/1/03 | U.S. EPA | File | Superfund Lead-Contaminated Residential Sites Handbook | 124 |
| 4 | 228763 | 2/3/05 | Rhame, K., U.S. EPA | Karl, R., U.S. EPA | Enforcement Action Memorandum re: Determination of a Threat/Need to Conduct a CERCLA Time-Critical Removal Action at the American Lead Site <i>(Portions of this document have been redacted)</i> | 44 |
| 5 | 926947 | 2/1/07 | U.S. EPA | File | Method 6200 – Field Portable X- Ray Fluorescence Spectrometry for the Determination of Elemental Concentrations in Soil and Sediment | 32 |
| 6 | 910077 | 8/1/07 | ATSDR | Public | ToxFAQs Fact Sheet – Lead – CAS #7439-92-1 | 2 |
| 7 | 280809 | 9/13/07 | Boseman, A., U.S. EPA | Distribution List | Pollution Report (POLREP) #31 | 3 |
| 8 | 464230 | 1/9/09 | Advanced Geoservices Corp. | Boseman, A., U.S. EPA | Final Completion Report <i>(Portions of this document have been redacted)</i> | 46 |
| 9 | 909335 | 10/24/12 | Jaworski, M., IDEM | Muniz, N., U.S. EPA | Site Reassessment Report | 81 |

| <u>NO.</u> | <u>SEMS ID</u> | <u>DATE</u> | <u>AUTHOR</u> | <u>RECIPIENT</u> | <u>TITLE/DESCRIPTION</u> | <u>PAGES</u> |
|------------|----------------|-------------|---|---|--|--------------|
| 10 | 913714 | 3/31/13 | Indiana University - Purdue University Indianapolis | File | EPA Environmental Justice Small Grant Final Report – Building Lead-Safe Communities in Martindale-Brightwood and NearWest Neighborhoods of Indianapolis | 23 |
| 11 | 926948 | 11/1/14 | Canar, J., U.S. EPA | File | Presentation Slides – Results of American Lead 2004 and 2014 Sampling Events | 42 |
| 12 | 926945 | 5/16/16 | Randall, J., Tetra Tech | Lam, S., U.S. EPA | Final Site Assessment Report | 194 |
| 13 | 926943 | 5/20/16 | Osborn, R., IDEM | Gebien, C., and Brown, J., U.S. EPA | Email re: Referral for a Time- Critical Removal Action at the American Lead Site | 1 |
| 14 | 926944 | 5/24/16 | Lam, S., U.S. EPA | Osborn, R., IDEM | Letter re: Request for ARARs for the American Lead Site | 2 |
| 15 | 926942 | 6/1/16 | Petroff, D., IDEM | Lam, S., U.S. EPA | Letter re: ARARs for the American Lead Removal Action Site | 3 |
| 16 | 927887 | 6/10/16 | U.S. Census Bureau | File | 2010-2014 American Community Survey 5-Year Estimates | 11 |
| 17 | 927889 | 6/21/16 | Bergstrom, D., Chaput, A., and Wozmak, T., MicroVision Laboratories | Tetra Tech | Coal Ash, Slag, and Lead Paint Report | 71 |
| 18 | 927888 | 6/17/16 | Zhang, X., U.S. EPA | Lam, S., U.S. EPA | Regression Analysis | 7 |
| 19 | 926950 | | Cooper, N., IDEM | Lam, S., U.S. EPA | Expanded Site Investigation Report (PENDING) | |
| 20 | | | Lam, S., U.S. EPA | Karl, R., U.S. EPA | Action Memorandum re: Request for a Time-Critical Removal Action at the American Lead Site (PENDING) | |

ATTACHMENT III

DETAILED CLEANUP CONTRACTOR ESTIMATE

HAS BEEN REDACTED – ONE PAGE

**NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ATTACHMENT IV

INDEPENDENT GOVERNMENT COST ESTIMATE

HAS BEEN REDACTED – THREE PAGES

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION