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

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: ACTION MEMORANDUM —Request for Approval and Funding for a Time-Critical Removal Action at the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site, Chicago, Cook County, Illinois (Site ID C5N8_01)

FROM: Ramon Mendoza, On-Scene Coordinator MWR for
Removal Response Section 3

THRU: Samuel Borries, Chief
Emergency Response Branch 2

TO: Richard C. Karl, Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document your approval to expend up to $1,144,541 to conduct a time-critical removal action at the Pilsen Soil Operable Unit (OU) 1 Railroad Spur and Alley Site, Chicago, Cook County, Illinois (Site ID C5N8_01). The proposed time-critical removal action herein will mitigate threats to public health, welfare and the environment posed by the presence of lead-contaminated surface soil on industrial properties at the Site by the capping, immobilization, and proper excavation and off-site disposal of lead contaminated soil.

This Action Memorandum serves as approval for expenditures by USEPA, as the lead technical agency, to take actions described herein 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 45 working days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: ILN000504472
RCRA ID: ILD 005 067 772
State ID: None
Category: Time-Critical

A. Site Description

The Site consists of an alley (owned by the City of Chicago) and a railroad spur (historically operated by Burlington Northern Santa Fe Railway [BNSF]) located in the Lower West Side (Pilsen) area of Chicago, Cook County, Illinois (Figures 1-1 and 1-2). The Site is in the City's 25th Ward. The east to west portion of the alley is approximately 460 feet (ft) long and 18 ft wide (approximately 8,280 square feet [ft^2] in area) and is roughly paved with asphalt over 25% of its length from the east side (Figure 1-2). The north to south portion of the alley is about 110 feet long. The remaining 75% of the alley is soil.[1] The alley, connects South Loomis Street and South Throop Street, south of West 21st Street and north of West Cermak Road. The alley is bordered to the north by H. Kramer and Company (H. Kramer), the east by South Throop Street, to the south by commercial and industrial businesses, and to the west by the railroad spur and then South Loomis Street.(Figure 1-2).

The railroad spur is approximately 1,120 ft long and 28,215 ft^2 in total area. The railroad spur consists of an unused rail track and soil[2] and asphalt where it is bisected by South Loomis Street (not part of the Site, Figure 1-2). The western portion of the railroad spur is located in the north region of a property occupied by the Benito Juarez Community Academy (Juarez), located at 1450-1510 West Cermak Road. The railroad spur curves to the south, crosses South Loomis Street, and extends along the west boundary of H. Kramer, located at 1345 West 21st Street. The eastern portion of the railroad spur is bordered by a former tire service company to the west (Tire Grading Company, 1358 West Cermak Road), a metal processing company to the east (Wheeling Metal Processing Company, 1338 West Cermak Road), and West Cermak Road to the south. According to a historical Sanborn fire insurance map, the railroad spur and the alley have existed since at least 1914.

The Site is an industrial site in a residential neighborhood with a portion of it (Western Area of the Railroad Spur west of Loomis Street) located within a ¼-mile of two schools - Juarez and the Manuel Perez Jr. Elementary School (Perez). Two City of Chicago parks are located within a ½-mile-radius of the Site, Dvorak Park and Throop Park. In 2010, approximately 40,983 people lived within 1 mile of the Site. Please See Figure 2-1 and Attachment II (Environmental Justice

[1] As observed during the removal site evaluation, the alley and railroad spur soil (surface soil and subsurface soil) generally consisted of silty, clayey, sandy, and gravelly fill materials. In the alley soil, some traces of wood chips, cinders, and pieces of glass, brick, plastic debris, and slag [slag was observed in eight alley soil borings and one railroad spur soil boring]. Slag is a solid-phase waste generated by secondary lead processing (USEPA 1995)]. In general, the surface and subsurface railroad soil contained more gravel than the alley soil. The western portion of the railroad spur west of Loomis street also contained vegetation (weeds) and garbage.

[2] Same as 1

Analysis). The Chicago Sanitary and Ship Canal is located approximately 0.45 miles to the south. According to National Oceanic and Atmospheric Administration (NOAA) meteorological data collected from 1928 to 2013, the predominant wind direction in the Chicago, Illinois area is from the southwest. Figure 2-2 presents a projected wind direction swath superimposed over the southwest region of the Site.

H. Kramer is among the suspected present and historical industrial sources of lead air emissions in the Site area. H. Kramer is a corporation that owns and operates a secondary nonferrous metals facility manufacturing primarily brass and bronze ingots, where a portion of the facility's production capacity is devoted to lead-containing metal alloys. In general, the secondary production of lead begins with the recovery of old scrap from worn-out, damaged, or obsolete products and new scrap that is made of product wastes and smelter-refinery drosses, residues, and slags. Secondary lead processing results in the generation of air emissions and solid-phase wastes. Reverberatory and blast furnaces used in smelting account for the vast majority of the total lead emissions. Other emissions from secondary smelting include oxides of sulfur and nitrogen, antimony, arsenic, copper, and tin. The solid-phase wastes generated by secondary processing include emission control dust and slag. Slag produced during lead processing is composed of iron, calcium, and silicon oxides, aluminum, and potentially several other metals in smaller amounts including antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, manganese, mercury, molybdenum, silver, and zinc (EPA, 1995). H. Kramer is listed in the EPA Toxic Release Inventory (TRI) System. TRI facilities are legally required to report to EPA, and EPA has tracked both fugitive and stack emissions from H. Kramer from 1987 to 2013. Fugitive emissions are emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening, and often occur during leaks from pressurized equipment or during material transfer. From 1987, approximately 54,366 pounds of lead, 832,567 pounds of zinc, and 6,782 pounds of copper have been released via fugitive and stack emissions according to the TRI system (EPA.TRI Report 2015). High levels of lead in onsite surface soil at H. Kramer was documented during the facility's voluntary soil cleanup conducted under oversight by the Illinois EPA (completed in 2011). Fugitive air emissions containing lead in violation of the Clean Air Act (CAA) from H. Kramer has also been documented by EPA during the course of its own enforcement actions which resulted in a settlement agreement in January 2013 to install state of the art air pollution controls at the facility. Based on the aforementioned history of release of zinc, copper and lead, at H. Kramer and its close proximity to the alley and railroad spur, EPA expected to find elevated levels of lead, zinc and copper in the soil in the alley and railroad spur (Site).

1. Removal Site Evaluation

In December 2012 and May 2013, EPA and its START contractors initiated its evaluation of the potential impacts of possible aerial deposition of heavy metals from historic industrial activity in the vicinity of the Site. In addition, soil samples were collected (in August 2013) in the Little Italy area about 1 mile north of the Site so that results could be compared to a reference area as part of the evaluation. Soil samples were also collected in the Western area of the railroad spur in April 2015 to evaluate areas not previously sampled. In all areas, EPA received consent to access from the known owners. Sampling was conducted in accordance with approved field sampling plans, health and safety plans, and Quality Assurance Project Plans.

Alley Sampling: On December 19, 2012, EPA conducted a field sampling event at the alley portion of the Site. The alley was divided into 10 sections of roughly equal surface area. Within each section, a Geoprobe® drill rig was used to advance two soil borings to a depth up to 4 ft below ground surface (bgs). Twenty soil borings were advanced. The 0- to 6-, 6- to 12-, 12- to 24-, 24- to 36-, and 36- to 48-inch bgs intervals from each soil boring were placed into disposable polyethylene bags, homogenized, and screened for total metals using a handheld Innov-X Delta XRF analyzer.

Based on the results of the screening, 21investigative samples were collected as follows:

- Ten composite samples were collected from the 10 sections of the alley, one composite from each section. Composite soil samples consisted of an aliquot of soil from both borings in a section, taken from the depth interval showing the highest total lead XRF screening concentration
- One additional composite sample was collected from 0 to 6 inches bgs from location AY-03 and three step-out locations 5 ft to the west, south, and east of AY-03.
- Ten grab soil samples were also collected from the alley. One grab soil sample was collected from one of the two borings within each of the 10 sections at the depth interval showing the highest total lead XRF screening concentration.

Soils collected for grab samples were taken directly from the disposable polyethylene bag used for screening and placed into two laboratory-provided glass sample jars. Soils collected for composite samples were placed into new disposable polyethylene bags, combined with equal aliquots of other intervals making up the composite, homogenized, and placed into two glass sample jars. One of the two soil sample jars was submitted to the National Enforcement Investigation Center (NEIC) who assisted in determining the source of the lead contamination. The second soil sample jar was analyzed by STAT for at least one of the following analyses: 1) Total Resource Conservation and Recovery Act (RCRA) metals (silver, arsenic, barium, cadmium, chromium, mercury, lead, and selenium) plus antimony, copper, tin, and zinc; 2) total lead coarse-grained fraction (grain size > 250 μm); 3) total lead - fine-grained fraction[3] (grain size < 250 μm; 4) bioavailable lead; 5) toxicity characteristic leaching procedure (TCLP) RCRA metals; 6) pH and 7) moisture content.

Sampling results for the alley indicated that three samples contained TCLP lead concentrations that exceeded the TCLP lead regulatory limit of 5.0 mg/L. Therefore, these samples represent materials that meet the definition of hazardous waste by virtue of the characteristic of toxicity. *See* 40 C.F.R. § 261.24(b). Antimony, arsenic, copper, lead, and fine-grained lead were detected at concentrations above EPA Removal Management Levels (RML) for residential soil, hazard quotient (HQ) 3. Lead concentration averages and ranges were above the residential (400 mg/kg) and industrial (800 mg/kg) EPA RMLs. Since the Site is used for industrial purposes lead was identified as the main contaminant of concern. Lead results are summarized in Table 1:

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[3] Fine-grained lead: Based on the recommendation of the EPA toxicologist, an additional analysis for total lead (fine grain fraction) was added to the total lead analysis. This involved screening the sample through a 250 μm sieve and the smaller particles (<250μm) being analyzed for lead. Fine-grained lead are smaller particles which can be more easily disturbed and become airborne which results in a higher incidence of exposure to the residents. The fine-grained lead results were used for the risk assessment for the Site.

Table 1	Alley Surface Soil (0-6 inches bgs) Results			Alley Subsurface Soil (6-12 and 12-24 inches bgs) Results		
	No. of Samples*	Average*	Range	No. of Samples*	Average*	Ranges
Total Lead	11	2,419 mg/kg	63 - 5,600 mg/kg	10	6,300 mg/kg	1,600 - 16,000 mg/kg
Fine-Grained Lead	11	2,662 mg/kg	180 - 6,600 mg/kg	10	4,980 mg/kg	2,000 - 9,300 mg/kg

*Number of samples and average calculations do not include duplicate samples
Surface Soil : Total Lead - 2 out 11 samples below 800 mg/kg RML ;
Lead Fines –1 out of 11 samples below 800 mg/kg RML;
Subsurface Soil : Total Lead - 0 of 10 samples below 800mg/kg RML
Lead Fines - 0 of 10 samples below 800mg/kg RML

Railroad Spur Sampling: On May 6, 2013 EPA used a Geoprobe® drill rig to advance 16 soil borings to 2 feet bgs at the railroad spur portion of the Site. The 0- to 6-, 6- to 12-, and 12- to 24-inch bgs intervals of each soil boring were placed into disposable polyethylene bags, homogenized, and screened for total metals using EPA's Innov-X Alpha Series XRF analyzer. Twelve investigative composite soil samples were collected from 13 locations on the railroad spur and submitted for analytical laboratory analysis. Composite samples consisted of equal aliquots collected from two or three adjacent borings, from either 0 to 6 or 6 to 24 inches bgs. Soils from composite samples were homogenized in disposable polyethylene bags before placing into one or two sample jars (two if the sample was analyzed for bioavailable lead). Soil samples were submitted for at least one of the following analyses: 1) Select total metals (antimony, copper, cadmium, chromium, mercury, lead, tin, and zinc); 2) total lead fine-grained fraction (grain size < 250 μm); 3) bioavailable lead; and 4) pH.

Two samples contained TCLP lead concentrations that exceeded the TCLP lead regulatory limits and meet the definition of hazardous waste by virtue of the characteristic of toxicity. Copper, lead, fine-grained lead, and zinc were detected at concentrations above EPA RMLs for residential soil, HQ 3. Lead concentration averages and ranges were above the residential and industrial RML and are summarized in Table 2:

Table 2	Railroad Spur Surface Soil (0-6 inches bgs) Results			Railroad Spur Subsurface Soil (6-24 inches bgs) Results		
	No. of Samples*	Average*	Range	No. of Samples*	Average*	Ranges
Total Lead	6	4,340 mg/kg	940 - 11,000 mg/kg	6	2,417 mg/kg	1,000 - 5,500 mg/kg
Fine-Grained Lead	6	6,950 mg/kg	900 - 23,000 mg/kg	6	3,297 mg/kg	980 - 9,500 mg/kg

*Number of samples and average calculations do not include duplicate samples
Surface Soil : Total Lead – 0 out 6 samples below 800 mg/kg RML ;
Lead Fines –0 out of 6 samples below 800 mg/kg RML;
Subsurface Soil : Total Lead - 0 of 6 samples below 800mg/kg RML
Lead Fines - 0 of 6 samples below 800mg/kg RML

Western Area of Railroad Spur Soil Sampling: On April 27, 2015, EPA conducted additional investigative activities at the location known as "Western Area" as part of the removal site evaluation for the Site. The Western Area is about a 500 foot section of the western portion of the railroad spur directly north of the soccer field and parking lot of Benito Juarez High School. Soil samples had been collected in other portions of the Site's railroad spur in May 2013. Sample locations were set approximately 50 feet apart east and west across the railroad spur for a total of 10 sample locations. In general, soil samples were collected using steel hand augers from 0-6 inches and from 6-24 inches below ground surface. Soil was collected and composited at the 0-6 inch interval and 6-24 inch intervals for screening with an XRF. Two soil samples were collected from each sample location for a total of 20 samples which were sent to a laboratory for analysis. Lab analyses were conducted for: 1) Total metals: cadmium, copper, lead, tin, and zinc; 2) TCLP lead; and 3) lead fines.

The results indicate that lead was the only metal that exceeded the EPA industrial RML. Surface results are shown in Figure 3 and Table 4.)

Table 4	**Western Area of Railroad Spur Surface Soil (0-6 inches bgs) Results**			**Western Area of Railroad Spur Subsurface Soil (6-24 and 6-18 inches bgs) Results**		
	No. of Samples	Average	Range	No. of Samples	Average	Ranges
Total Lead	10	1,336 mg/kg	499 - 2,290 mg/kg	10	530 mg/kg	168 - 1,350 mg/kg
Fine-Grained Lead	10	2,074 mg/kg	898 - 3,540 mg/kg	10	931 mg/kg	358 - 2,730 mg/kg

*Number of samples and average calculations do not include duplicate samples

Note: Surface Soil : Total Lead - 1 out 10 samples below 800 mg/kg RML ;
Lead fines – 0 out of 10 samples below 800 mg/kg RML;
Subsurface Soil : Total Lead - 8 of 10 samples below 800mg/kg RML
Lead Fines - 5 of 10 samples below 800mg/kg RML

In general, Western Area surface soil lead concentrations were greater than the subsurface soil, or decreased with increasing depth at each location. In addition, lead concentrations indicated a decreasing trend from east to west, as one traveled further away from H. Kramer in the predominant upwind direction. As explained below, elevated lead concentrations were co-located with elevated zinc concentrations. The zinc to lead ratios indicated a pattern greater than the Little Italy reference area (greater than 1), similar to zinc to lead ratios found on H. Kramer's facility and further east along the railroad spur.

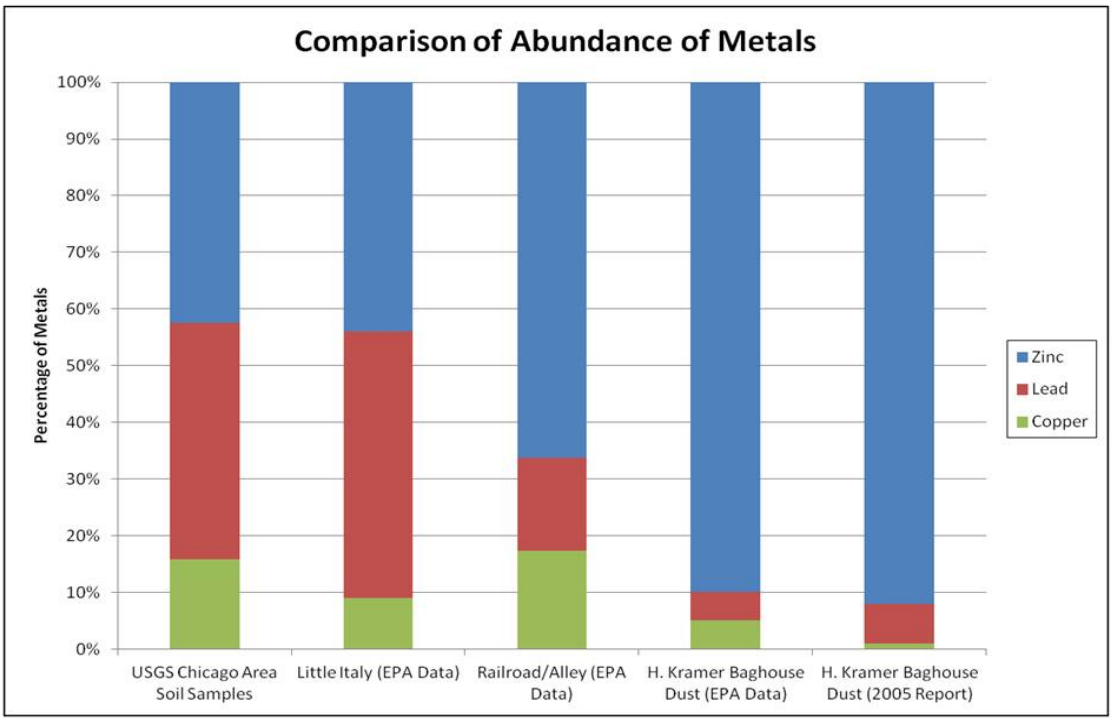
Little Italy Reference Area Soil Sampling: In August 2013, EPA conducted a field sampling event in the Little Italy reference area, which is located approximately 1.2 miles north of the Site (See Figure 1-1 for location). Data collected from this area served as a reference for soil suspected to be less impacted by heavy metal emitters near the Site. The results are tabulated below in Table 5.

Table 5	Little Italy Surface Soil (0-6 inches bgs) Results			Little Italy Subsurface Soil (6-24 and 6-18 inches bgs) Results		
	No. of Samples*	Average*	Range	No. of Samples*	Average*	Ranges
Total Lead	11	249	66-760 mg/kg	3	431 mg/kg	92 - 930 mg/kg
Fine-Grained Lead	11	335	66-1,300 mg/kg	3	640 mg/kg	150 - 1,400 mg/kg

*Number of samples and average calculations do not include duplicate samples
Surface Soil : Total Lead – 11 out 11 samples below 800 mg/kg RML ;
Lead Fines – 10 out of 11 samples below 800 mg/kg RML;
Subsurface Soil : Total Lead - 0 of 3 samples below 800mg/kg RML
Lead Fines - 0 of 3samples below 800mg/kg RML

EPA FIELDS Statistical Study (Nov. 2014): EPA's Field Environmental Decision Support (FIELDS) Team used statistical software to compare analytical laboratory concentrations of cadmium, copper, lead, fine-grained lead, tin, and zinc from samples collected from 0 to 6 inches bgs at the Site, the Little Italy reference area, and the City of Chicago background study(USGS, 2003). Analytical laboratory concentrations of cadmium, copper, lead, fine-grained lead, tin, and zinc in Site soil samples were significantly higher (p-value < 0.05) than in the samples collected from the Little Italy reference area and the City of Chicago background study. These results suggest the Little Italy reference area and the City of Chicago background have not been impacted by the same emitters of heavy metals, nor to the same degree, as the alley and railroad spur.

EPA FIELDS also compared the relative abundances of lead, zinc, and copper between the Site, City of Chicago background, Little Italy reference area, and two H. Kramer baghouse datasets (See Graph: Comparison of Abundance of Metals, below) . Zinc, lead, and copper were present in the City of Chicago background samples at approximately 42, 42, and 16 %, respectively. Similarly, zinc, lead, and copper were present in Little Italy reference area samples at approximately 44, 47, and 9 %, respectively. A higher relative abundance of zinc and a lower relative abundance of lead were present in surface soil samples collected from the Site at approximately 66, 16, and 17 % zinc, lead, and copper, respectively. An even higher relative abundance of zinc and lower relative abundance of lead were present in H. Kramer baghouse samples at approximately 92, 7, and 1% zinc, lead, and copper, respectively for samples analyzed by H. Kramer (2005) and 90, 5, and 5 % zinc, lead, and copper, respectively for baghouse samples analyzed by EPA. Based on the higher abundance of zinc (22-24% higher) and lower relative abundance of lead (26-31 % lower) in Site soils compared to the City of Chicago background study and the Little Italy reference area, the Site also appears to have been impacted by a release of zinc, in addition to the release of lead. H. Kramer baghouse samples contained 90-92 % zinc and approximately 832,567 pounds of zinc have been released via fugitive and stack emissions since 1987 (EPA 2013a). While this analysis does not attribute a release of lead to H. Kramer, within the City of Chicago, detections of lead and zinc have been found to be highly correlated ($R^2 = 0.91$), suggesting that two elements have been added to soil largely from the same material or process rather than independently distributed constituents (USGS 2003)



Furthermore, based on the presence of slag in Site soil borings, analytical laboratory results for Site soil samples, and EPA FIELDS comparisons to the Little Italy reference area and City of Chicago background study (USGS 2003), the Site appears to have been impacted by an industrial release of cadmium, copper, tin, zinc, and lead.

EPA NEIC Report (Feb. 2015) - NEIC evaluated the analytical results and soil samples from the alley, railroad, and reference soils from the Pilsen neighborhood and compared them to H. Kramer baghouse dust, and H. Kramer slag data. Results were consistent with brass and bronze foundry materials (emissions dust or slag) as the predominant sources of lead in the alley and railroad. Specifically: 1) Micrometer scale Zn-oxide particles were found in the railroad soil were similar to micrometer scale Zn-oxide particles observed in the baghouse dust of H. Kramer; 2) Relative elemental concentrations indicated similar relative abundances of copper, lead, and tin in H. Kramer baghouse dust and in alley and railroad soils near H. Kramer. H. Kramer is the only brass and bronze foundry to have ever operated within 0.5 miles of the Site.

1. Physical Location

The geographical coordinates for the alley portion of the Site are 41° 51' 10.38" North latitude and 87° 39' 35.54" West longitude. The geographical coordinates for the railroad portion of the Site are 41° 51' 13.58" North latitude and 87° 39' 41.66" West longitude. (See Figures 1-1,1-2, and 2-1 for more information).

An Environmental Justice (EJ) analysis for the Site is contained in Attachment II. Screening of the surrounding area used Region 5's EJ Screen Tool. EPA has reviewed the environmental and

demographic data for the area surrounding the Site and determined there is a high potential for EJ concerns at this location. For more details, see Attachment II.

2. Site Characteristics

The alley and railroad portions of the Site are currently being used for parking, vehicle traffic, and foot traffic. The railroad spur portion of the Site is no longer operated as a railroad as of 2013. Numerous portions of the Site are unfenced and may be used as a walkway for pedestrians. Most of the pedestrian traffic consists of workers from the businesses around the immediate area. However, pedestrian traffic on Loomis street adjacent to the Site also includes students and residents in the area. The Western Area of the railroad spur, which runs about 500 feet west of Loomis, is mostly abandoned rail tracks that are fenced off and intersected by a small asphalt driveway between the north and south parking lots for Juarez.

3. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant, or Contaminant

Analytical results from the investigation indicate that lead is the primary contaminant of concern. Lead is a "hazardous substance" by definition under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); *see also* 40 C.F.R. § 302.4. It has been released into the surface soil and at depth in the alley and railroad spur at concentrations above the industrial and residential USEPA RMLs of 800 and 400 mg/kg, respectively.

In addition, soil sample results showed TCLP lead concentrations that exceeded the TCLP lead regulatory limit. Therefore, these samples represent materials that meet the definition of hazardous waste by virtue of the characteristic of toxicity. *See* 40 C.F.R. § 261.24(b).

Average alley surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 2,419 and 2,662 mg/kg, respectively (N=12). Lead concentrations in surface soil samples collected in the alley ranged from 63 to 5,600 mg/kg. Fine-grained lead concentrations ranged from 180 to 6,600 mg/kg.(see Table 1)

Average railroad spur surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 4,340 and 6,950 mg/kg, respectively (N=6). Lead concentrations in surface soil samples collected from the railroad spur area (0-6 inches bgs) ranged from 940 to 11,000 mg/kg. Fine-grained lead concentrations ranged from 900 to 23,000 mg/kg. Fine-grained lead are smaller particles which can be more easily disturbed and become airborne which results in a higher incidence of exposure to the residents. The fine-grained lead results were used for the risk assessment for the Site. (See Table 2)

The lead from the Site has and can be released into the surrounding neighborhood, which includes residences and schools, through wind and rain runoff and through present use (such as people walking and driving vehicles over the Site, carrying lead contaminated soil off-Site).

The Site is not on the National Priorities List (NPL), and is not being proposed for inclusion on the NPL.

4. Maps, Pictures, and Other Graphic Representations

The following Figures are included as attachments:

- Figure 1 – Site Location Map;
- Figure 1-2 – Pilsen Soil OU1 Railroad Spur and Alley Site
- Figure 2-1 – Site Features Map;
- Figure 2-2 – Predominant Wind Pathway Map;
- Figure 3 – Western Area of Railroad Spur, Surface Soil Sampling Results;
- Figure 4-1 – Alley Results of Surface Soil Samples Summary;
- Figure 4-2 – Railroad Spur Results of Surface Soil Samples Summary.

5. Other Actions to Date

a. Previous Actions

BNSF installed temporary fencing at the railroad spur in April 2014 to limit access to workers and residents in the area. No other response actions have been taken at the Site since the EPA Removal Site Evaluation report was completed in April 2014.

b. Current Actions

No current actions by H. Kramer, BNSF, or local/state governments are underway at the Site.

6. State and Local Authorities' Roles

a. State and Local Actions to Date

No response actions have been taken by the State or City at the Site. However, the Illinois Environmental Protection Agency (Illinois EPA) oversaw a voluntary cleanup of H. Kramer's property adjacent to the Site. The cleanup was completed in 2012. Since the EPA Removal Site Evaluation was initiated in December 2012, the City of Chicago Department of Health (DOH) and the Aldermanic Office of Danny Solis (25th Ward) has coordinated with EPA's activities to investigate the Site and conduct community outreach to help educate and inform the residents.

b. Potential for Continued State/Local Response

EPA will continue to coordinate its enforcement and response actions at the Site with the appropriate agencies, including the Illinois EPA, Chicago DOH, and Alderman Solis's Office.

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

Conditions at the Site pose an imminent and substantial endangerment to public health, welfare, and the environment and meet the criteria for a time-critical removal action provided for in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. § 300.415(b)(2). These criteria include, but are not limited to, the following:

1. **Actual or potential exposure of nearby human populations, animals, or the food chain to hazardous substances, pollutants, or contaminants.**

Analysis of soil samples collected in surface and subsurface soils confirmed the presence of lead at concentrations exceeding the residential and industrial EPA RMLs of 400 and 800 mg/kg in almost every soil sampling location. Lead is a "hazardous substance" by definition under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); *see also* 40 C.F.R. § 302.4. Furthermore, three soil samples from the alley contained TCLP lead at concentrations of 12, 12, and 9.6 mg/L, and two soil samples from the railroad spur contained TCLP lead at concentrations of 12 and 13 mg/L. These TCLP lead concentrations exceed the TCLP lead regulatory limit of 5.0 mg/L at 40 C.F.R. § 261.24 (b), indicating these soils are hazardous for the characteristic of toxicity. Besides lead, antimony, arsenic, copper, and zinc were detected in Site soil above USEPA RMLs for residential soil, HQ 3.

Average alley surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 2,419 and 2,662 mg/kg, respectively (N=12). Lead concentrations in surface soil samples collected in the alley ranged from 63 to 5,600 mg/kg. Fine-grained lead concentrations ranged from 180 to 6,600 mg/kg. (See Figure 4-1 and Table 1).

Average railroad spur surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 4,340 and 6,950 mg/kg, respectively (N=6). Lead concentrations in surface soil samples collected from the railroad spur area (0-6 inches bgs) ranged from 940 to 11,000 mg/kg. Fine-grained lead concentrations ranged from 900 to 23,000 mg/kg. (See Figure 4-2 and Table 2).

Further, the Western Area portion of the railroad spur results indicate that the average surface soil total lead and fine grained lead concentrations (0-6 inches bgs) were 1,336 mg/kg and 2,074 mg/kg respectively. Total lead concentrations in the surface soil samples ranged from 499 mg/kg to 2,290 mg/kg. Fine grain lead concentrations ranged from 898 mg/kg to 3,540 mg/kg. Potential migration pathways and exposure mechanisms for the heavy metal contamination include human and animal activities on the Site, surface drainage, and wind dispersion. Potential receptors include school children, residents, and workers at adjacent industrial and commercial businesses. Direct contact with hazardous substances is possible, and the close proximity of residential areas and schools to the Site greatly increases the likelihood of exposure of human populations. Such exposure could cause an imminent and substantial endangerment to public health, welfare, and the environment.

The Site is a particular hazard to sensitive populations such as pregnant women and children. The Site is just south of a residential area, and 11,307 people live within 0.5 mile of the Site. Two schools, Juarez and Perez are located within a ¼-mile radius of the Site, with Juarez immediately adjacent to parts of the Site. School children may use the Site as a walkway, commuting to and from Juarez.

The Agency for Toxic Substances and Disease Registry (ATSDR) has studied the health effects of lead and determined that the harmful effects of lead exposure are more severe for young children and developing fetuses (through exposure to pregnant women). These effects include

premature birth, lower birth weight, decreased mental ability in infants, learning difficulties, and reduced growth in young children. Lead can affect almost every organ and system in the body, but 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, ankles, and wrists. 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. The Department of Health and Human Services (DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens, and the EPA has determined that lead is a probable human carcinogen (ATSDR, CAS # 7439-92-1, August 2007).

A risk assessment for the railroad spur and alley was conducted by EPA which concluded that the soil concentrations of lead in the alley and railroad spur are at an unacceptable risk level to the residents in the neighborhood.

2. **High levels of hazardous substances, pollutants, or contaminants in soil largely at or near the surface that may migrate.**

Site assessment analytical results document high levels of hazardous substances (lead and TCLP lead concentrations) in soil at or near the surface. Average alley surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 2,419 and 2,662 mg/kg, respectively (N=12). Lead concentrations in surface soil samples collected in the alley ranged from 63 to 5,600 mg/kg. Fine-grained lead concentrations ranged from 180 to 6,600 mg/kg. Average railroad spur surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including duplicate samples) were 4,340 and 6,950 mg/kg, respectively (N=6). Lead concentrations in surface soil samples collected from the railroad spur area (0-6 inches bgs) ranged from 940 to 11,000 mg/kg. Fine-grained lead concentrations ranged from 900 to 23,000 mg/kg. (See Table 1 and Table 2)

In addition to the high concentrations of total lead and fine-grained lead, two soil samples from the alley and one from the railroad spur collected from 0 to 6 inches bgs contained TCLP lead at concentrations exceeding the TCLP lead regulatory limit of 5.0 mg/L in 40 C.F.R. § 261.24(b).

Based on site assessment sampling results and the Site's unrestricted nature, hazardous substances in soil at or near the surface pose a threat of migration via wind, rain, vehicular and pedestrian traffic, or manual dispersion.

3. **Weather conditions that may cause hazardous substances, 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.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the hazardous substances on Site, and the potential exposure pathways to nearby populations described in Sections II, and III above, actual or threatened release of hazardous substances from the Site, if not addressed by implementing the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, 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. Removal activities on Site will include:

a) Develop and implement a Site-specific Health and Safety Plan, Sampling Plan, and Work Plan (Plans will include provisions for: air/particulate monitoring, dust control, & traffic control);

b) Implement Site security measures as necessary;

c) Based upon a Site-specific Sampling Plan, conduct extent of contamination sampling both on and off-site to confirm extent of contaminated soil impacted by historic Site activities, as appropriate (includes lab analyses);

d) Conduct a treatability study (onsite) to determine if leachable metals can be treated prior to disposal (to lessen the cost of disposal) of excavated soils;

e) Remove, consolidate, and dispose (or recycle as appropriate) non-hazardous site debris and vegetation, including the railroad rails and ties;

f) **For the Western Area of the Railroad Spur (see Section II.A.1):**

i. Excavate, treat (if applicable), transport, and properly dispose of (in accordance with EPA's Off-Site Rule (40 CFR § 300.440)) lead-contaminated soil with concentrations above the industrial RML of 800 mg/kg for lead. Soils above the RML will be removed down to a depth of approximately 24 inches below ground surface to prevent direct contact with contaminated soil;

ii. Conduct confirmatory soil screening using an XRF and collect samples for laboratory analysis to confirm that the clean-up goal [lead at 800 mg/kg] has been achieved;

iii. Backfill excavated areas with clean materials. Excavated areas where soil concentrations remain above the RML will have a demarcation barrier placed on the bottom of the excavation prior to being backfilled with clean material (soil or gravel);

iv. Restore excavated/disturbed areas and vegetate to prevent soil erosion.

g) **For the alley and railroad spur east of South Loomis Street (except for the eastern portion of the alley with an asphalt cover, about 230 ft.):**

i. Excavate, treat (if applicable), transport, and properly dispose of (in accordance with EPA's Off-Site Rule (40 CFR § 300.440)) lead-contaminated soil with concentrations above the industrial RML of 800 mg/kg for lead. Soils above the RML will be removed down to a depth necessary for installation of an asphalt road including the associated sub-base.

ii. Excavated areas where soil concentrations remain above the RML will have a demarcation barrier placed on the bottom of the excavation prior to being backfilled with clean material;

iii. Construct an asphalt cover in areas that were excavated within the Site alley and railroad spur.

h) **For the eastern portion of the alley that has an asphalt cover (about 230 ft):** Repair asphalt cover by patching any holes which expose soil or other alternative as appropriate to eliminate the ingestion exposure pathway.

i) Take any necessary response actions to address any Site related release or threatened release of a hazardous substance, pollutant, or contaminant that the EPA 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. EPA will also initiate planning for provisions of post-removal Site control consistent with the provisions of Section 300.415(1) of the NCP. The threats posed by uncontrolled substances considered hazardous meet the criteria listed in the NCP Section 300.415(b)(2), and the response actions proposed herein are consistent with any long-term remedial actions which may be required. The proposed removal of hazardous substances, 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 will not impede future actions based on available information. No long-term remedial actions are anticipated for the Site.

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

This section is not applicable.

4. Applicable or relevant and appropriate requirements (ARARs)

All applicable, relevant and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable considering the exigencies of the circumstances. *See* 40 C.F.R. § 300.415(j). On March 25, 2015 an email was sent to Bruce Everetts of the Illinois EPA asking for any State of Illinois ARARs which may apply. A response from Mr. Everetts was received on March 30, 2015 identifying the State requirements which apply to generators of hazardous waste.

5. Project Schedule

This project is expected to be completed in 45 working days (assuming a 5 day work week).

B. Estimated Costs

The detailed cleanup contractor cost is presented in Attachment IV and the Independent Government Cost Estimate is presented in Attachment III. The Estimated project costs are summarized:

REMOVAL ACTION PROJECT CEILING ESTIMATE	
Extramural Costs: Regional Removal Allowance Costs: Total Cleanup Contractor Costs (This cost category includes estimates for ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with Other Federal Agencies. Includes a 10% contingency)	 $ 947,253
Other Extramural Costs Not Funded from the Regional Allowance: Total START Oversight, and report writing support.	 $48,000
Subtotal	$ 995,253

Subtotal Extramural Costs Extramural Costs Contingency (15% of Subtotal, Extramural Costs)	$ 149,288
TOTAL REMOVAL ACTION PROJECT CEILING	**$1,144,541**

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 to the environment. These response actions do not impose a burden on the affected property disproportionate to the extent to which the 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, the potential exposure pathways to nearby populations described in Sections II, III, and IV above, and the 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

There are no outstanding policy issues.

VIII. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential 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 at $1,865,297[4]:

Direct Extramural and Intramural Costs	+	Indirect Costs	= Estimated EPA Costs for Removal Action
($1,144,541+ $40,000)	+	(57.47% X $1,184,541)	= $1,865,297

[4] 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 27, 2008. 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.

IX. RECOMMENDATION

This decision document represents the selected removal action for the Pilsen Soil Operable Unit 1 Railroad Spur & Alley Site in Chicago, Illinois. It was 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 1). Conditions at the Site meet the NCP Section 300.415(b)(2) criteria for a removal action, and I recommend your approval of the removal action proposed in this Action Memorandum.

The total project ceiling if approved will be $1,144,541, of which an estimated $1,096,541 may be used for cleanup (ERRS) contractor costs. You may indicate your decision by signing below.

APPROVE: _____ DATE: 6-22-15
Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

Enforcement Addendum

Figures:
Figure 1-1– Site Location Map (shows location of Little Italy Reference Area);
Figure 1-2 - Site Map
Figure 2-1-Site Features Map (shows features within ¼ mile of Site);
Figure 2-2 Predominant Wind Pathway Map;
Figure 3 – Western Area of Railroad Spur, Surface Soil Sampling Results
Figure 4-1 Alley Results of Surface Soil Samples Summary;
Figure 4-2 Railroad Spur Results of Surface Soil Samples Summary

Attachments:

1. Administrative Record Index
2. Environmental Justice Analysis
3. Independent Government Cost Estimate
4. Detailed Cleanup Contractor and START Estimate

cc: B. Schlieger, USEPA 5202 G (email: schlieger.brian@epa.gov)
L. Nelson, U.S. DOI, **w/o Enf. Addendum**
(email: lindy_nelson@ios.doi.gov)
B. Everetts, Illinois EPA, **w/o Enf. Addendum**
(email: bruce.everetts@illinois.gov)

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NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ENFORCEMENT ADDENDUM

HAS BEEN REDACTED – ELEVEN PAGES

ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

Figure 1-1 – Site Location Map (includes location of Little Italy Reference Area)

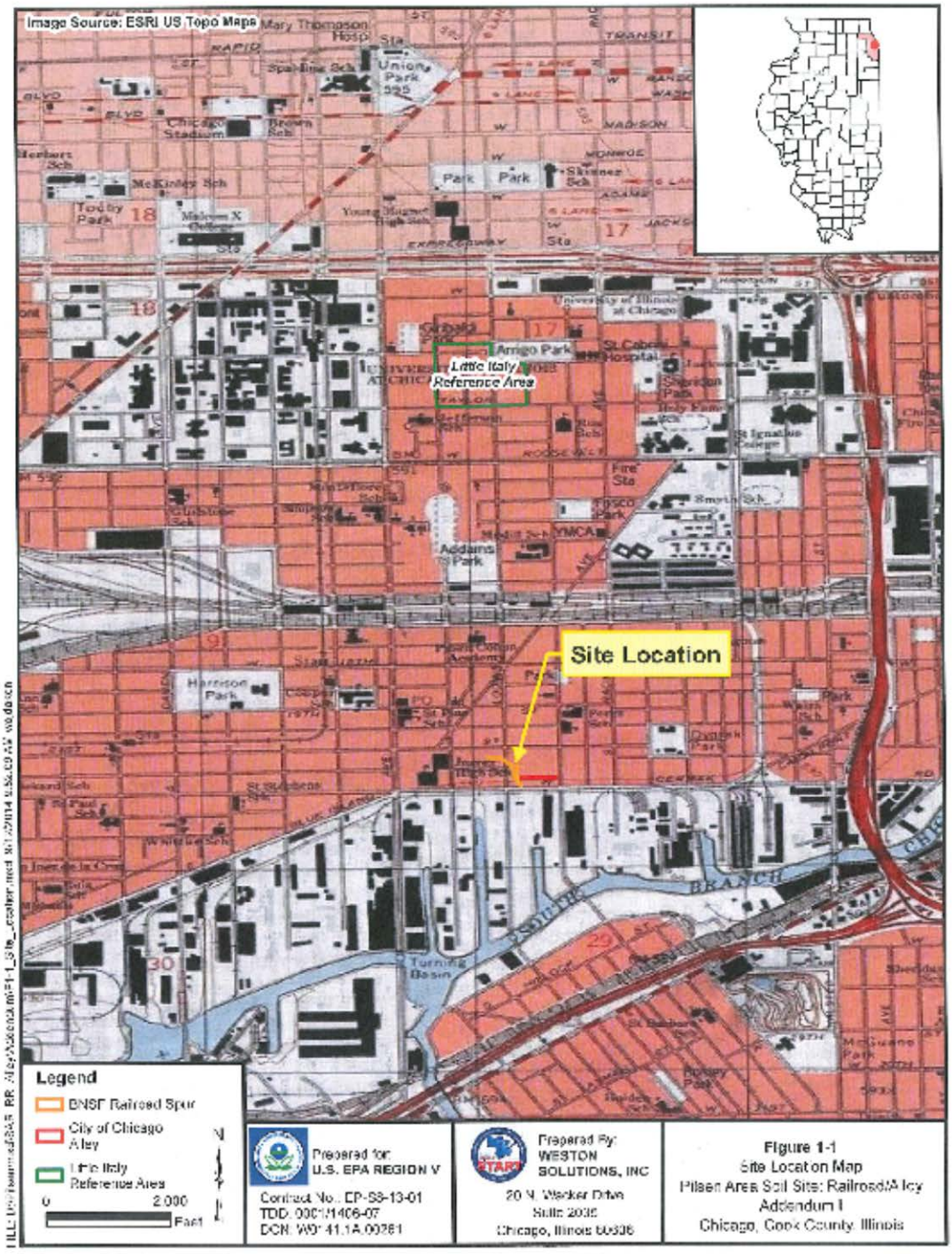


Figure 1-2 Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site

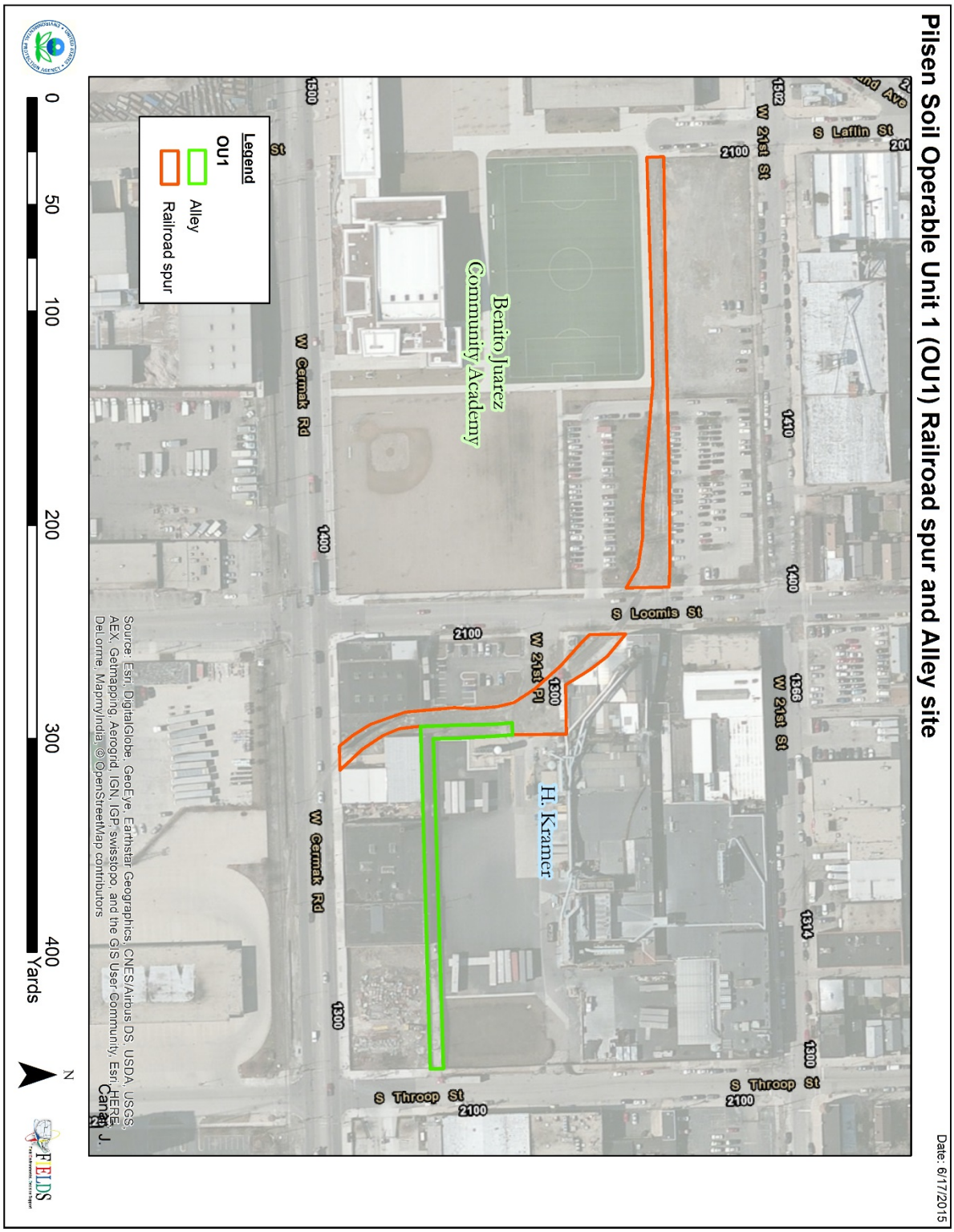


Figure 2-1 – Site Features Map

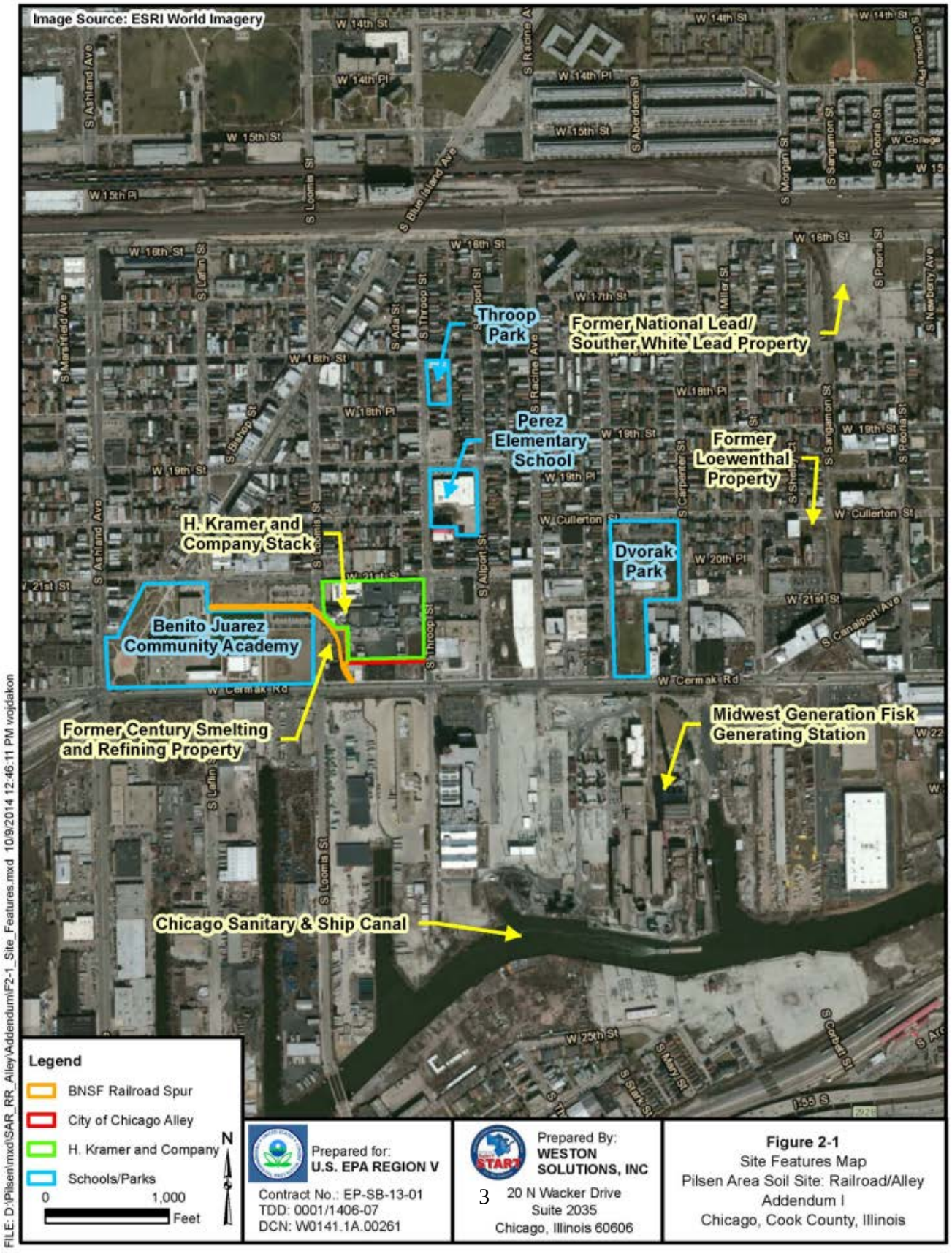


Figure 2-2 – Predominant Wind Pathway Map

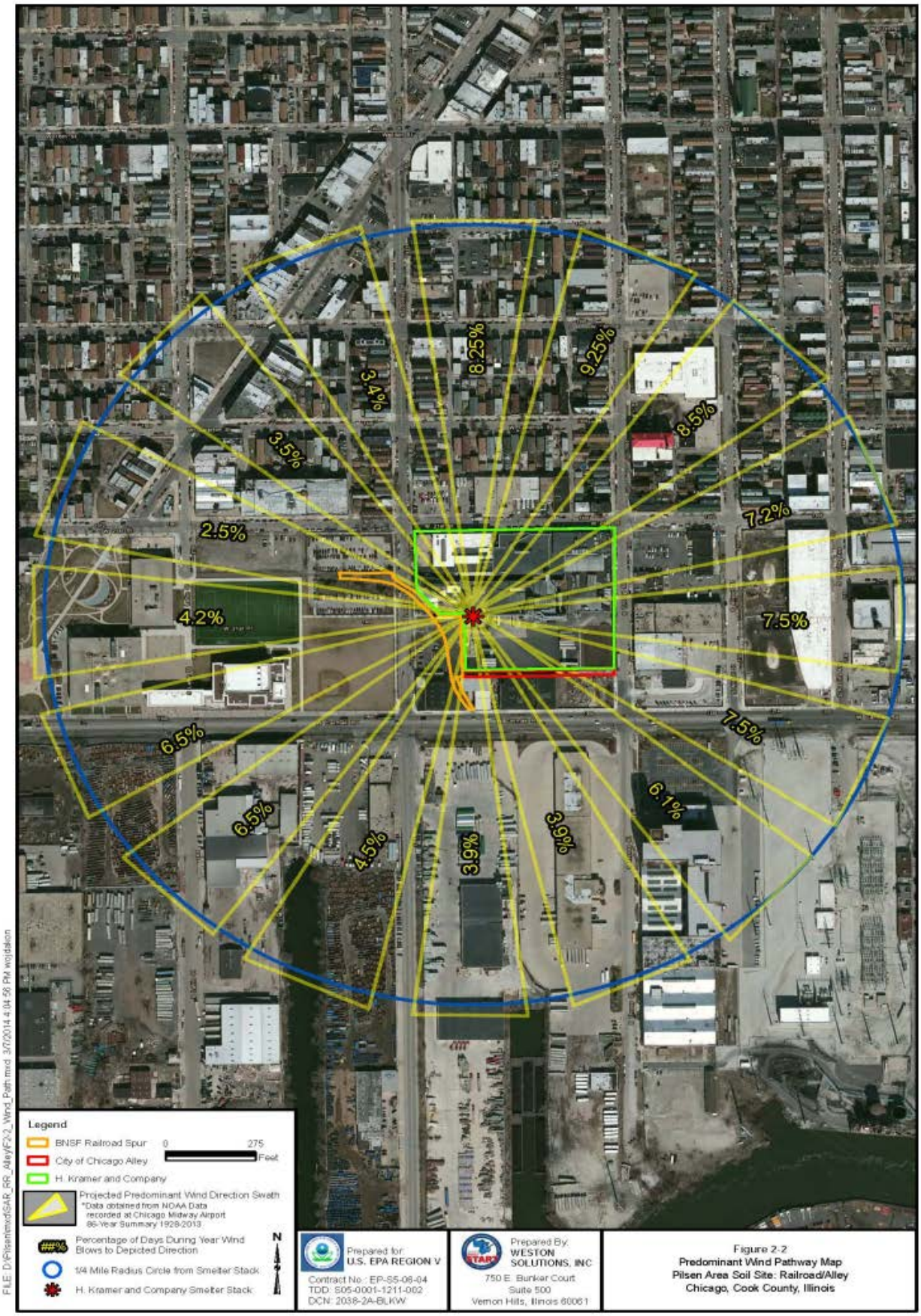


Figure 3: Western Area of Railroad Spur, Surface Soil Sample Results

FIGURE 4-1 : Alley Results of Surface Soil Samples Summary

(Figure 4-2 in USUSEPA Site Assessment Report, 2014)

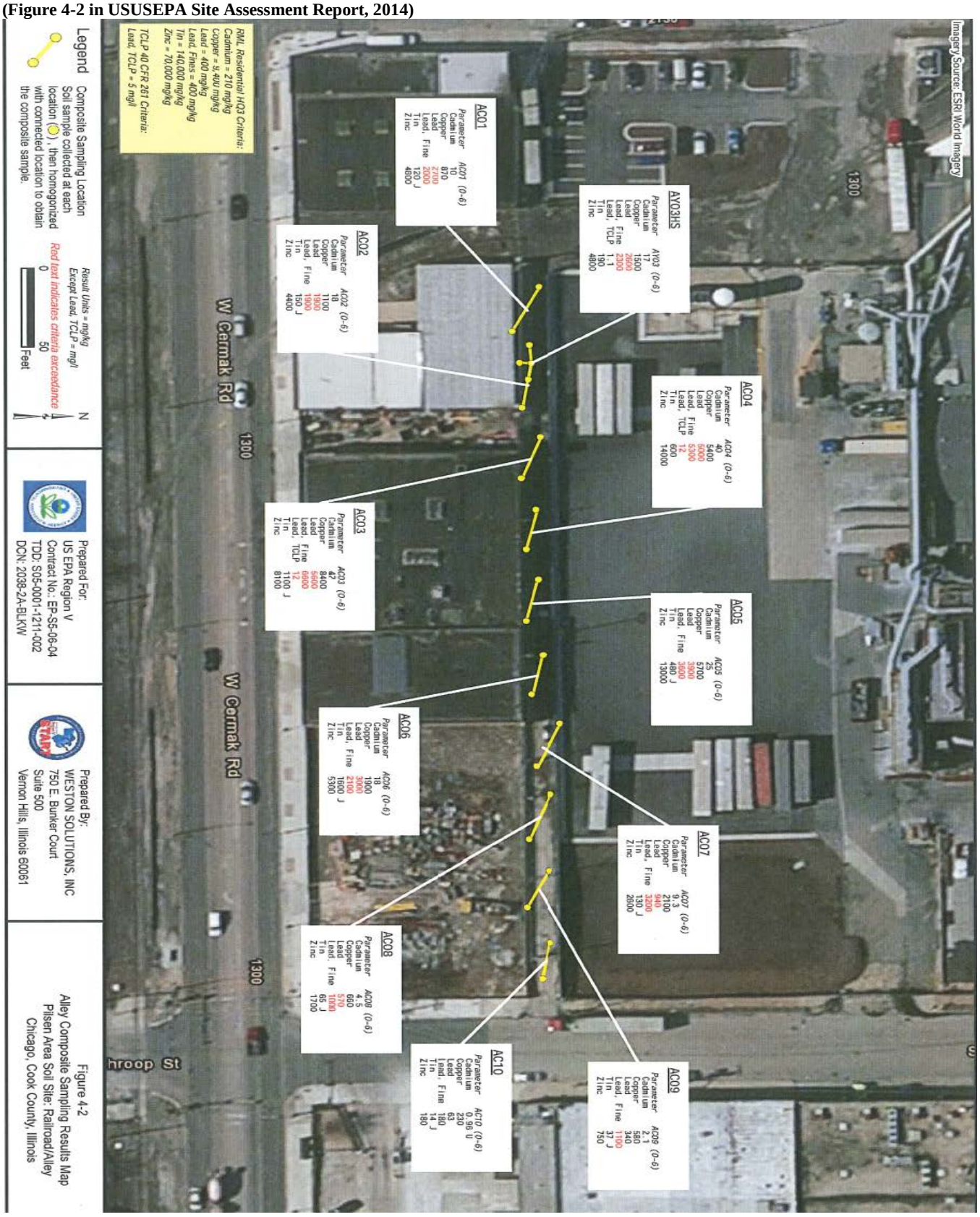
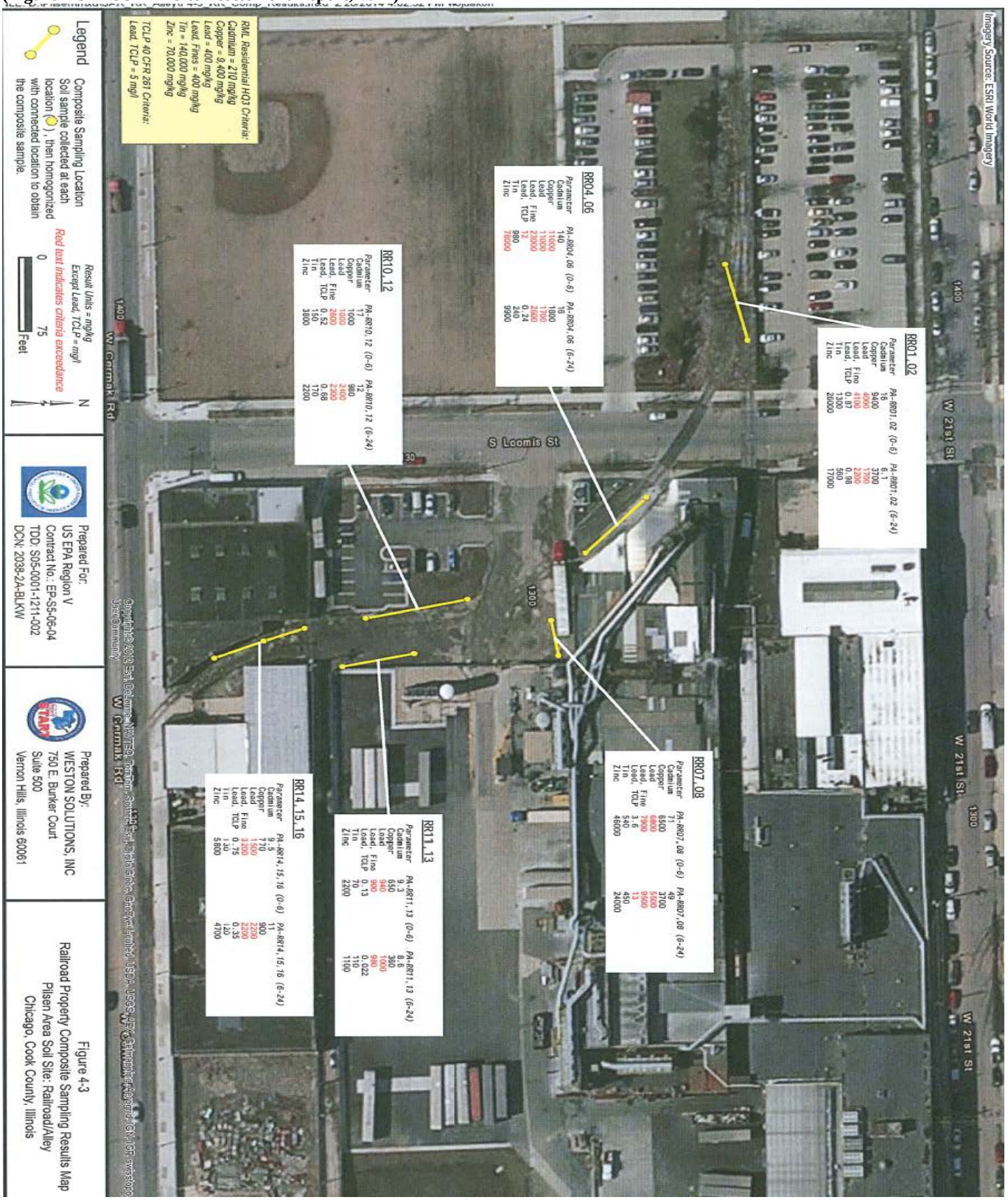


Figure 4-2: Railroad Spur Results of Surf ace Soil Samples Summary
(Figure 4-3 in USEPA Site Assessment Report, 2014)



ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR THE
PILSEN SOILS RAILROAD AND ALLEY SITE
OPERABLE UNIT 1
CHICAGO, COOK COUNTY, ILLINOIS

ORIGINAL
MAY, 2015

NO.	SEMS ID	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	918527	9/1/95	U.S. EPA Office of Compliance	File	Profile of the Nonferrous Metals Industry	138
2	918533	1/1/03	USGS	File	Concentrations of Polynuclear Aromatic Hydrocarbons and Inorganic Constituents in Ambient Surface Soils, Chicago, Illinois: 2001-02	84
3	918529	3/1/14	National Enforcement Investigations Center	U.S. EPA	Interim Technical Report on the Characterization of Lead in Soils, Pilsen Neighborhood	51
4	915298	4/2/14	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report (Revision 3)	433
5	918526	10/27/14	Canar, J., Jacobsen, L, and Roth, C., U.S. EPA FIELDS Group	File	Report for the Statistical Analysis of Cadmium, Copper, Lead, Tin, and Zinc Found in Soil at and near the H. Kramer Facility	18
6	918525	10/30/14	Fusinski, K., U.S. EPA	Mendoza, R., U.S. EPA	Memo re: Risk Assessment for the Pilsen Railroad and Alley Area Adjacent to the H. Kramer Smelter	20
7	918531	11/3/14	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report - Addendum 1	27

NO.	SEMS ID	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
8	918530	2/6/15	National Enforcement Investigations Center	U.S. EPA	Final Technical Report on the Characterization of Lead in Soils, Pilsen Neighborhood	117
9	918523	3/26/15	Mendoza, R., U.S. EPA	Everetts, B., IEPA	Letter re: Request for ARARs for Operable Unit 1	4
10	918528	3/30/15	Everetts, B., IEPA	Mendoza, R., U.S. EPA	Letter re: ARARs at the Pilsen Soils Railroad Spur and Alley Site, Operable Unit 1	3
11	918532	5/15/15	U.S. EPA	File	Envirofacts Search Results for H. Kramer & Co.	61
12	918524	5/22/15	Mendoza, R., U.S. EPA	Peachey, R., U.S. EPA	Memo re: Pilsen Soils OU1 Railroad Spur and Alley Site: Western Area, Rail Road Spur Soil Sample Results	142
13	-	-	Mendoza, R., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum re: Request for Approval and Funding for a Time-Critical Removal Action at the Pilsen Soil Operable Unit 1 Railroad Spur and Alley Site (*PENDING*)	-

ATTACHMENT II: Environmental Justice Analysis

EPA United States Environmental Protection Agency

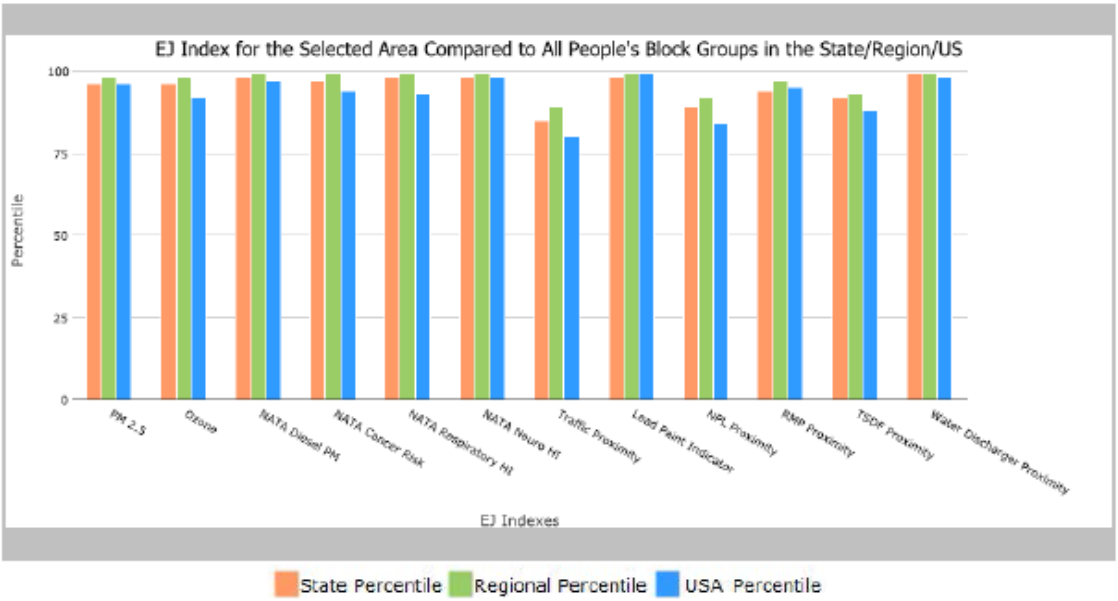
EJSCREEN Report

for .5 mile Ring Centered at 41.852438,-87.662395, ILLINOIS, EPA Region 5

Approximate Population: 11307

Pilsen Soils RR/Alley

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	96	98	96
EJ Index for Ozone	96	98	92
EJ Index for NATA Diesel PM	98	99	97
EJ Index for NATA Air Toxics Cancer Risk	97	99	94
EJ Index for NATA Respiratory Hazard Index	98	99	93
EJ Index for NATA Neurological Hazard Index	98	99	98
EJ Index for Traffic Proximity and Volume	85	89	80
EJ Index for Lead Paint Indicator	98	99	99
EJ Index for Proximity to NPL sites	89	92	84
EJ Index for Proximity to RMP sites	94	97	95
EJ Index for Proximity to TSDFs	92	93	88
EJ Index for Proximity to Major Direct Dischargers	99	99	98



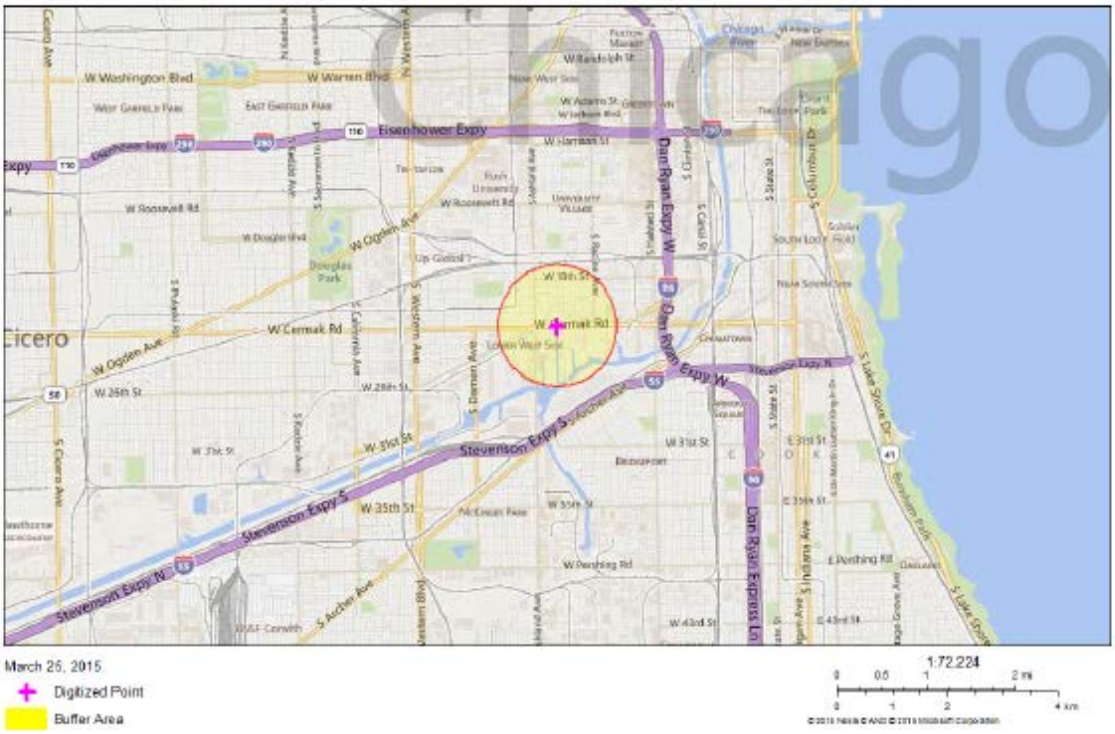
This report shows environmental, demographic, and EJ indicator values. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block 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.

EJSCREEN Report

for .5 mile Ring Centered at 41.852438,-87.662395, ILLINOIS, EPA Region 5

Approximate Population: 11307

Pilsen Soils RR/Alley



EJSCREEN Report

for .5 mile Ring Centered at 41.852438,-87.662395, ILLINOIS, EPA Region 5

Approximate Population: 11307

Pilsen Soils RR/Alley

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 µg/m³)	14.3	13.4	91	13.3	86	10.7	96
Ozone (ppb)	40.9	42.8	5	45	7	46.3	18
NATA Diesel PM (µg/m³)*	2.52	0.968	95	0.712	95-100th	0.824	90-95th
NATA Cancer Risk (lifetime risk per million)*	67	48	91	42	90-95th	49	80-90th
NATA Respiratory Hazard Index*	3.1	1.8	92	1.5	90-95th	2.3	70-80th
NATA Neurological Hazard Index*	0.17	0.073	95	0.067	95-100th	0.063	95-100th
Traffic Proximity and Volume (daily traffic count/distance to road)	22	69	43	69	46	110	39
Lead Paint Indicator (% Pre-1960 Housing)	0.91	0.43	94	0.39	94	0.3	96
NPL Proximity (site count/km distance)	0.034	0.069	42	0.085	41	0.096	38
RMP Proximity (facility count/km distance)	0.57	0.43	77	0.33	83	0.31	85
TSDF Proximity (facility count/km distance)	0.036	0.037	72	0.051	64	0.054	64
Water Discharger Proximity (facility count/km distance)	0.77	0.27	92	0.23	94	0.25	93
Demographic Indicators							
Demographic Index	77%	34%	92	28%	95	35%	93
Minority Population	89%	36%	87	24%	94	36%	89
Low Income Population	64%	31%	91	32%	91	34%	89
Linguistically Isolated Population	35%	6%	97	3%	99	5%	97
Population With Less Than High School Education	44%	14%	96	12%	98	15%	95
Population Under 5 years of age	7%	6%	57	6%	59	7%	56
Population over 64 years of age	8%	13%	30	13%	23	13%	27

* 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.

ATTACHMENT III

INDEPENDENT GOVERNMENT COST ESTIMATE

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NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ATTACHMENT VI

DETAILED CLEANUP CONTRACTOR ESTIMATE

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