



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

US EPA RECORDS CENTER REGION 5



516226

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: Request for Approval and Funding for a Time-Critical Removal Action at the East Pilsen Area Soils Site, Chicago, Cook County, Illinois
(Site ID # C54W)

FROM: Ramon Mendoza, On-Scene Coordinator *RM*
Emergency Response Branch 2, Section 3

THRU: Samuel Borries, Chief *Sam Borries*
Emergency Response Branch 2

TO: Margaret Guerriero, Acting Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document your approval to expend up to \$994,987 to conduct a time-critical removal action at the East Pilsen Area Soils Site ("Site" or "E. Pilsen Site") located in Chicago, Cook County, Illinois. The proposed time-critical removal action will mitigate the threats to public health, welfare, and the environment posed by the presence of lead-contaminated surface soil in residential properties located at the Site by the proper excavation and off-site disposal of lead contaminated soil in the residential yards and gardens. No precedent-setting issues are associated with this non-NPL Site.

The Action Memorandum would serve as approval for expenditures by EPA, as the lead technical agency, to take actions to abate the imminent and substantial endangerment posed by hazardous substances at the Site. The proposed removal of hazardous substances would be taken pursuant to Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C. § 9604(a)(1), and Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415. Based on the level of hazardous substances and the threat to the community, this removal action is considered time-critical. The project will require an estimated 54 work days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: ILN000506193

RCRA ID: none

State ID: none

Category: Time-Critical Removal Action

The Site consists of 17 residential parcels spread out over approximately 145 acres and is located in the Pilsen neighborhood in Chicago, Illinois (Figure 1, Site Location Map). The Site boundary is West 16th Street to the north, South Sangamon Street and the Sangamon Corridor to the east, West Cermak Road and West 18th Place to the south, and South Allport Street and South Loomis Street to the west (Figure 2, E. Pilsen Site Layout Map). The Site contains commercial and residential properties. The residential yards and gardens at the Site are at a lower level of about 4-5 feet below the street level on average. There are two city parks (Dvorak and Throop) and a Catholic Primary School within the boundaries of the Site.

A. Site Description

1. Removal Site Evaluation

In accordance with 40 C.F.R. § 300.410, EPA conducted a removal site evaluation from 2013-2016 to determine the nature and extent of lead contamination at the Site as well as the source(s) of lead contamination.

The Site boundaries were developed in relation to several nearby removal site evaluations conducted in the Pilsen and Heart of Chicago neighborhoods from 2012-2015 (Figure 1), namely the Pilsen Soil Operable Units 1 and 2 sites and the Heart of Chicago Area Soils site. In addition, there were four foundries or smelters which operated adjacent to the E. Pilsen Site and whose historic air emissions may have contained lead.

a. Site Residential Soil Sampling and Analysis

Surface soil samples were collected at the Site in 2013 by EPA and EPA START contractors in 25 distinct residential parcels/areas (including yards, gardens, an elementary school playground, and a soccer field).¹ Sampling results indicated levels of lead in surface soil above the 400 mg/kg RML in 17 parcels/areas. The average concentration (0-6 inches bgs) was 673 mg/kg and ranged from 58 to 3,300 mg/kg. Nine of the residential parcels have concentrations of 1,200 mg/kg or greater. The average lead concentrations at the soccer field and playground at the elementary school were 241 mg/kg and 340 mg/kg respectively.

¹ Previous reports describe a large subset of the Site as "Residential Area 3" or "Res 3" to distinguish it from three other residential areas (Res 1, Res 2, and Res 2a). Res 1 and Res 2a were later defined as the Pilsen Soil Operable Unit 2 Residential site. See AR # 11.

The 2013 Site field sampling event was conducted in accordance with the “Field Sampling Plan for the Pilsen Area Soil Site Assessment, Revision 2, Amendment 1” (July 5, 2013) and EPA’s “Superfund Lead-Contaminated Residential Sites Handbook” (EPA, 2003). For all residential properties with a total surface area of approximately 5,000 square feet (ft²) or less, a two- to five-point composite sample was collected from 0-2 and 0-6 inches bgs from the front yard and/or backyard. The composites were equally spaced within the respective portion of the yard, outside of any drip zones and away from influences of any painted surfaces.

If XRF screening showed that the 0- to 2-inch bgs composite sample was an order of magnitude different in lead concentration from the 0- to 6-inch bgs composite sample, then both composites were submitted for analytical laboratory analysis. If the two composite samples were within an order of magnitude different, then only the 0- to 6-inch bgs composite sample was submitted for analytical laboratory analysis.

Due to XRF uncertainty, two “replicate” soil samples were collected in residential yards where XRF screening indicated surface soil lead contamination near the 2014 EPA residential soil RML of 400 mg/kg.² Specifically, in residential yards where an XRF screening of a five-point residential yard composite sample collected from a 0- to 6-inch bgs interval indicated a lead concentration between 300 and 500 mg/kg, two additional 0- to 6-inch bgs five-point composite samples were collected. These replicate samples provided EPA with additional information to determine if soil in a residential yard contained lead above or below the 2014 EPA residential soil RML.

Field sampling techniques used during the July 2013 sampling also included two- to five-point composite samples collected from 6- to 12-, 12- to 18-, and 18- to 24-inch bgs depth intervals. In addition, samples were collected from either the front yard or backyard, but not both.

At residential properties in the Site, the 0- to 6-inch bgs composite sample were submitted for analytical laboratory analysis at all locations. Soil samples were submitted under chain of custody to STAT Analysis Corporation in Chicago.

b. Evaluation of Industrial Sources

EPA conducted several studies from 2013-2016 to determine the industrial source of elevated lead in surface soil at residential parcels at the Site.

EPA National Enforcement Investigations Center (NEIC) Study (Nov. 2015): EPA NEIC evaluated lead bearing particulate matter in soils with elevated lead levels in the Site. NEIC also evaluated potential sources of lead at the Site, such as foundries/smelters, including Century Smelting and Refining (Century); H. Kramer & Co. (H. Kramer); Loewenthal Metals Corp. (Loewenthal); and National Lead/White Lead Works (NL). An additional potential source was Midwest Generation Fisk Station (Fisk). Of these only H. Kramer is still in operation (Figure 2).

² The RML concentration is based on protecting children from exceeding the Center for Disease Control and Prevention (CDC) recommended blood lead level of 10 micrograms per deciliter (µg/dl) in blood. RMLs help identify areas, contaminants, and conditions where a removal action may be appropriate.

Several types of forensic analyses were conducted by NEIC. Microscopy analysis of residential and reference soil samples was conducted to determine particle composition, texture, size, and morphology, specifically via scanning electron microscopy (SEM) with energy dispersive X-ray spectrometry (EDS). In addition, NEIC used correlation analysis and scatterplots to compare analytical soil results provided by EPA's START lab. Lead isotope ratio analysis was conducted using inductively coupled plasma mass spectroscopy (MC-ICP-MS).

The analytical results of the soils were compared to each other, as well as to bag house dust and slag from H. Kramer. (Slag is produced from industrial processes such as primary or secondary smelting; it is not associated with coal fly ash, leaded paint, leaded gasoline, or auto batteries.)

NEIC's summary of its findings as they related to the Site is as follows:

- (1) Correlation analysis and scatterplots indicated that Site soil was impacted by lead associated with cadmium (Cd), copper (Cu), tin (Sn), and zinc (Zn), but the predominant source of lead was not consistent with H. Kramer.
- (2) Fisk was eliminated as a dominant source of lead in soils at the Site because a unique particle type of amorphous, alumino-silicate spheres exhibited by coal ash was not observed by SEM in samples collected from the Site.
- (3) The predominant morphology (angular), size, and composition of lead bearing particles (i.e. iron and silicon oxides, multiphase particles) in the Site (i.e. Res 3) were consistent with slag material from an industrial source (not leaded gasoline emissions or leaded paint). But the predominant relative spectral responses of Cu, Pb, and Zn ($Pb > Cu, Zn$) in these lead bearing particles were not characteristic of brass and bronze foundry slag composition (e.g. H. Kramer).

EPA FIELDS Group Statistical Study (Nov. 2014): The EPA FIELDS Group conducted a statistical study to investigate the similarities and differences in concentrations of Cd, Cu, Pb, Sn, and Zn in soils on and near the H. Kramer property, the surrounding Pilsen neighborhood (including parts of the Site), Little Italy, the Heart of Chicago (Harrison Park), and the USGS-Chicago Department of Environment surface metals sampling data (Kay et al., 2003). EPA had collected soil samples near the H. Kramer property as well as at locations up to a mile and a half away. The metals analyzed in the FIELDS study were characteristic of the metals present in H. Kramer airborne emissions. Overall, the EPA FIELDS Group could not conclude that there was lead contribution from H. Kramer in residential surface soils in the Site. Instead, Site metals levels indicated contributions from other, unknown industrial sources.

FIELDS also compared the E. Pilsen Site data to background data from a 2003 USGS study of lead values in Chicago and background samples collected in the Little Italy neighborhood to determine whether E. Pilsen lead levels were similar to typical background urban lead conditions found in Chicago. The table, below, compares E. Pilsen soil data to the 2003 USGS study and Little Italy data, and the figure on the next page graphically demonstrates this comparison to show the E. Pilsen area to be distinctly different from background areas with typical urban lead concentrations in Chicago. (Note: FIELDS evaluated the 2003 USGS study and determined that

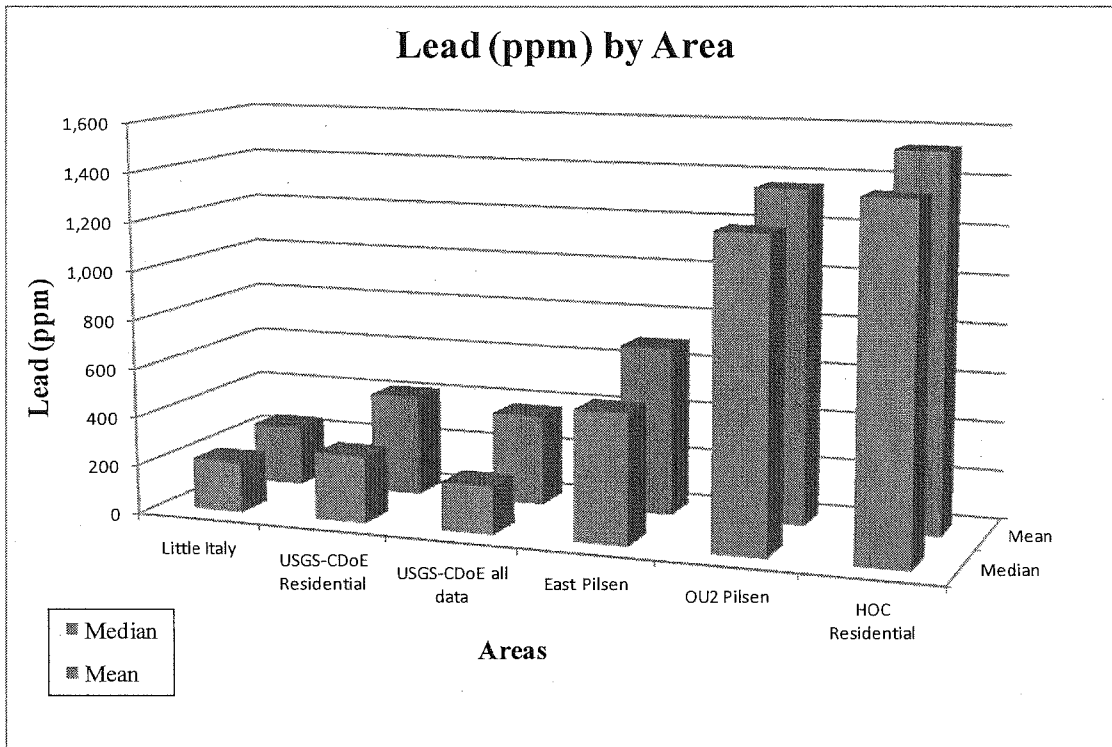
the maximum un-impacted background lead level in the City of Chicago was 504 mg/kg (i.e. FIELDS evaluated the data set and removed locations which appeared to have high levels of metals and or organic compounds).

Area	N	Median	Mean	Minimum	Maximum	Unimpacted Maximum
Little Italy	11	210	249	66	760	320
USGS-CDoE Residential	9	275	415	70	1,270	504
USGS-CDoE all data	63	198	374	13	1,910	
East Pilsen	32	530	691	58	1,700	
OU2 Pilsen	30	1,250	1,357	320	3,200	
HOC Residential	21	1,400	1,524	270	3,700	

Notes:

all values are mg/kg

unimpacted maximum values are based on outlier testing and/or elevated levels of other metals



Tetra Tech Forensic Study (June 2016): EPA START contractor Tetra Tech acquired the services of Microvision Laboratories to analyze 13 soil samples from the Site. Microvision was to examine the soil samples and document the presence of any fly ash, slag, lead bearing particles or other metal particles (including but not limited to Fe, Cu, Zn, and Sn) that may be present to compare Pilsen area soil samples and potential source samples (i.e. Loewenthal and NL) to Site residential samples by Scanning Electron Microscopy with Backscatter Electron imaging and Energy Dispersive x-ray Spectroscopy (SEM/BSE/EDS). The results were inconclusive as to potential sources of lead contamination. For instance, coal was detected in all of the Site samples and all of the NL and Loewenthal samples. But it was not surprising to find coal and coal ash residuals in residential yards since residents in Pilsen used coal as a fuel for home furnaces well into the 20th century. As for slag, morphology studies could not be conducted with SEM/EDS because the slag had weathered over the years to the extent that comparison of the soil sample and source soil samples, using morphology, with the NL and Loewenthal smelters was not possible.

Loewenthal as a Potential Source: The Loewenthal property is located adjacent to the southeast region of the Site at 947 West Cullerton Street (Figure 2). A site assessment conducted by EPA (2013) found high levels of lead (up to 23,000 mg/kg) on the surface soils on the property, and EPA conducted a CERCLA removal action in 2013, removing, treating, and disposing of about 4,100 cubic yards of lead contaminated soil from the Loewenthal property.

The predominant wind direction at the Site is north/northeast (based on the windrose analysis over 80 years at Midway Airport). Loewenthal is located in the upwind direction from several Site residential yards with elevated lead concentrations. During the Site evaluation, results from soil samples collected at 5 homes about 1,000 feet downwind of Loewenthal indicated surface soil concentrations greater than 1,200 mg/kg of lead. However, surface soil concentrations of lead and zinc did not increase as the sampling distance from the Loewenthal property decreased. Based on these results and previous studies, EPA cannot conclude whether Loewenthal was a source of the lead contamination for homes in the Site.

2. Physical location

The Site consists of 17 residential parcels spread out over approximately 145 acres, and is located in the Pilsen neighborhood in Chicago (Figure 1, Site Location Map). The site boundary is West 16th Street to the north, South Sangamon Street and the Sangamon Corridor to the east, West Cermak Road and West 18th Place to the south, and South Allport Street and South Loomis Street to the west. The Site contains commercial and residential properties. The residential yards and gardens at the Site are at a lower level of about 4-5 feet below the street level on the average. There are two city parks (Dvorak and Throop) and a Catholic Primary School within the boundaries of the Site. Based on the EPA Site Assessment in 2014, it is estimated that about 6,300 people live within the Site boundaries.

An Environmental Justice (EJ) analysis for the Site is contained in Attachment 1. Screening of the surrounding area used Region 5's EJ Screen Tool. EPA has reviewed environmental and demographic data for the area surrounding the Site and determined there is a high potential for EJ concerns at this location.

3. Site characteristics

Surface soil samples were collected at the Site in 2013 by EPA and EPA START contractors in 25 distinct residential parcels/areas (including yards, gardens, an elementary school playground, and a soccer field). Sampling results indicated levels of lead in surface soil above the 400 mg/kg RML in 17 parcels/areas. The average concentration (0-6 inches bgs) was 673 mg/kg and ranged from 58 to 3,300 mg/kg of lead. Nine of the 25 residential parcels have concentrations of 1,200 mg/kg or greater of lead in surface soil.

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. Lead is present in surface soil in residential yards at the Site at concentrations greater than the EPA RML of 400 mg/kg. 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. The table below lists the components of the completed environmental exposure pathways to lead (i.e., human exposure has occurred or is occurring) at the Site:

Pathway Name	Contaminants	Point of Exposure	Route of Exposure	Exposed Population
Soil/Dust	Lead	Yards	Ingestion Inhalation	Residents, including children, pregnant or nursing women; construction and utility workers
Vegetables	Lead	Gardens	Ingestion	Gardeners who eat home grown vegetables from contaminated areas

In summary, the Site contains residential properties with elevated levels of lead in surface soils, and therefore there exists a potential for exposure of humans to lead, a hazardous substance. Lead exposure via inhalation and/or ingestion can have detrimental effects on almost every organ and system in the human body. Off-site migration of the documented hazardous waste would greatly increase the potential exposure to nearby human populations, animals, or the food chain.

5. NPL status

The Site is not on the National Priority List (NPL).

6. Maps, pictures and other graphic representations

- Figure 1 Site Location Map
- Figure 2 E. Pilsen Site Layout Map
- Figure 3 Residential Sample Results
- Figure 4 Reference Area Sample Results
- Attachment 1 Environmental Justice Analysis
- Attachment 2 Detailed Cleanup Contractor and START Cost Estimate
- Attachment 3 Independent Government Cost Estimate
- Attachment 4 Administrative Record
- Attachment 5 List of Affected Residential Sample Numbers

A. Other Actions to Date

1. Previous actions

No significant response actions have been taken at the Site by local or state authorities.

2. Current actions

No current response actions by the residential property owners, the State, or local authorities are underway at the Site.

B. State and Local Authorities' Roles

1. State and local actions to date

No State or local response actions have been taken to address the hazardous substance releases or threatened releases at the Site.

2. Potential for State/local response

As documented in a May 17, 2017 letter from Illinois EPA, the State and Illinois EPA do not have the resources (personnel and/or monetary) at this time to address the release of lead to the environment at the Site.

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

The conditions present at the Site may present an imminent and substantial endangerment to the public health, 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)(1), based on the factors in 40 CFR § 300.415(b)(2). These factors 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, pollutants, or contaminants.

During the removal site evaluation, EPA found 17 of 25 residential properties had elevated lead in surface soils above the residential EPA RML of 400 mg/kg. Lead was detected at a maximum concentration of 3,300 mg/kg in a residential garden. Nine of the 25 residences sampled had surface soil which exceed 1,200 mg/kg for lead. 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. These soils are unsecured and part of the environment.

Lead is a hazardous substance, as defined by Section 101(14) of CERCLA; *see also* 40 C.F.R. § 302.4. 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.

§ 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 average lead concentrations in the top two feet of soil above the residential EPA RML of 400 mg/kg. 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.

Cook County, Illinois receives a substantial amount of precipitation, and temperatures are normally below freezing during the winter, with regular snowfall. In the winter, the average temperature is 25.1° F and the average daily minimum temperature is 17.3°F. In the summer, the average temperature is 71.7° F, and the average daily maximum temperature is 81.7°F. The average total annual precipitation is 38.65 inches and the average seasonal snowfall is 32.6 inches. The average wind speed is about 10.7 miles per hour (according to the National Weather Service). These weather conditions may cause water, wind, and freeze-thaw erosion of the Site's surface soil. Lead contaminated surface soil may migrate via wind and runoff off-site to other areas in the residential neighborhood.

In addition, the Chicago area historical tornado activity is slightly below the Illinois state average, but is 46% greater than the overall U.S. average (Source: <http://www.city-data.com/city/Chicago-Illinois.html>). Severe weather may impact the Site. Normal weather conditions, such as snow, rain and wind, will continue to be the main factors of hazardous substance release and migration at the Site. Migration will pose a real threat to nearby populations. The Site is located in a mixed residential neighborhood, and many of the homes in that neighborhood are in close proximity to each other, making them very susceptible to impacts from off-site migration.

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

Based on information from the May 17, 2017 letter from Illinois EPA, the State does not have the funds or resources at this time to respond to a time-critical removal action of this magnitude required by conditions at the Site.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the known and suspected lead contamination 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 or welfare, or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed action description

The response actions described in this memorandum directly address actual or potential releases of hazardous substances on Site, which may pose an imminent and substantial endangerment to public health or welfare, or the environment. The response actions generally include the 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 residential soil RML is necessary due to elevated levels of lead in surface soil that present an imminent and substantial endangerment to public health. This approach is consistent with the Office of Solid Waste and Emergency Response (OSWER) Publication 9285.7-50 Superfund Lead-Contaminated Residential Sites Handbook (Lead Handbook) (2003).

Removal activities on Site will include:

- 1) Develop and implement a Site Health and Safety Plan to include a Perimeter Air Monitoring and Sampling Plan and develop measures to control dust during the removal of contaminated soil. In addition, develop a Site-specific Work Plan, Quality Assurance Project Plan (QAPP), and Emergency Contingency Plan.

- 2) Develop and implement a Site-specific sampling plan to conduct additional disposal characterization of soil at the Site, as needed, for waste profile purposes and to assess bioavailability of lead at the Site (see item 6, below).
- 3) Conduct individual property evaluations prior to removal activities. These evaluations will document the conditions of the property prior to undertaking the removal action, to ensure that the properties are properly restored once the removal action is completed. Evaluation will also include coordinating with the property owner regarding which trees or bushes they wish to retain.
- 4) Excavate lead contaminated soil from residential properties where lead exceeded 400 mg/kg. Soil will be excavated to a maximum depth of two feet bgs. Excavation will cease if 1) groundwater is encountered; or 2) infrastructure is encountered such as: water lines, stormwater/sewer, construction debris, or foundation. In accordance with the property evaluation agreement with the owner (pre-excavation), excavation around trees or bushes that will remain will be conducted by hand to the lowest depth feasible. In addition, if lead levels below 400 mg/kg cannot be achieved at an excavation depth of approximately 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) Replace excavated soil with clean soil, including approximately 6 inches of top soil to maintain the original grade. Each yard will be restored as close as practicable to its pre-removal condition. Gravel or mulch may replace top soil and sod/seed depending on owner requests, to the extent feasible. Once the parcels are sodded or seeded, removal site control of the sod or seed, including, watering, fertilizing, and cutting, will be conducted for 30 days. After the initial 30-day period, property owners will be responsible for the maintenance of their own yards. The aforementioned work shall be documented in a Work Plan.
- 6) Collect samples of excavated soil for disposal analysis including total metals and Toxicity Characteristic Leaching Procedure (TCLP). Excavated material that fails TCLP for lead may be treated with a fixation agent prior to disposal.
- 7) Transport and dispose off-site of any hazardous substances, pollutants and contaminants at a CERCLA-approved disposal facility in accordance with EPA's Off-Site Rule (40 C.F.R. § 300.440); and
- 8) Perform 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 action will be conducted in a manner not inconsistent with the NCP and consistent with the Lead Handbook. The OSC has initiated planning for provision of post-removal Site

control consistent with the provisions of Section 300.415(l) of the NCP (40 C.F.R. § 300.415(l)). The OSC has reviewed the Lead Laws of the City of Chicago Summary: Municipal Code of Chicago, Chapter 7-4 and Rules and Regulations Promulgated by the Chicago Commissioner of Public Health updated August, 2008, which holds property owners responsible for maintaining cover on soils with lead higher than 400 mg/kg.

The threats posed by the lead contaminated surface soils meet the criteria listed in Section 300.415(b) of the NCP (40 C.F.R. § 300.415(b)), and the response actions proposed herein are consistent with any long-term remedial actions which may be required. However, removal of hazardous substances, pollutants, and contaminants that pose a substantial threat of release are expected to greatly minimize 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, or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by EPA, with the EPA Off-Site Rule at 40 C.F.R. § 300.440.

2. Contribution to remedial performance:

The proposed action will not impede future actions based on available information. No long-term remedial actions have been identified for the Site at this time.

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

Not applicable.

4. Applicable or relevant and appropriate requirements (ARARs)

On May 16, 2017 EPA Region 5 sent a letter to Bruce Everetts with Illinois EPA, requesting the State to identify ARARs for this time-critical removal action. Illinois EPA responded on May 17, 2017, identifying the State ARARs to which the removal action will conform (to the extent practicable considering the exigencies of the circumstances).

The removal activities are expected to take approximately 54 (at 3 days/yard) on-site working days to complete.

B. Estimated Costs

The Independent Government Cost Estimate is presented in Attachment 3 and the detailed cleanup contractor cost is presented in Attachment 2. The estimated project costs are summarized below:

REMOVAL ACTION PROJECT CEILING ESTIMATE	
<u>Extramural Costs:</u>	
<u>Regional Removal Allowance Costs:</u>	
Total Cleanup Contractor Costs (This cost category includes estimates for ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with Other Federal Agencies. Include a 20% contingency)	\$ 734,945
<u>Other Extramural Costs Not Funded from the Regional Allowance:</u>	
Total START, including multiplier costs	\$ 130,000
Total Decontamination, Analytical & Tech. Services (DATS)	\$ 0
Total CLP	\$ 0
Subtotal	\$ 130,000
Subtotal Extramural Costs	\$ 864,945
Extramural Costs Contingency (15% of Subtotal, Extramural Costs)	\$129,742
TOTAL REMOVAL ACTION PROJECT CEILING	\$ 994,687

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

VI. 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 Sections II, III and IV, above, and actual or threatened release of hazardous substances and pollutants or contaminants from the Site, failing to take or delaying action 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.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

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

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be, \$1,934,915.¹

$$(\$994,687 + \$200,000) + (61.96\% \times 1,194,687) = \$1,934,915$$

IX. RECOMMENDATION

This decision document represents the selected removal action for the E. Pilsen Site, Chicago, Cook County, Illinois, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site (Attachment 4). Conditions at the Site meet the NCP criteria at 40 C.F.R. § 300.415(b) for a time-critical removal. I recommend your approval of the removal action proposed in this Action Memorandum.

The total project ceiling if approved will be \$994,687, of which an estimated \$864,687 may be used for cleanup contractor costs. You may indicate your approval by signing below.

Approve:  6/30/2017
Acting Director, Superfund Division Date

Disapprove: _____
Acting Director, Superfund Division Date

Enforcement Addendum

¹ 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-judgment 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.

Attachments:

1. Environmental Justice Analysis
2. Detailed Cleanup Contractor and START Cost Estimate
3. Independent Government Cost Estimate
4. Administrative Record Index
5. List of Affected Residential Sample Numbers

cc: B. Schlieger, U.S. EPA 5104A (email: schlieger.brian@epa.gov)
L. Nelson, U.S. Department of Interior, **w/o Enf. Attachment**
(email: Lindy_Nelson@ios.doi.gov)
B. Everetts, Illinois EPA, **w/o Enf. Addendum**
(email: bruce.everetts@illinois.gov)
K. Worthington, City of Chicago
(email: Kimberly.Worthington@cityofchicago.org)

BCC PAGE HAS BEEN REDACTED

**NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ENFORCEMENT ADDENDUM

HAS BEEN REDACTED – THREE PAGES

ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

Figure 1. Site Location Map



Figure 2. E. Pilsen Site Layout Map

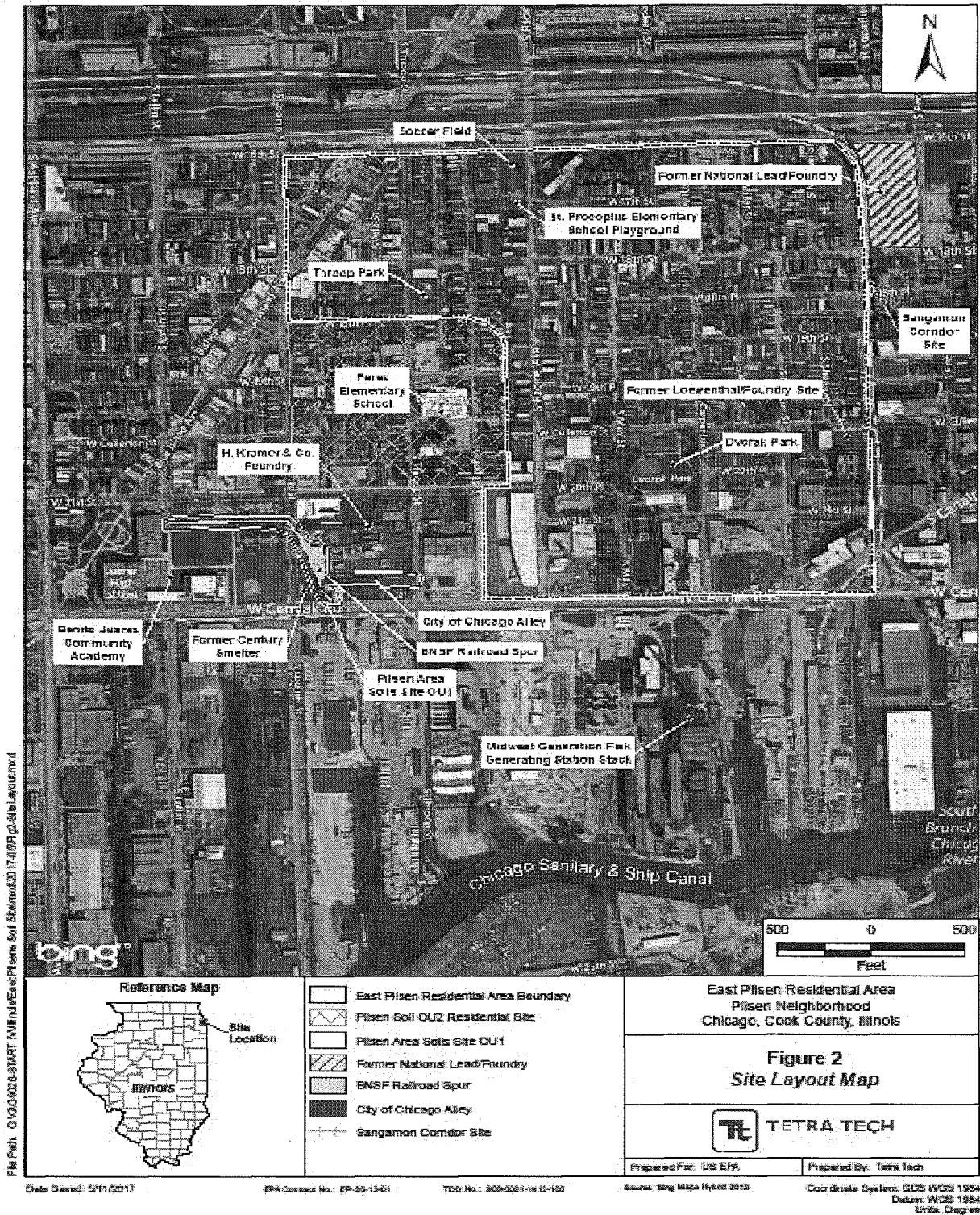


Figure 3. Residential Sample Results

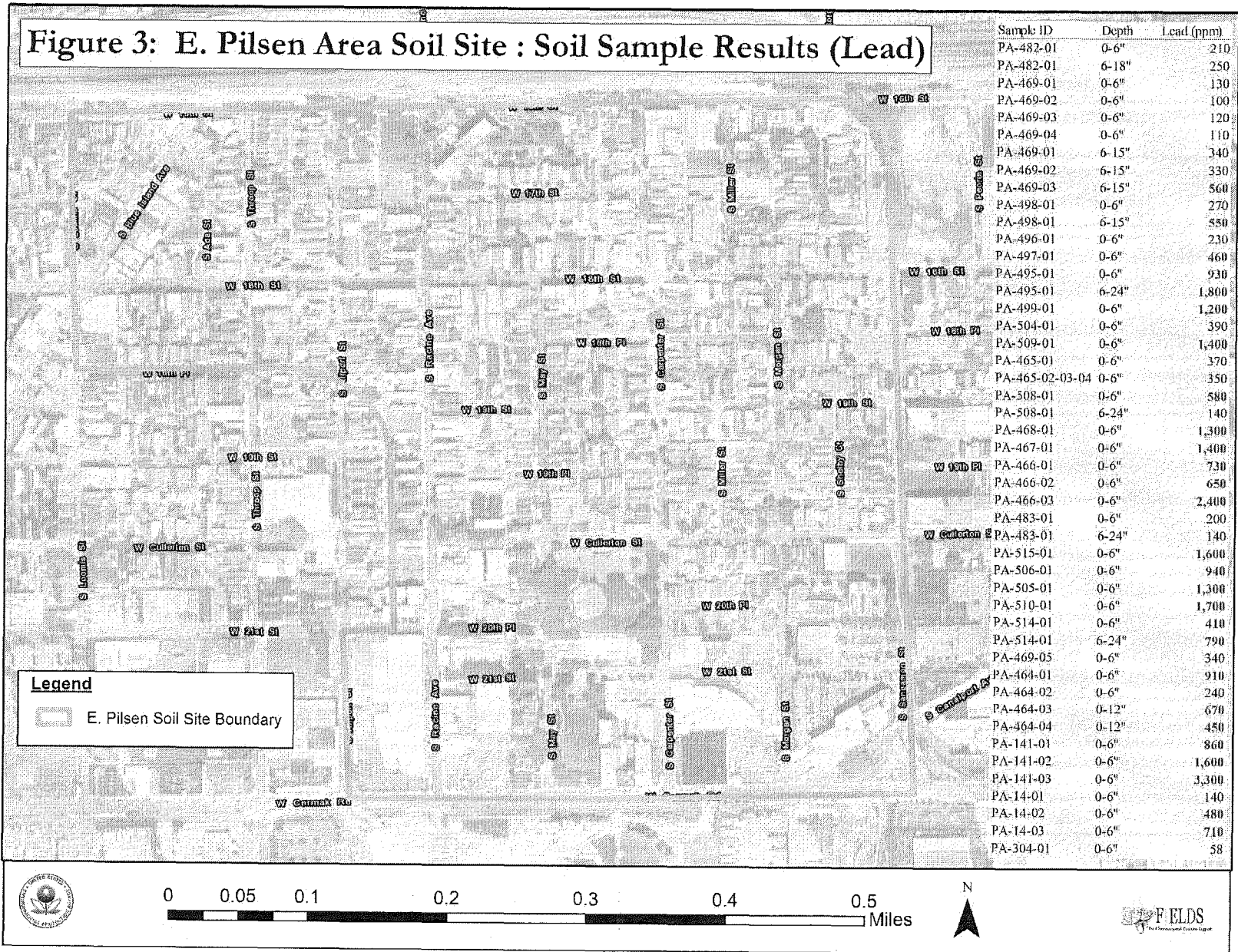
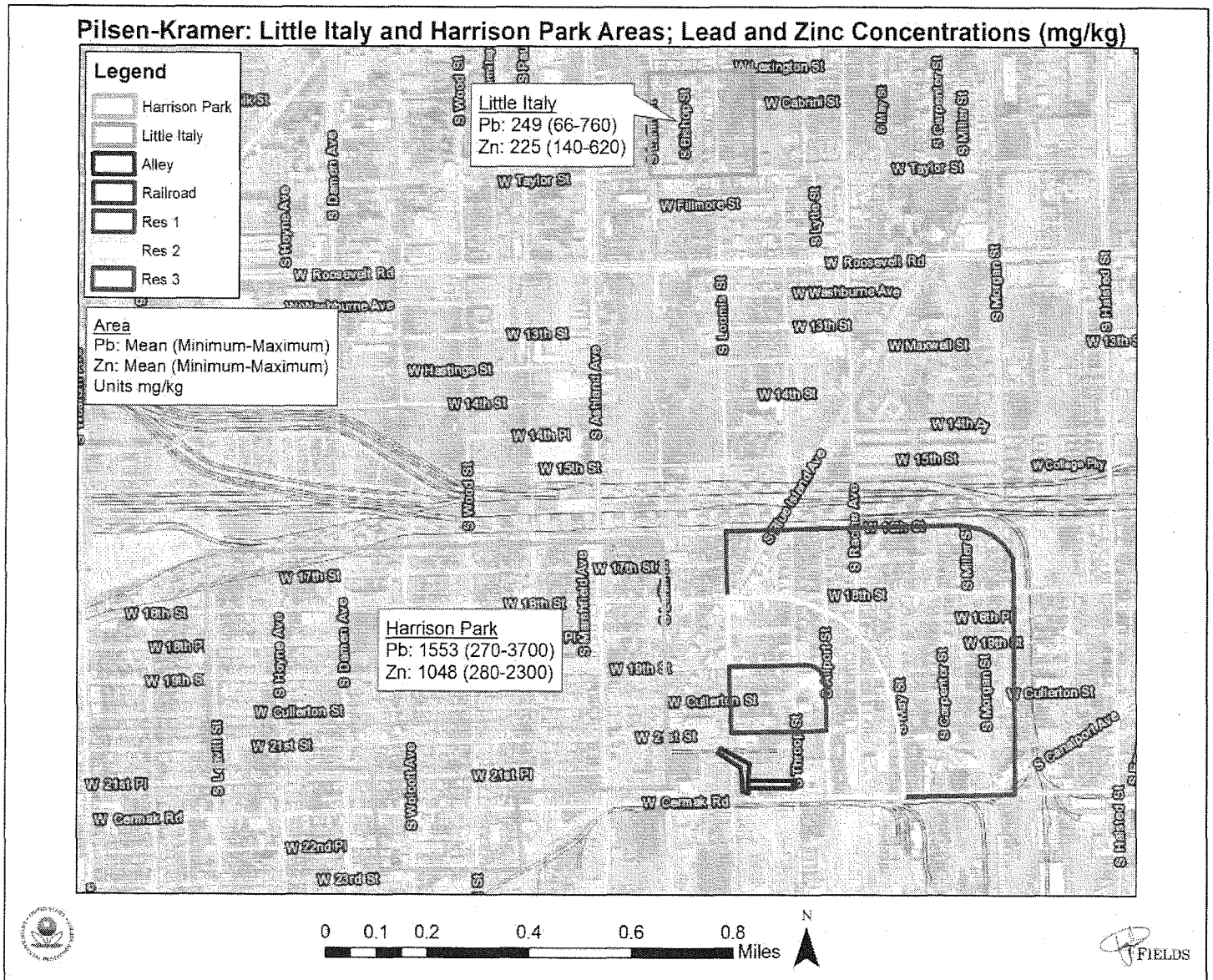


Figure 4. Reference Area Sample Results



ATTACHMENT 1

**Environmental Justice Analysis
E. Pilsen Site
Chicago, Illinois
May 2017**



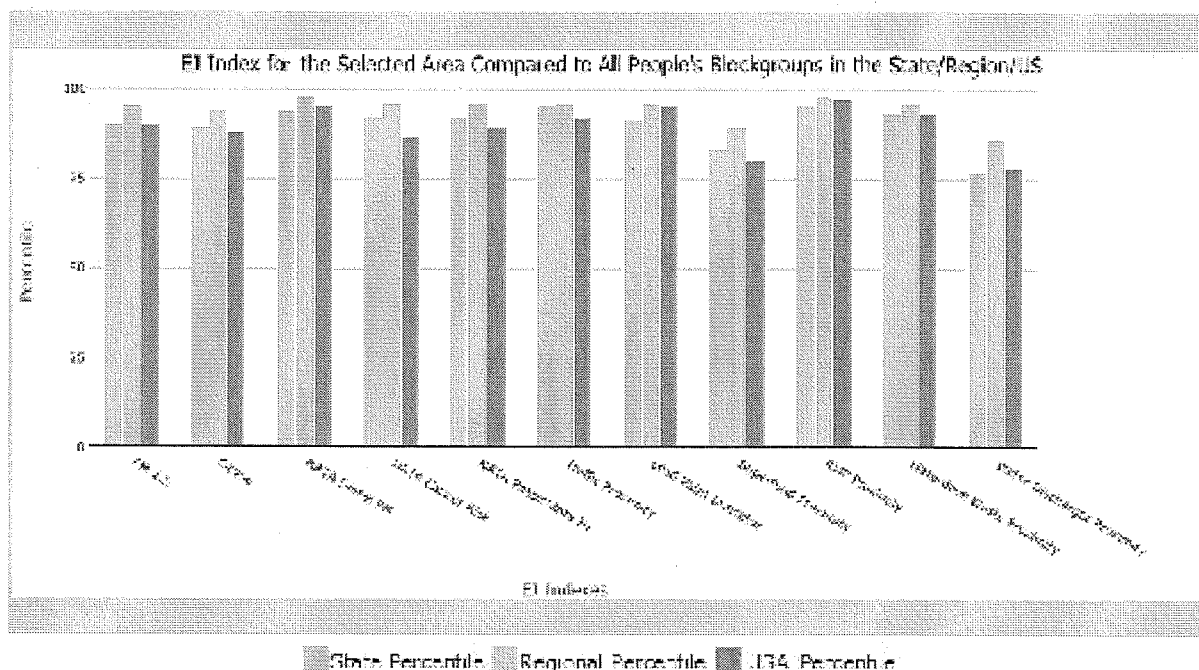
.5 mile Ring Centered at 41.857472, -87.653144, ILLINOIS, EPA Region 5

Approximate Population: 15,005

Input Area (sq. miles): 0.79

East Pilsen Site

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	90	95	90
EJ Index for Ozone	88	94	88
EJ Index for NATA* Diesel PM	94	98	95
EJ Index for NATA* Air Toxics Cancer Risk	82	96	87
EJ Index for NATA* Respiratory Hazard Index	92	96	89
EJ Index for Traffic Proximity and Volume	95	98	92
EJ Index for Lead Paint Indicator	91	95	95
EJ Index for Superfund Proximity	83	89	80
EJ Index for RMP Proximity	95	98	97
EJ Index for Hazardous Waste Proximity*	93	96	93
EJ Index for Water Discharger Proximity	77	86	76



This report shows the values for environmental and demographic indicators and EISCREEN indexes. 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 85th 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 EISCREEN documentation for discussion of these issues before using reports.



.5 mile Ring Centered at 41.857472,-87.653144, ILLINOIS, EPA Region 5

Approximate Population: 15,005

Input Area (sq. miles): 0.79

East Pilsen Site



Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0
National Pollutant Discharge Elimination System (NPDES)	0



EJSCREEN Report (Version 2016)



.5 mile Ring Centered at 41.857472,-87.653144, ILLINOIS, EPA Region 5

Approximate Population: 15,005

Input Area (sq. miles): 0.79

East Pilsen Site

Selected Variables	Value	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 $\mu\text{g}/\text{m}^3$)	12.1	11.2	91	10.6	97	9.32	96
Ozone (ppb)	49.4	50.8	22	50.3	28	47.4	56
NATA* Diesel PM ($\mu\text{g}/\text{m}^3$)	2.63	1.28	95	0.931	95-100th	0.937	95-100th
NATA* Cancer Risk (lifetime risk per million)	46	36	94	34	90-95th	40	70-80th
NATA* Respiratory Hazard Index	2.6	1.8	85	1.7	80-90th	1.8	80-90th
Traffic Proximity and Volume (daily traffic count/distance to road)	1800	500	94	370	95	590	92
Lead Paint Indicator (% Pre-1960 Housing)	0.66	0.42	71	0.39	77	0.3	84
Superfund Proximity (site count/km distance)	0.046	0.095	42	0.12	39	0.13	40
RMP Proximity (facility count/km distance)	2.1	0.69	93	0.51	95	0.43	96
Hazardous Waste Proximity* (facility count/km distance)	0.21	0.12	89	0.11	90	0.11	90
Water Discharger Proximity (facility count/km distance)	0.094	0.38	15	0.31	24	0.31	28
Demographic Indicators							
Demographic Index	65%	35%	84	29%	90	36%	85
Minority Population	79%	37%	83	24%	91	37%	84
Low Income Population	52%	32%	80	33%	80	35%	77
Linguistically Isolated Population	14%	5%	86	2%	94	5%	88
Population With Less Than High School Education	23%	12%	83	11%	88	14%	80
Population Under 5 years of age	6%	6%	56	6%	58	6%	55
Population over 64 years of age	8%	13%	30	14%	23	14%	28

* 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: <https://www.epa.gov/national-air-toxics-assessment>.

+ The hazardous waste environmental indicator and the corresponding EJ index will appear as N/A if there are no hazardous waste facilities within 50 km of a selected location.

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.

ATTACHMENT 2

DETAILED CLEANUP CONTRACTOR ESTIMATE

HAS BEEN REDACTED – ONE PAGE

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ATTACHMENT 3

**INDEPENDENT GOVERNMENT COST
ESTIMATE HAS BEEN REDACTED – TWO
PAGES
NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ATTACHMENT 4

U.S Environmental Protection Agency Removal Action

ADMINISTRATIVE RECORD

for

E. Pilsen Soils Site (C54W)

Chicago, Cook County, Illinois

<u>No.</u>	<u>Date</u>	<u>Author</u>	<u>Recipient</u>	<u>Title/Description</u>	<u>Pages</u>
1	11/17/14	WESTON SOLUTIONS INC.	R. Mendoza	Removal Site Evaluation Report For Pilsen Soil Assessment Area: Residential Redacted	593
2	10/27/14	Canar, Jacobson, Roth	R.Mendoza	U.S. EPA Region 5 Report for the Statistical Analysis of Cadmium, Copper, Lead, Tin, and Zinc Found Soil At and Near the H. Kramer facility, Chicago, IL.	18
3	02/06/15	NEIC, Macheimer, Hosick, Pribil	R.Mendoza	NEICVP1060E02 Technical Report Additional Characterization of Lead in Soils Pilsen Neighborhood Chicago, IL	99
4	5/16/17	Mendoza	Everrets, IEPA	ARARs Request Letter	3
5	4/30/13	WESTON SOLUTIONS INC.	R. Mendoza	Field Sampling Plan for the Pilsen Area Soil Site Assessment Rev 2	236
6	8/2003	USEPA Lead Sites Workgroup Office of Emergency Remedial Response		Superfund Lead-Contaminated Residential Sites Handbook\	124
7	2003	USGS, Kay,Arnold,Cannon, Graham,Morton, Bienert	USGS	Concentrations of Polynuclear Aromatic Hydrcarbons and Inorganic Constituents In Ambien Surface Soils, Chicago, IL 2001-02	92
8	04/02/14	WESTON SOLUTIONS INC.	R. Mendoza,	Site Assessment Report For Pilsen Area Soil Site: Railroad/Alley Revision 3	433
9	8/27/01	Pioneer Environmental Inc. Report, Vol. 1 of 2, 900 W. 18 th St. Chicago, IL	Program of Farley Inc. 155	Site Investigation Report, Remediation Objectives	
10	8/3/15	Ramon Mendoza EPA	R. Karl, EPA	Action Memorandum -- Request for Approval and Funding for a Time Critical Removal Action and Exemption from the \$2million and 12 month Statutory Limits at the Pilsen Operable Unit 2 Residential Site, Chicago Cook County IL (Site ID C5N8_02)	45

11. 5/13/15	NEIC , Machemer	R. Mendoza.File	Errata Pages for the Characterization of Lead in Soils Pilsen Neighborhood Chicago, IL. Feb. 2015 Technical Report NEICVP1060E02 NEIC Project Number VP1060	16
12. 6/1/2016	Tetra Tech Inc	R. Mendoza, File	Pilsen Area Soil Site MVL Project #9440, Report Analysts J Knowles, A Chaput (Microvision)	141
13. 2/4/13	WESTON SOLUTIONS	USEPA Reg 5	Removal Site Evaluation For Loewenthal Metals Site	202
14. 5/28/15	R.Mendoza(EPA)	B. Peachey(EPA)	Definition of Res2a Within Res2 (EPA)	18
15. 5/17/17	Everetts (IEPA)	R. Mendoza(EPA)	E. Pilsen Site (ARARs Response)	3

ATTACHMENT 5

LIST OF AFFECTED RESIDENTIAL SAMPLE NUMBERS

E. Pilsen Area Soils Site

Chicago, Illinois

June 2017

Number	Overall Sample Number	Comments
1	PA-498	
2	PA-497	
3	PA-495	
4	PA-499	
5	PA-509	
6	PA-508	
7	PA-468	
8	PA-467	
9	PA-466	
10	PA-515	
11	PA-506	
12	PA-505	
13	PA- 510	
14	PA- 514	
15	PA- 464	
16	PA- 141	
17	PA- 14	