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 of a Time-Critical Removal Action at the Federated Metals Site, Whiting and Hammond, Lake County, Indiana (Site ID # C5DC)

FROM: Andrew Maguire, On-Scene Coordinator (OSC)
Emergency Response Branch 2/Emergency Response Section 3

THRU: Cathy Stepp,
Regional Administrator

TO: E. Scott Pruitt
Administrator

I. PURPOSE

The purpose of this Action Memorandum is to request and document your approval to expend up to $1,715,485.49 to conduct a time-critical removal action at the Federated Metals Site ("Site"), in Whiting and Hammond, Lake County, Indiana (Figure 1). The time-critical removal action proposed herein is necessary to mitigate threats to public health, welfare, and the environment posed by the presence of uncontrolled hazardous substances at the Site. There are no nationally significant or precedent-setting issues associated with the proposed response at this non-National Priority List (NPL) site.

This Action Memorandum serves as approval for expenditures by the U.S. Environmental Protection Agency, as the lead technical agency, to take actions described herein to abate the imminent and substantial endangerment posed by the hazardous substances at the Site. The proposed removal of the hazardous substances will 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.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: C5DC
RCRA ID: IND 005 444 104
State ID: IND 005 444 104
Category: Time-Critical Removal Action
Site Location: 2230 Indianapolis Boulevard, Lake County, Indiana 46394, and surrounding neighborhoods in Hammond and Whiting

A. Site Description

The Federated Metals Site is located in both Hammond and Whiting, Lake County, Indiana. The Site consists of the former Federated Metals Corporation (FMC) facility at 2230 Indianapolis Boulevard, Whiting, as well as surrounding residential areas in Hammond and Whiting. At this time, the full extent of the residential contamination has not been fully delineated. Additional residential sampling was conducted in April 2018 to further define the boundaries of the Site.

The former FMC facility covers approximately 36 acres in Whiting and Hammond, Indiana. From 1937 until 1983, the FMC facility operated as a smelting, refining, recovery, and recycling facility for non-ferrous metals including copper, zinc and lead. In 1985, FMC sold a 17- acre portion of the facility containing the main manufacturing building, storage buildings and office space to HBR Partnership. Since then, a number of businesses, including an animal feed company, a recycling center, and a building products company, have operated in various outbuildings at the facility. Since 2007, two related companies - Northern Indiana Metals and Whiting Metals - have owned the former FMC manufacturing building and conducted lead reclaiming and blending operations there under Clean Air Act (CAA) permits issued by the Indiana Department of Environmental Management (IDEM). The Multi-State Custodial Trust, established by a federal bankruptcy court in 2009, owns an adjacent 19-acre landfill that was once part of the FMC facility.

From 2003 through December 2005, the former FMC facility was subject to Corrective Action under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6901- 6992k, pursuant to a 1992 federal court Consent Decree in *U.S. v. Federated Metals Corporation*, No. H90-0327(N.D. IN 1992), a 2001 EPA Final Remedy Decision, and a 2001 IDEM Agreed Order. The $3.7 million Corrective Action was funded by FMC's parent corporation, ASARCO, and an IDEM RCRA closure fund. The Corrective Action involved consolidation of wastes (primarily of slag dredged from adjoining Lake George, contaminated soils excavated from facility production areas, and non-hazardous baghouse demolition debris) into an existing 19-acre, on-site landfill and construction of a phyto-cap cover to mitigate infiltration of precipitation and reduce leaching of metals (arsenic, lead and fluoride) to groundwater under the landfill. Off-site soil sampling was not part of the Corrective Action, nor were any samples taken from Lake George (ENTACT 2006).

ASARCO filed for bankruptcy in August 2005 and abandoned the FMC facility in December 2005 before the Corrective Action remedy was completed. In 2009, under a massive $1.79 billion bankruptcy settlement which resulted in the dissolution of ASARCO, federal courts established and funded a number of bankruptcy trusts to address ASARCO's nationwide environmental liabilities. The bankruptcy court allocated $1.2 million to the Multi-State Custodial Trust to complete the FMC landfill cover and conduct groundwater monitoring to confirm performance of the remedy. The Trust took title to the landfill portion of the former FMC property in 2012, and subsequently performed maintenance on the landfill, installed additional on-site groundwater monitoring wells, and conducted several rounds of on-site and off-site groundwater monitoring.

On September 16, 2016, the EPA Region 5 Land and Chemicals Division (LCD) referred the Site to the EPA Region 5 Superfund Removal Program for an off-site residential assessment (Cisneros 2016). LCD believed that there was a potential for elevated levels of heavy metals, including lead and arsenic, in the residential properties located near the former FMC facility. The LCD program indicated that it had no ability to fund and conduct soil sampling within the RCRA Corrective Action program. In September 2017, EPA notified the Trustee that Corrective Action remedy construction was complete. In December 2017, EPA and IDEM asked the Trustee to conduct seven more quarters of groundwater monitoring to confirm remedy performance and establish a baseline for an IDEM post-closure plan. That work is ongoing.

1. Removal Site Evaluation

Determining Potential Area of Concern

In November/December 2016, the EPA Region 5 Superfund removal program implemented a broad sampling approach at publicly-owned right of ways and unoccupied residential properties in order to determine the initial scope of the removal investigation. This initial investigation identified lead contamination to the north and northeast of the former FMC facility. In March 2017, more publicly owned properties were sampled, and narrowed the area of concern to a much smaller area to the north of the former smelter. Lead as high as 2200 ppm was found in the surface soils in the neighborhood. Results for both sampling events can be found in Table 1. Based on the results of this sampling, it was determined that the sampling needed to be expanded to occupied residential properties.

Assessing site for potential vapor intrusion from landfill

In January 2017, groundwater and soil gas sampling was also conducted in residential areas of the Site. Soil gas sample results indicated three samples exceeded screening levels. One sample had an exceedance for 1,3-butadiene, a second had an exceedance of chloroform, and a third had an exceedance of ethyl acetate. None of these were contaminants of concern from the FMC landfill and the source of the contaminants is unknown. Analytical results from the groundwater sampling showed no exceedances above EPA screening levels. Results indicated that no further vapor intrusion sampling was necessary at the Site.

Landfill sampling to correlate off-site soil contamination to source material

In order to evaluate potential sources for lead found in residential yards, soil borings were collected at the former FMC landfill in June 2017. Analytical results from samples taken at the landfill were between 6,990 ppm and 26,700 ppm for lead. Eleven soil samples from the landfill and ten soil samples from residential properties were sent to a lab to assess whether the material in the landfill from the former FMC facility is the same material that is present in the residential yards. The lab documented the presence of any coal, coal ash, fly ash, slag, lead bearing particles or other metal particles in the samples. In a report provided by the lab, a comparison of the trends from these analyses suggests a likely connection between the lead-bearing particles detected in both sets of samples (landfill and residential). Five of the ten residential samples were identified as likely to have been impacted by foundry processes. Numerous lead-bearing particles, not commonly found in typical residential soils, were detected in the fine particles of the five residential samples. All five residential samples contained weathered particles in the fines which were elementally consistent with the glass-like material detected in the landfill

samples (Microvision 2017).

Occupied residential sampling

Occupied residential properties were sampled March 2018 and in October and November 2017. Of the 30 occupied residential properties sampled, 25 of the properties had surficial concentrations that exceeded the EPA RML of 400 ppm for lead. Of these properties, nine had surficial concentrations above 1,200 ppm for lead. Five of the properties that had surficial lead above 1,200 ppm had sensitive populations residing there at the time. The highest lead concentration found at the surface of one of the residential properties was 2,760 ppm. These five properties meet the tier I criteria as defined in the "Superfund Lead-Contaminated Residential Sites Handbook". A summary of the results can be found below and the individual results can be found in Table 1.

Summary of Occupied Residential Sampling Conducted in 2017	
Total number of properties sampled:	30
Total number of properties over 400 ppm lead:	25
Total number of properties over 1200 ppm lead:	9
Total number of properties over 1200 ppm lead with sensitive populations:	5

Continuing assessment activities at the Site

An integrated assessment with IDEM was conducted in April 2018 to further investigate the scope of contamination at the Site. Additional rounds of soil sampling will likely be conducted in the future by EPA and/or IDEM. As sampling results from properties are received, they will be evaluated for potential time-critical removal actions.

2. Physical location

The address of the former FMC facility is 2230 Indianapolis Boulevard, Whiting, Lake County, Indiana (Figures 1 and 2). Parts of the former FMC property, as well as various surrounding residences, are located in Whiting and in Hammond, Indiana. The former FMC property is a 17-acre, rectangular-shaped parcel that contained the former smelter operational areas and an adjacent 19-acre landfill on the south and west sides of the former operational area of the facility. The property is in a residential and commercial area. It is bounded to the north by Lake George Trail, vacant land and residences; to the east by a commercial building and New York Avenue; to the south by vacant land and Calumet College of St. Joseph; and to the west by Lake George. Lake Michigan is located approximately 0.7 miles northeast of the property. The residential area of concern consists of the properties primarily to the north and east of the facility, but has yet to

be fully defined.

An Environmental Justice (EJ) analysis for the Site was conducted (Attachment 1). Screening of the surrounding area used Region 5's EJ Screen Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT)). Region 5 has reviewed environmental and demographic data for the area surrounding the Site and determined that there is a high potential for EJ concerns at this location.

3. Site Characteristics

The Site consists of the operational portions of the former FMC facility, an adjacent landfill owned by a federal Trustee, and surrounding residential areas. From 1937 until 1983, the FMC facility operated as a smelting, refining, recovery, and recycling facility for non-ferrous metals including copper, zinc and lead. In 1985, FMC sold a 17- acre portion of the facility containing manufacturing buildings and office space. Since 2007, Northern Indiana Metals and Whiting Metals have conducted scrap lead reclaiming operations in the former FMC manufacturing building, under CAA permits issued by IDEM. The Multi-State Custodial Trust owns an adjacent 19-acre landfill that was once part of the FMC facility.

The residential area north of the FMC facility is a densely populated area consisting of mostly single-family homes built during the early 20th century. Most of the homes have smaller yards with areas averaging between 500 and 1000 square feet. This area is mixed with commercial buildings along Indianapolis Boulevard. There are churches, schools, and daycares located around the area.

To date, no EPA time-critical removal actions have been conducted at the Site. However, as noted above, the former FMC facility was subject to RCRA Corrective Action from 2003 through December 2005. At the end of that time, cleanup of the smelter portion of the former FMC facility and primary construction of the adjoining landfill was largely completed. Corrective Action then was suspended for seven years due to the bankruptcy of FMC's parent corporation, ASARCO. Corrective Action resumed in 2012 when a Trust established by a federal bankruptcy court took title to the landfill property and began cap maintenance and groundwater well installation and monitoring, which is ongoing.

EPA has longstanding policies regarding deferring CERCLA removal activities at sites where RCRA Corrective Action is applicable. *See* 54 FR 10520 (March 13, 1989); OECA Memorandum, *Coordination between RCRA Corrective Action and Closure and CERCLA Site Activities* (March 24, 1996). Accordingly, the instant removal action will focus on the residential areas near the former FMC facility, rather than on the facility itself. RCRA Corrective Action has been completed at the operational portion of the former FMC facility, and an effective Corrective Action remedy is in place at the landfill.

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

The presence of a hazardous substance in residential areas at the Site has been documented. Lead

is a hazardous substance as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14). *See* 40 C.F.R. § 302.4. Lead levels at the surface of the soil exceed residential EPA Removal Management Levels (RMLs). This time-critical removal action is addressing actual lead-contaminated particles released from the former FMC facility during its former operations into the adjacent neighborhood. This residential contamination was documented previously in the Removal Site Evaluation section. The highest surficial concentration of lead observed during the occupied residential sampling in October-November 2017 was 2,760 ppm.

Lead exposure via inhalation and/or ingestion can have detrimental effects on almost every organ and system in the human body. Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; and inhalation of fugitive dust. Lead can cause a variety of health problems to people who are exposed to it. Potential human receptors include residents, including children six years of age and under, and pregnant or nursing women. Children are at greatest risk from the toxic effects of lead. Initially, lead travels in the blood to the soft tissues (heart, liver, kidney, brain, etc.). Then, it gradually redistributes to the bones and teeth where it tends to remain. Children exposed to high levels of lead have exhibited nerve damage, liver damage, colic, anemia, brain damage, and death. The most serious effects associated with markedly elevated blood lead levels include neurotoxic effects such as irreversible brain damage.

Exposure may occur from direct ingestion of soil, soil tracked on shoes, and inhalation of dust and soil particles from the yard. Potential human receptors include residents, including children under seven, and pregnant or nursing women.

The known hazardous substance at the Site (lead) exists in the soil of residential properties. The lead in soil is unsecured and has no containment. Lead has the potential to be released from these residential properties by means such as tracking, surface runoff, and wind dispersion. These potential releases may be increased in areas where soil isn't covered by grass or other means.

5. NPL status

This Site is not on the NPL, and has not been proposed for listing at this time. The EPA pre-remedial program and IDEM are evaluating the Site for potential NPL listing.

6. Maps, pictures and other graphic representations

Figure 1: Site Location Map
Figure 2: Site Layout Map

Table 1: Occupied Residential Sampling Results (***Redacted***)

B. Other Actions to Date

1. Previous actions

From 2003 through December 2005, the FMC facility was subject to RCRA Corrective Action under a 1992 federal court Consent Decree, a 2001 EPA Final Remedy Decision, and a 2001

IDEM Agreed Order. The $3.7 million Corrective Action was funded by ASARCO and an IDEM closure fund. The Corrective Action involved consolidation of wastes (primarily of slag dredged from adjoining Lake George, contaminated soils excavated from facility production areas, and non-hazardous baghouse demolition debris) into an existing on-site landfill and construction of a phyto-cap cover to mitigate infiltration of precipitation and reduce leaching of metals to groundwater under the landfill.

In December 2005, cleanup of the smelter portion of the former FMC facility and primary construction of the adjoining landfill was largely completed. Corrective Action then was suspended for seven years due to the bankruptcy of FMC's parent corporation, ASARCO. Corrective Action resumed in 2012 when a Trust established by a federal bankruptcy court took title to the landfill property and began cap maintenance and groundwater well installation and monitoring, which is ongoing.

Pursuant to EPA's 1995 CERCLA/RCRA deferral policy, the instant removal action will focus on the residential areas near the former FMC facility, rather than on the facility itself. RCRA Corrective Action has been completed at the operational portion of the former FMC facility, and an effective Corrective Action remedy is in place at the landfill.

2. Current actions

Corrective Action activities continue at the former FMC landfill. The Trustee is continuing to monitor groundwater to ensure the efficacy of the cover/cap remedy at the landfill.

C. State and Local Authorities' Roles

1. State and local actions to date

EPA has continually coordinated with the local cities of Hammond and Whiting, as well as the Hammond Port Authority, regarding the investigation of contamination in residential areas near the former FMC facility. The cities have assisted EPA with obtaining access agreements for sampling and community outreach. The cities sent out a mailing to residents with EPA access agreements leading up to the Fall 2017 sampling, and have assisted with additional access agreements since then, as well.

Following receipt of the residential results from the Fall 2017 sampling event, EPA pre-remedial program and IDEM began to evaluate whether the Site could potentially be listed on the NPL due to the high percentage of properties that came back with elevated levels of lead.

In April 2018, the EPA removal program and IDEM conducted an integrated assessment at the Site. IDEM and the removal program collected soil samples at additional properties. The objective of this sampling was to further evaluate the boundaries of the Site and extent of contamination. Additionally, IDEM collected samples to further inform its investigation as to whether the Site could potentially be listed on the NPL.

2. Potential for continued state/local response

EPA is coordinating with various local, State, and federal agencies regarding the Site. These agencies include the cities of Whiting and Hammond, IDEM, the Hammond Port Authority, Indiana State Department of Health (ISDH), and the Agency for Toxic Substances and Disease Registry (ATSDR). EPA is providing data to its partner agencies and coordinating discussions about assessment and remediation at the Site. The partner agencies will continue to assist with community outreach.

The EPA removal program continues to coordinate with the EPA pre-remedial program and IDEM to evaluate the Site for potential listing on the NPL. Further sampling will be conducted to determine whether the Site can be listed and to determine the extent of contamination in the neighborhood surrounding the former FMC facility. As additional rounds of sampling are conducted by EPA and/or IDEM, the EPA removal program will continue to evaluate the need for time-critical removals at properties with elevated levels of lead.

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

EPA's assessment indicates that conditions at the Site present an imminent and substantial threat to the public health, or welfare, and the environment and meet the criteria for a time-critical removal action as provided for in the NCP, 40 C.F.R § 300.415(b)(2). These conditions include, but are not limited to, the following:

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

Certain residential properties at the Site are contaminated with lead in soil that exceeds RMLs in the top six inches. Lead is a hazardous substance as defined by Section 101(14) of CERCLA. Potential exposure through these pathways could cause imminent endangerment to human health, welfare, or the environment.

As noted above, of the 30 occupied residential properties sampled, 25 of the properties had surficial concentrations that exceeded the EPA RML of 400 ppm for lead. Of these properties, nine had surficial concentrations above 1,200 ppm for lead. Five of the properties that had surficial lead above 1,200 ppm had sensitive populations residing there at the time. The highest lead concentration found at the surface of one of the residential properties was 2,760 ppm.

ATSDR states that exposure to lead can lead to negative health effects[1]. The main exposure pathways for lead are through inhalation or ingestion. People can be exposed by swallowing or breathing the lead into the body. The target system that lead affects in the body is the nervous system. Exposure to lead over long periods of time can lead to a small increase in blood pressure, anemia, and decreased neurological function. Exposure to high levels of lead can lead to brain and kidney damage and ultimately death. Pregnant women and children are populations of

1 http://www.atsdr.cdc.gov/toxprofiles/tp13.pdf

special concern for lead exposure. Lead exposure during pregnancy can cause miscarriage or developmental problems in the unborn fetus. No safe level of lead exposure has been found for children since they are more sensitive to lead than adults are. Health effects from lead exposure in children include anemia, kidney damage, colic, muscle weakness, and brain damage. Children can also experience mental and physical development growth effects.

§ 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:

As stated previously, surface soils at the certain residential properties at the Site exceed RMLs established by the EPA for lead, which is a listed hazardous substance.

Residents at the Site may cause the high levels of lead to migrate into other areas including inside the home by walking through and tracking in, gardening, play, and other residential activities, especially in areas where the soil does not have any cover. Other means of migration may include routine construction activities.

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

The lead contamination at residential properties at the Site exists in the soil, which is exposed to the elements without proper containment. Release could occur from high winds dispersing surface particulate matter containing lead, resulting in exposure to residents, including sensitive populations, within the site. Grass cover is generally lighter in the early spring and fall, allowing more potential of tracking contaminated soil. Rain or thundershowers may cause the outdoor lead to migrate via surface runoff.

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

At this time, no local or State agency has the resources to respond to the immediate threat.

EPA Region 5 LCD referred the Site to the EPA CERCLA removal program due to the lack of a mechanism and funding within the RCRA Corrective Action program to evaluate the residential area outside of the former FMC facility.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the known and suspected hazardous substances at the Site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases 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 2003 "Superfund Lead-Contaminated Residential Sites Handbook" prepared by the EPA Lead Sites Workgroup establishes tiers of properties for residential lead sites (U.S. EPA 2003). Tier 1 properties are defined as having "both sensitive populations (children up to 7 years old or pregnant women)" and soil lead concentrations at or above 1,200 ppm at the surface. Tier 1 properties can also be identified if a child's blood lead level is above 10 µg/dL. According to the guidance, "Tier 1 should be the highest priority for immediate action". This action memo addresses tier 1 properties that have been identified by EPA or that are identified during additional rounds of sampling conducted at the Site in the future. The Site is currently being evaluated for potential NPL listing, which could address contamination at remaining properties at the site. Tier 2 and 3 properties, which are lower priorities according to the handbook, may be considered for a time-critical removal at a later date depending on whether other mechanisms exist in the future to address remaining contamination.

Superfund Lead-Contaminated Residential Sites Handbook: Tiered Property Definitions	
Tier 1	Properties that have **both** sensitive populations (children under 7 years old or pregnant women) and surface soil lead concentration of 1,200 ppm or higher. **Or** properties with a children's blood lead level at or above 10ug/dL.
Tier 2	Properties that have sensitive populations and soil lead concentrations at or above 400 ppm and below 1,200 ppm. **Or** properties with no sensitive populations with surface lead concentrations at or above 1,200 ppm.
Tier 3	Properties with no sensitive populations that have surface soil lead concentrations at or above 400 ppm and below 1,200 ppm

The response actions described in this memorandum directly address actual or potential releases of hazardous substances at the Site, which may pose an imminent and substantial endangerment to public health, or welfare, or the environment. Removal activities on-site will include:

a) Development and implementation of site-specific work plans, health and safety plan, and emergency contingency plan;
b) Development and implementation of a sampling and analysis plan including air monitoring;
c) Conducting air monitoring. Implementing dust control measures to ensure worker and public health protection;
d) Provide for site security measures, as necessary;
e) Establish and maintain staging and stockpile area(s), as necessary;

f) Excavation of soil at residences with pregnant women and/or children under the age of 7 where lead is equal to or exceeds 1,200 mg/kg at the surface as determined by EPA sampling. Excavation of soil at properties where a child has a blood lead level of 10 µg/dL. To eliminate any direct contact and inhalation threats, soil will be excavated to a depth not to exceed 24 inches below ground surface;
g) Replacement of excavated soil with clean soil;
h) If contaminated soil is identified at a depth greater than approximately 24 inches below ground surface, a visual barrier such as orange construction fencing or landscape fabric will be placed above the contaminated soil and beneath the clean backfill soil;
i) Restoration of each property to as close to practicable to its pre-removal condition;
j) Staging, treatment as necessary, transportation, and disposal 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
k) Taking any other response actions to address any release or threatened release of a hazardous substance, pollutant and contaminant that the EPA OSC determines may pose an imminent and substantial endangerment to the public health or the environment.

At this time, the exact number of properties requiring time-critical remediation is unknown. As of the November 2017 round of sampling, four properties were identified as tier 1. The actual number of properties subject to removal action may change due to additional properties being sampled, more information being gathered about sensitive populations, or additional sensitive populations moving into previously sampled residences at the site. An estimate of 20 tier 1 properties are expected and built into the scope of this action memo. This estimate is based on the percentage of tier 1 properties discovered in previous sampling extrapolated to the current area of concern.

Removals at tier 2 and 3 contaminated properties that are adjacent to or in close proximity of a tier 1 property may be excavated if engineering controls cannot be implemented for the safety of site workers and the public and/or to prevent the tracking of contamination during excavation activities to other properties.

The response action proposed herein will mitigate the threats at the Site by properly identifying, consolidating, and packaging hazardous substances and materials on-site. The consolidated materials will be removed and ultimately disposed of off-site. Additional Site activities may include security, perimeter air monitoring, and decontamination on the Site, as needed to complete the removal action. This response action will be conducted in accordance with Section 104(a)(1) of CERCLA, 42 U.S.C. § 9604(a)(1) and Section 300.415 of the NCP, 40 C.F.R. § 300.415, to abate or eliminate the immediate threat posed to public health and/or the environment by the presence of the hazardous substances. The intent of this action memo is to only addresses tier 1 properties. Future actions at the Site may require amendment(s) to this Action Memo to address any remaining contamination at the site.

The removal action will be conducted in a manner not inconsistent with the NCP. If necessary, post-removal site control may be conducted consistent with the provisions of Section 300.415(l) of the NCP.

2. Contribution to remedial performance

The proposed action will not impede future remedial actions based on available information.

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

Not Applicable.

4. Applicable or relevant and appropriate requirements (ARARs)

Applicable or relevant and appropriate requirements (ARAR) of federal and State law identified in a timely manner will be complied with to the extent practicable considering the exigencies of the situation. On April 4, 2018, EPA sent an email request to Rex Osborn of IDEM requesting any State of Indiana ARARs that may apply (Maguire 2018). EPA will consider and implement the submitted ARARs, as appropriate.

While it is not strictly an ARAR, all hazardous substances removed off-site pursuant to this removal action for treatment, storage, and disposal will be treated, stored, or disposed of at a facility in compliance, as the EPA determines, with the EPA Off-Site Rule, 40 C.F.R. § 300.440.

5. Project schedule

Given the assumption of 20 properties requiring excavation, it is estimated that the project will take approximately 80 working days.

6. Estimated costs

REMOVAL ACTION PROJECT CEILING ESTIMATE	
Extramural Costs:	
Regional Removal Allowance Costs:	$1,254,368
Other Extramural Costs Not Funded from the Regional Allowance:	
Total START, including multiplier costs	$175,203
Subtotal Extramural Costs	$1,429,571
Extramural Costs Contingency (20% of Subtotal)	$285,914
TOTAL REMOVAL ACTION PROJECT CEILING	$1,715,485

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

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 at a facility in compliance, as determined by EPA, with the EPA Off-Site Rule, 40 C.F.R. § 300.440.

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

Given the Site conditions, the nature of the hazardous substances 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 from the Site, failing to take or delaying action may present an imminent and substantial endangerment to public health, welfare or the environment.

VII. OUTSTANDING POLICY ISSUES

None

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 $2,837,740.45[2].

($1,715,485.49 + $75,000) + (58.49% x $1,790,485.49) = $2,837,740.45

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

IX. RECOMMENDATION

This decision document represents the selected removal action for the Federated Metals Site in Hammond and Whiting, Lake County, Indiana. This document has been 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, see Attachment III. Conditions at the Site meet the NCP criteria at 40 C.F.R. § 300.415(b)(2) for a time-critical removal action, and I recommend your approval.

The total removal project ceiling, if approved, will be $1,715,485. Of this, an estimated $1,254,368 may be used for the cleanup contractor costs. You may indicate your decision by signing below.

APPROVE: _____ DATE: 4-19-18
E. Scott Pruitt
Administrator

DISAPPROVE: _____ DATE: _____
E. Scott Pruitt
Administrator

Figures:
Figure 1: Site Location Map
Figure 2: Site Layout Map

Tables:
Table 1: Summary of Sample Results at Occupied Residential Properties for Lead

Attachments:
I: Environmental Justice (EJ) Screen
II: Detailed Cleanup Contractor Estimate
III: Administrative Record Index
IV: Independent Government Cost Estimate (IGCE)

Enforcement Addendum

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

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NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ENFORCEMENT ADDENDUM

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PAGES

ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY FOIA

EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

Figure 1
Site Location
Federated Metals Site, Hammond/Whiting, IN

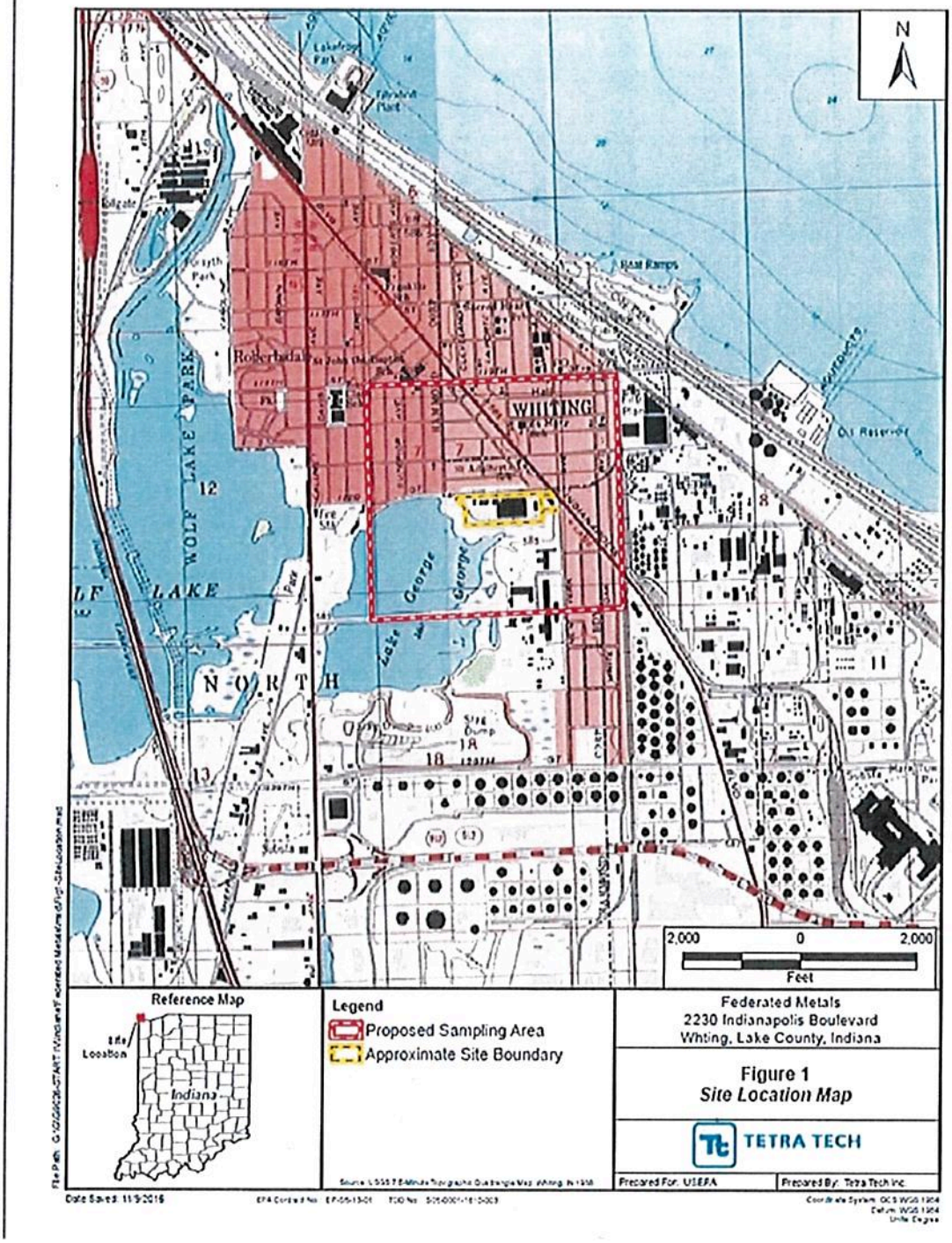


Figure 2
Site Location
Federated Metals Site, Hammond/Whiting, IN

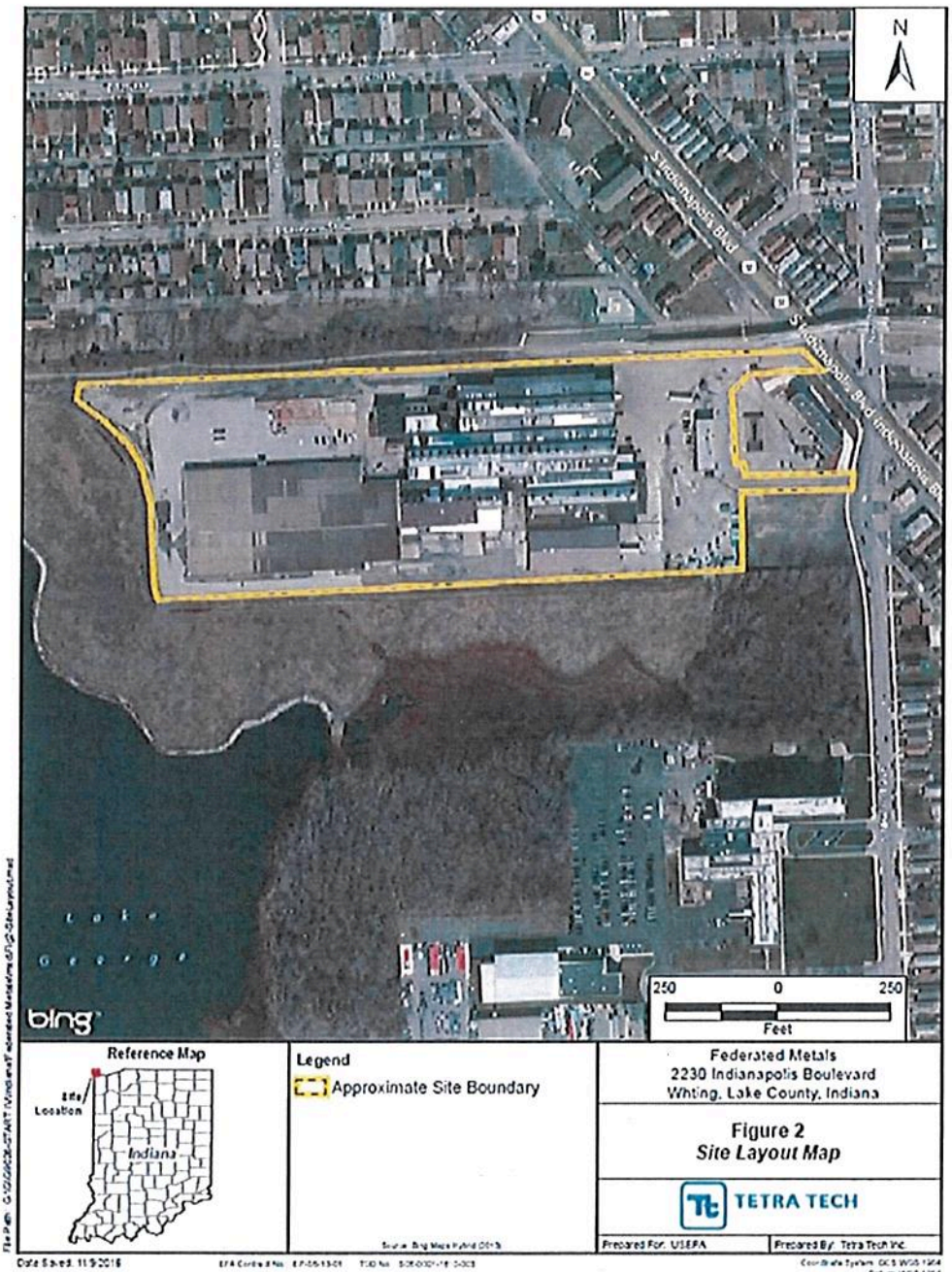


Table 1
Occupied Residential Sample Results March, October, & November 2017
Federated Metals Site, Hammond/Whiting, IN

Less than 400 mg/kg Between 400 mg/kg and 1200 mg/kg Above 1200 mg/kg	Analytical results for surface soil samples collected at occupied residential properties in 2017	Compound:	Lead	
		Units:	mg/kg	
		Analytical Method:	SW6010	
		Residental RML:	400 mg/kg	
Property number	**Sample**	**Date Collected**	**Value**	**Data Qualifier**
Property 1	Property 1- Sample 1	3/22/2017	854	
Property 2	Property 2- Sample 1	3/22/2017	388	
Property 3	Property 3- Sample 1	3/23/2017	33	
Property 4	Property 4- Sample 1	11/3/2017	993	
Property 5	Property 5- Sample 1	11/3/2017	732	
Property 5	Property 5- Sample 2	11/3/2017	519	
Property 6	Property 6- Sample 1	10/30/2017	874	
Property 6	Property 6- Sample 2	10/30/2017	739	
Property 7	Property 7- Sample 1	10/30/2017	416	
Property 8	Property 8- Sample 1	11/2/2017	122	
Property 8	Property 8- Sample 2	11/2/2017	556	
Property 9	Property 9- Sample 2	11/21/2017	1330	
Property 9	Property 9- Sample 1	11/21/2017	1180	
Property 10	Property 10- Sample 1	10/30/2017	569	
Property 10	Property 10- Sample 2	10/30/2017	766	
Property 11	Property 11- Sample 1	10/30/2017	912	
Property 12	Property 12- Sample 1	11/21/2017	987	
Property 12	Property 12- Sample 2	11/21/2017	900	
Property 13	Property 13- Sample 2	11/2/2017	620	
Property 13	Property 13- Sample 1	11/2/2017	766	
Property 14	Property 14- Sample 1	10/31/2017	1960	
Property 14	Property 14- Sample 1 (Duplicate)	10/31/2017	1930	
Properties 15 and 16 (double lot)	Property 15/16- Sample 1	11/3/2017	2760	
Properties 15 and 16 (double lot)	Property 15/16- Sample 2	11/3/2017	2520	
Property 17	Property 17- Sample 1	10/30/2017	1860	
Property 17	Property 17- Sample 2	10/30/2017	1190	
Property 18	Property 18- Sample 2	11/1/2017	78	

Property 18	Property 18- Sample 1	11/1/2017	133	
Property 19	Property 19- Sample 1	11/2/2017	817	
Property 20	Property 20- Sample 2	11/21/2017	1180	
Property 20	Property 20- Sample 2 (Duplicate)	11/21/2017	1270	
Property 20	Property 20- Sample 1	11/21/2017	782	
Property 21	Property 21- Sample 1	11/3/2017	1170	J
Property 22	Property 22- Sample 2	10/31/2017	313	
Property 22	Property 22- Sample 1	10/31/2017	48.9	
Property 23	Property 23- Sample 1	10/31/2017	1470	
Property 24	Property 24- Sample 1	10/31/2017	709	
Property 25	Property 25- Sample 1	10/30/2017	680	
Property 26	Property 26- Sample 2	11/1/2017	2010	
Property 26	Property 26- Sample 2 (Duplicate)	11/1/2017	1670	
Property 26	Property 26- Sample 1	11/1/2017	1530	
Property 27	Property 27- Sample 1	11/1/2017	1130	
Property 27	Property 27- Sample 1 (Duplicate)	11/1/2017	1200	
Property 28	Property 28- Sample 1	11/1/2017	1190	
Property 28	Property 28- Sample 1 (Duplicate)	11/1/2017	1180	
Property 29	Property 29- Sample 1	11/1/2017	637	
Property 30	Property 30- Sample 1	11/1/2017	285	

Notes: Property addresses and sample IDs have been blinded to protect personally identifiable information (PII).

Total number of properties sampled in 2017:	30
Total number of properties over 400 ppm:	25
Total number of properties over 1200 ppm:	9
Total number of properties over 1200 ppm with sensitive populations:	5

Attachment I

U.S. Environmental Protection Agency Removal Action

Environmental Justice (EJ) Screen for Federated Metals Site Hammond/Whiting, Lake County, Indiana

Original- March 2018

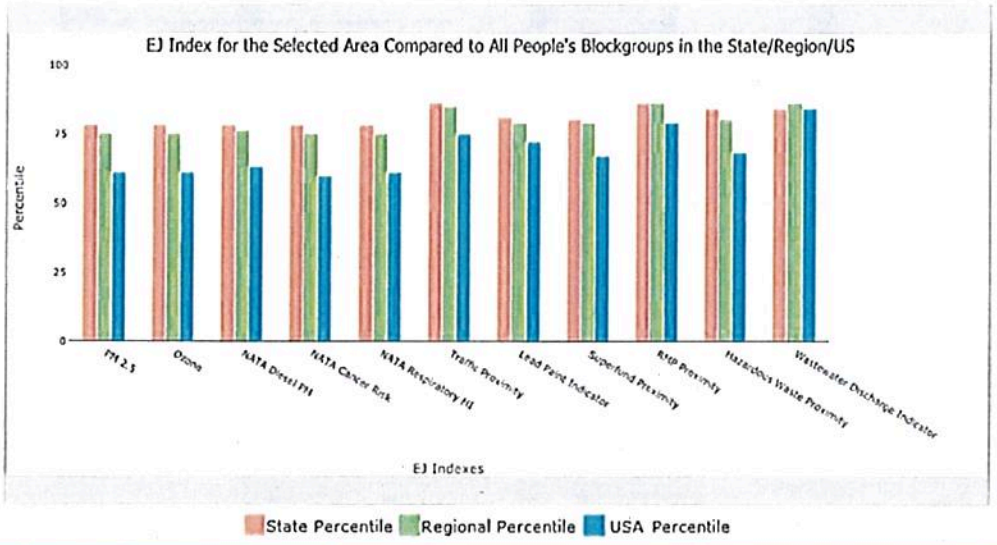
EJSCREEN Report (Version 2017)

1 mile Ring Centered at 41.673839,-87.493717, INDIANA, EPA Region 5

Approximate Population: 10,197

Input Area (sq. miles): 3.14

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	78	75	61
EJ Index for Ozone	78	75	61
EJ Index for NATA* Diesel PM	78	76	63
EJ Index for NATA* Air Toxics Cancer Risk	78	75	60
EJ Index for NATA* Respiratory Hazard Index	78	75	61
EJ Index for Traffic Proximity and Volume	86	85	75
EJ Index for Lead Paint Indicator	81	79	72
EJ Index for Superfund Proximity	80	79	67
EJ Index for RMP Proximity	86	86	79
EJ Index for Hazardous Waste Proximity	84	80	68
EJ Index for Wastewater Discharge Indicator	84	86	84



This report shows the values for environmental and demographic indicators and EJSCREEN 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 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 (Version 2017)

1 mile Ring Centered at 41.673839,-87.493717, INDIANA, EPA Region 5

Approximate Population: 10,197
Input Area (sq. miles): 3.14

March 29, 2018
Digitized Point

1:144,448

Sites reporting to EPA	
Superfund NPL	0
Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDF)	0

EJSCREEN Report (Version 2017)

1 mile Ring Centered at 41.673839,-87.493717, INDIANA, EPA Region 5

Approximate Population: 10,197

Input Area (sq. miles): 3.14

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 µg/m³)	11.6	10.9	95	10.1	95	9.14	95
Ozone (ppb)	36.2	38.2	3	37.6	25	38.4	26
NATA* Diesel PM (µg/m³)	1.04	0.835	71	0.932	60-70th	0.938	60-70th
NATA* Cancer Risk (lifetime risk per million)	36	34	65	34	60-70th	40	<50th
NATA* Respiratory Hazard Index	1.7	1.4	79	1.7	60-70th	1.8	50-60th
Traffic Proximity and Volume (daily traffic count/distance to road)	690	250	92	370	87	590	82
Lead Paint Indicator (% Pre-1960 Housing)	0.84	0.35	93	0.39	91	0.29	94
Superfund Proximity (site count/km distance)	0.18	0.16	79	0.13	85	0.13	83
RMP Proximity (facility count/km distance)	5.2	0.81	99	0.81	99	0.73	99
Hazardous Waste Proximity (facility count/km distance)	0.18	0.078	92	0.091	89	0.093	89
Wastewater Discharge Indicator (toxicity-weighted concentration/m distance)	0.0042	0.29	60	4.2	67	30	76
Demographic Indicators							
Demographic Index	40%	27%	79	29%	77	36%	63
Minority Population	42%	19%	86	25%	80	38%	62
Low Income Population	38%	35%	59	33%	64	34%	60
Linguistically Isolated Population	4%	2%	84	2%	80	5%	67
Population With Less Than High School Education	15%	12%	68	11%	75	13%	65
Population Under 5 years of age	7%	6%	59	6%	62	6%	60
Population over 64 years of age	11%	14%	38	14%	37	14%	42

* 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.

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

ATTACHMENT II

DETAILED CLEANUP CONTRACTOR ESTIMATE

HAS BEEN REDACTED – TWO PAGES

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ATTACHMENT III

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR THE
FEDERATED METALS SITE
HAMMOND/WHITING, LAKE COUNTY, INDIANA

ORIGINAL
APRIL, 2018
SEMS ID:

NO.	SEMS ID	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION
1	940518	8/1/03	U.S. EPA	File	Lead-Contaminated Residential Sites Handbook
2	940521	5/26/06	ENTACT LLC	ASARCO LLC	Corrective Measures Completion Report
3	940517	8/1/07	U.S. Dept. of Health & Human Services	File	Toxicological Profile for Lead
4	940519	9/16/16	Cisneros, J., U.S. EPA	Borries, S., U.S. EPA	Memo Re: CERCLA Referral - Off-Site Soil Sampling Proximal to a RCRA Site
5	938959	8/24/17	MicroVision Laboratories, Inc.	Tetra Tch, Inc.	Forensic Report ***(REDACTED)***
6	940522	12/20/17	Ellis, H., Tetra Tech, Inc.	Maguire, A., U.S. EPA	Data Validation Report
7	940516	4/4/18	Maguire, A., U.S. EPA	Ocborn, R., Indiana Dept. of Environmental Management	Letter Re: ARARS for Federated Metals Site
8	-	-	Maguire, A., U.S. EPA	Kaplan, R., U.S. EPA	Action Memorandum re: Request for Approval and Funding of a Time-Critical Removal Action at the Federated Metals Site

ATTACHMENT IV

INDEPENDENT GOVERNMENT COST ESTIMATE

HAS BEEN REDACTED – TWO PAGES

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION