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

AUG 07 2017

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: **ACTION MEMORANDUM – AMENDMENT:** Request for an Exemption from the 12-month Statutory Limit, Change in Scope of the Response and Ceiling Increase for the Time-Critical Removal Action at the Sandoval Zinc Residential Lead Site, Sandoval, Marion County, Illinois
(Site ID # B5A8)

FROM: Bradley Benning, On-Scene Coordinator
Emergency Response Branch 2, Section 3

THRU: Samuel Borries, Chief
Emergency Response Branch 2

TO: Margaret Guerriero, Acting Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum Amendment is to request and document your approval for an exemption from the 12-month statutory limit, to Change the Scope of the Response, and to request a Ceiling Increase for the time-critical removal action at the Sandoval Zinc Residential Site in Sandoval, Marion County, Illinois (the Site). The sought increase of $1,424,149 would raise the project ceiling for the time-critical removal action from $245,486 to $1,669,635. An exemption from the 12-month statutory limit is necessary as the Scope of Response has increased from the previously approved time-critical removal actions. The Change of Scope of the Response and Ceiling Increase is necessary as the previous Action Memorandums approved on September 14, 2011 (Attachments I), was for the excavation and proper disposal of lead-contaminated soils from up to 11 residential properties. Based on subsequent soil data collected in June 2017 in support of the Remedial Investigation, it has been determined that continued removal actions are necessary at the Site to mitigate threats to public health, welfare, and the environment posed by the release and/or threatened release of hazardous substances from the Site.

The time-critical removal action proposed herein is to prepare site plans, including a Work Plan, site-specific Health and Safety Plan (HASP), Emergency Contingency Plan; confirm and characterize vertical and horizontal extent of lead, zinc and arsenic soil contamination at each area proposed for clean-up; excavate soil up to two feet below ground surface (bgs) for residences and one foot for non-residences to eliminate the direct contact threat; backfill

excavated areas with clean fill and restore properties to pre-removal conditions; and transport and dispose on-site any hazardous substances, pollutants and contaminants in a secure area on the smelter portion of the Site, or off-site at a CERCLA-approved disposal facility in accordance with EPA's Off-Site Rule (40 Code of Federal Regulations [CFR] § 300.440).

This Action Memorandum Amendment would serve as approval for expenditures by EPA, as the lead technical agency, to take actions described herein and in the Action Memorandum signed on September 14, 2011 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 USC § 9604(a)(1), and Section 300.145 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR 300.145. The uncontrolled conditions of the hazardous substances present at the Site and the potential threats they present require that this action be classified as a time-critical removal action. EPA's actions will require approximately 46 working days to complete.

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

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: ILN 053 980 454
Category: Time-Critical Removal

A. Site Description

1. Removal Site Evaluation

The Sandoval Zinc Company site was placed on CERCLIS on December 1, 1983 in response to concerns that past site activities may have resulted in soil and sediment contamination on the Site and throughout the surrounding area. The Illinois EPA conducted a Preliminary Assessment in 1986, a Screening Site Inspection in 1988, and an Expanded Site Inspection (ESI) in 1997. Currently the former Sandoval Zinc facility is abandoned.

An additional ESI was conducted during the week of October 9-22, 2009. During the ESI, the Illinois EPA sampling team collected fifteen sediment, twenty-seven residential surface soil, and four slag/waste samples from the Sandoval Zinc facility and surrounding area. The 2009 ESI was conducted to help determine the levels of contamination present at the Sandoval Zinc facility as well as any receptors which could potentially be impacted by former activities at the facility. These potential receptors include designated wetlands, environmental and aquatic wildlife and human receptors.

The twenty-seven residential soil samples were collected to help determine whether contamination from Sandoval Zinc was utilized in the filling of low residential areas and as base for roads and sidewalks and whether these activities could pose a hazard to the residents. Illinois EPA identified 10 residential properties where the soil contained elevated levels of total lead (defined as greater than 1,200 milligrams per kilogram [mg/kg]), with the most elevated lead

concentration being 49,900 mg/kg. Illinois EPA identified the source for the lead as the former Sandoval Zinc Company smelter facility and suggested that additional residential properties could also be impacted.

Based upon the Illinois EPA results, on March 11, 2010, the Illinois EPA submitted a letter to EPA requesting assistance from the EPA Region 5 Superfund Division in conducting a potential time-critical removal action at the Site.

EPA Region 5's Field Environmental Decision Support (FIELDS) Team conducted a soil sampling event from August 23 through August 26, 2010 on residential properties in Sandoval, Illinois as part of the Sandoval Zinc Superfund Site evaluation. The report produced by FIELDS details the XRF levels for Arsenic, Lead, and Zinc metals in residential soils, data collection methods, and analysis performed on these data. At the completion of the sampling event, 156 residential soil samples were collected representing 69 different properties.

On August 23 through 26, 2010, EPA also mobilized its Superfund Technical Assessment and Response Team (START) contractor to the Site. EPA tasked START to perform a removal site evaluation. Activities performed during the site evaluation included:

- Identify the constituents and characteristic properties of surface and subsurface soils at residential properties throughout the Village of Sandoval, and;
- Determine if a removal action is warranted at any of the residential properties based on NCP criteria.

EPA sampling results documented 8 residential properties having elevated total lead concentrations. Four of the properties had Toxicity Characteristic Leachate Procedure (TCLP) lead levels greater than the regulatory limit of 5 mg/L, with a maximum TCLP lead concentration documented at 53.1 mg/L. Based upon sampling results, an additional 2 properties were identified by the Fields Group to be included in this clean-up action.

Consistent with the OSWER Publication 9285.7-50 *Superfund Lead-Contaminated Residential Sites Handbook* (Handbook) (2003), the Superfund Program used a tiered approach to prioritize which homes needed to be cleaned up first. Residential properties with lead concentrations in surface soil at or greater than 1,200 mg/kg and sensitive populations (children up to 7 years old or pregnant women) would be the highest priority for immediate action under a time-critical removal action. Residential properties with lead concentrations in surface soil below 1,200 mg/kg, but above 400 mg/kg would be addressed through remedial actions. EPA does not consider the 1,200 mg/kg concentration as an action level for removal actions, but it is intended to provide an alternative to running the Integrated Exposure Uptake Biokinetic (IEUBK) model with limited data if the site poses an urgent threat. According to the Handbook, residential properties are defined as "any area with high accessibility to sensitive populations," including "single- and multi-family dwellings, apartment complexes, vacant lots in residential areas, schools, day-care centers, community centers, playgrounds, parks, greenways, and any other areas where children may be exposed."

On September 12, 2011, EPA signed the initial Action Memorandum to conduct a time-critical removal action to address known residential properties with elevated lead levels in surface soil. These properties had been identified from Illinois EPA's and EPA's data collection activities. From October 2011 through April 2012, EPA conducted removal actions and restoration activities addressing lead that had been detected at eight residential properties within the Village of Sandoval with three property owners refusing access.[1] A total of 1,296 tons of low-level lead-impacted soil and miscellaneous debris were removed and disposed as special waste at the Perry Ridge landfill. A cleanup level of 400 ppm for lead was used for the residential property removal actions.

EPA collected soil samples from residential yards in early June 2017 as part of its Remedial Investigation to support a lead bioavailability study which will factor into EPA's selection of a site-specific residential cleanup number for the Site. During this sampling event, EPA identified sensitive population properties not previously sampled including a preschool, a kinder care, an elementary school, and the high school. Analytical results from the assessment of the residential and sensitive population properties found lead levels near or above 1,200 mg/kg. Analysis of the data indicates the need to expand the scope of the initial time-critical removal action to include the preschool, elementary school play field, high school athletic field, and residential properties, which necessitates the request for a change in scope, additional funding and an exemption from the 12-month statutory limit on removal actions. Maximum lead concentrations found on these properties are provided in Table 1 below.

Table 1 - Draft Preliminary and Final Sample Results
Phase III - RBA Sampling in Residential Area – June 2017
Sandoval Zinc Company Site, Sandoval, Illinois

Sample ID	Location	Date Collected	Data Status[1]	Total Pb (mg/Kg)	FINE Total Pb (mg/Kg)
MAPL010-DU1-0-6	Residence 2	6/5/2017	Final		1200
PERR201-DU2-0-6	Elem School – S[2]	6/6/2017	Final	1100	1350
PERR201-DU2-0-6	Elem School – S[2]	6/6/2017	Final		1350
MINE201-DU1-0-6	Preschool	6/6/2017	Final		1530
MISS202-DU9-0-6	High School	6/9/2017	Preliminary		1410

Notes:
1- Preliminary results have not been fully reviewed in accordance with ACZ Laboratories, Inc.'s quality system and is subject to change without notice.
2- Elementary School - South side of Pine St.

Please refer to the initial Action Memorandum dated September 14, 2011 (Attachment I) for additional details.

[1] These property owners now are granting access and work at these properties will be covered by this memorandum.

2. Physical Location

The town of Sandoval is located at the intersection of State Route 50 (east/west) and 51 (north/south) in Marion County, Illinois (see Figure 1-1). Sandoval is about 58 miles from St Louis, Missouri and 86 miles from Springfield, Illinois. The geographical coordinates for the Site are 38° 36' 49.029" North latitude and -89° 06' 59.173" West longitude. The Canadian National (former Illinois Central) railroad travels north and south through the middle of town. The elevated levels of lead are located in a mixture of residential and commercial properties in Sandoval.

EPA conducted an EJ analysis for the Site (see Attachment II). Screening of the surrounding area was conducted using Region 5's EJ Screen Tool. Region 5 has reviewed environmental and demographic data for the area surrounding the Sandoval Zinc Residential Site and has determined there is high potential for EJ concerns at this location.

3. Site Characteristics

The residential area of the Village of Sandoval is located approximately 1,200 feet west of the smelter property. The Village of Sandoval occupies approximately 640 acres with approximately 641 housing units. The 2010 census records list a total population of 1,242 persons living within the geographic bounds of the Village of Sandoval. Land use in the Village of Sandoval is predominantly residential with some commercial, industrial, and public institutions throughout.

The Sandoval Zinc Company smelter facility operated as a primary zinc smelter between 1885 and 1914. On September 24, 1914, a fire destroyed much of the facility. In 1915, the plant was converted to a secondary zinc smelter. Compounds fed into facility kilns included pure zinc, zinc oxide, and zinc chloride (and possibly aluminum chloride and other trace metals) to produce bar zinc from the 1880s until 1965. Facility operations were changed to fertilizer manufacturing (from 1965 through early 1972); this did not include smelting operations. In June 1972, the plant was again nearly destroyed by fire, but was rebuilt. Smelting operations producing zinc oxide resumed in 1973 and ran through 1985, when the facility was closed. In December 1986, the Sandoval Zinc Company was officially dissolved, with the owners declaring bankruptcy. From the 1880s until 1970, large quantities of cinder/slag material from the smelting process were deposited directly on the ground surface of the smelter property. Cinders, slag, and ash are estimated to be as thick as 10 feet in some areas. The large piles of cinder/slag material on the property were offered to the public and the Village of Sandoval for use, including for construction of roadways, driveways, sidewalks, parking lots, and general fill. Several areas throughout the Village of Sandoval exhibit evidence of the use of this site-derived cinder and slag.

The smelter property is currently inactive and abandoned with no intact buildings present. Evidence of former facility buildings includes remnant concrete building foundations and a dilapidated former furnace structure in the northeastern portion of the smelter property. Various piles of construction debris (i.e., concrete rubble, bricks, glass, etc.), and cinder and slag material are spread out across the Site.

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

The threat is presented by the presence of lead-contaminated soil in single-family dwellings, a kinder care, elementary school play field, and the high school athletic field. EPA documented a release of hazardous substances, pollutants, or contaminants in the soil. The table below lists the components of the completed environmental exposure pathways (i.e., human exposure has occurred or is occurring). Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil. Potential human receptors include residents, including children under seven years of age and pregnant or nursing women; and construction and utility workers.

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

Please refer to the initial Action Memorandum dated September 14, 2011 (Attachment I) for additional details.

5. NPL status

On September 16, 2011, the EPA published Superfund's National Priorities List (NPL) Final Rule #52 in the Federal Register (76 FR 57662). This final rule added the former Sandoval Zinc Company facility, a 14-acre site located on the eastern edge of Sandoval in Marion County, Illinois to the National Priorities List (NPL).

6. Maps, pictures and other graphic representations

Please refer to the initial Action Memorandum dated September 14, 2011 (Attachment I) for additional details.

B. Other Actions to Date

1. Previous actions

From October 2011 through April 2012, EPA conducted removal actions and restoration activities addressing elevated lead levels eight of eleven residential properties within the Village of Sandoval with three property owners refusing access.

2. Current actions

In early June 2017 as part of the Remedial Investigation, EPA collected soil samples from residential yards to support a bioavailability study which will factor into EPA's selection of a site-specific residential cleanup number for lead. During this sampling effort, EPA identified and sampled sensitive population properties not previously sampled including a preschool, a kinder care, the elementary school, and the high school. Sampling results found elevated concentrations of lead at two additional residences, the preschool, elementary school, and high school.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

On March 11, 2010, the Illinois EPA submitted a letter to EPA requesting assistance from the EPA Region 5 Superfund Division in conducting a potential time-critical removal action at the Site. The state authorities do not have the resources to mitigate the releases and threats of release at the Site.

2. Potential for Continued State/Local Response

The EPA is working with ATSDR and the Village of Sandoval, to disseminate information to the public. EPA is coordinating discussions with stakeholders regarding the elevated levels of lead and EPA's plans to address this issue. Neither the state nor local officials have the resources to conduct the necessary cleanup.

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

The conditions at the Sandoval Zinc Residential Site present a threat to the public health or welfare and the environment and meet the criteria for a time-critical removal action as provided for in the NCP, 40 C.F.R. § 300.415(b)(1), based on the factors in 40 C.F.R. § 300.415(b)(2). These factors include, but are not limited to, the following:

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

EPA documented the presence of lead in surficial soil at concentrations above 1,200 mg/kg on residential properties. Lead was detected at a maximum concentration of 1530 mg/kg at a preschool. The town of Sandoval is next to the former Sandoval Zinc facility. Both the Illinois EPA and EPA have documented the presence of lead in residential yards above health standards. The health concerns at this Site are related to the fact that residents live in and amongst the lead slag that was brought in as fill material on residential properties, thereby potentially exposing young children, pregnant women and elderly individuals to contamination. Exposure may occur from direct ingestion of soil in yards, soil tracked indoors, or house dust; inhalation of fugitive dust; and ingestion of vegetables grown in contaminated soil.

Lead is a hazardous substance, as defined by Section 101(14) of CERCLA. The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in the body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

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

EPA identified high levels of lead in the top 6 inches of soil. Lead-contaminated soil may migrate as airborne particulate matter, surface runoff, percolation into groundwater, through construction activities, by children transporting soil/dust into their homes after playing in contaminated soil, and by tracking in homes via foot traffic into residences.

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

Sandoval receives an average yearly precipitation of 30.16 inches and an average yearly snowfall of 12.37 inches. In 2009, average temperatures ranged from 88 to 18 degrees Fahrenheit (°F). Exposure pathways consist of direct contact with impacted soil and inhalation of airborne dust. Because of the extensive distribution of wastes, exposure could occur from human activities and weather-influenced distribution, redistribution, and suspension of dust containing heavy metal contaminants. Examples of human activities that could result in exposure include children digging and playing in residential yards, public street construction and improvement projects, wintertime snow removal, residential storm ditch re-grading, and new construction development of former residential properties and properties that lack adequate grass coverage of surface soil containing heavy metals. Furthermore, rain and wind could disperse surface particulate matter containing lead if human activities disturb soil before the rain and wind events.

§ 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. On March 11, 2010, the Illinois EPA submitted a letter to EPA requesting assistance from the EPA Region 5 Superfund Division in conducting a potential residential time-critical removal action at the Site.

IV. EXEMPTION FROM STATUTORY LIMITS

Section 104(c) under CERCLA, as amended by the Superfund Amendments and Reauthorization Act (SARA), limits a Federal response action to 12 months and $2 million unless response actions meet emergency and/or consistency exemptions. The quantities and levels of hazardous substances (lead) found at the Site warrant application of the 12-month time frame exemption.

The conditions present at the Sandoval Zinc Site warrant the 12-month exemption based on the emergency exemption.

Emergency Exemption:

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

Concentrations of lead in soil represent an immediate risk to public health. As documented in the *Removal Site Evaluation* section, EPA detected lead above 1,200 mg/kg at several properties including single family dwellings, a preschool, middle school and the high school. The schools regularly use the contaminated areas for physical education class and sporting events. Grass cover is generally lighter in the early spring and fall, allowing more potential of tracking contaminated soil into the home.

Lead was detected at a maximum concentration of 1,530 mg/kg in surficial soil at a daycare center in the north playground area where the youngest children play. Also, the Relative Bio-accessibility percentage is above the default value used for the IEUBK model, suggesting that the contribution to blood lead levels in children would be higher than predicted. ATSDR evaluated the data from the preschool and conducted a visit, and in a July 20, 2017 e-mail to EPA provided the following conclusions and recommendations:

> Since this play area contains lead above the Removal Action Level and the Remedial Screening Level, the lead has an elevated bio-accessibility, very young children are potentially in direct contact with the contamination, ATSDR concludes that exposure to these children poses a public health hazard. ATSDR recommends that EPA take appropriate action to address this contamination as soon as possible.

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

The high concentrations of lead in soil at or above 1,200 mg/kg constitute an imminent threat to human health as documented above. Continued response actions are immediately required to mitigate exposure to nearby residents to hazardous substances through the soil pathway. The residential yards have high accessibility to sensitive populations, including young children under the age of 7 years and pregnant women. In fact, these sensitive populations and young children have been observed playing in the play fields and contaminated yards. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play. The response actions will prevent, limit, and mitigate threats to human health including sensitive populations.

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

Neither state nor local agencies have the resources to conduct this work. Without this removal action by EPA, assistance will not be provided on a timely basis.

V. ENDANGERMENT DETERMINATION

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

VI. PROPOSED ACTIONS

A. Proposed Actions

1. Proposed action description

The response actions described in this memorandum directly address actual or potential releases of hazardous substances on Site, which may pose an imminent and substantial endangerment to public health, welfare, or the environment. The response actions generally include the excavation and removal of lead-contaminated soil, backfilling excavated areas to original grade with clean topsoil, and restoring landscaping. Removal and proper disposal of contaminated soil that exceeds 1,200 mg/kg is necessary due to elevated levels of lead in surface soil that present an imminent and substantial endangerment to public health. This approach is consistent with the Office of Solid Waste and Emergency Response (OSWER) Publication 9285.7-50 Superfund Lead-Contaminated Residential Sites Handbook (Lead Handbook) (2003) (AR #10).

Removal activities on Site will include:

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

2) Develop and implement a Site-specific sampling plan to conduct additional assessment, confirmation, and disposal characterization sampling of soil at the Site, as needed;

3) Excavation of soil where lead in the top six inches is equal to or exceeds 1200 mg/kg., as determined by EPA sampling. It is anticipated that removal actions will occur at the following locations: pre-school; elementary school athletic field; high school athletic field; and several single- and multi-family dwellings. Soil will be excavated to a depth of approximately two feet bgs in the yards of the single- and multi-family dwellings to eliminate any direct contact and inhalation threats that could occur from typical activities including gardening. For the preschool play area and the playfields at the middle school and high school, soil will be excavated to a depth of approximately 12 inches to eliminate any direct contact and inhalation threats that could occur from typical activities in these areas. Excavated material that fails toxicity characteristic leaching procedure (TCLP) for lead may be treated with a fixation agent prior to disposal. Excavation will cease if lead concentrations are less than 400 mg/kg;

4) Develop and implement a post excavation sampling plan to confirm that the lead cleanup goal (400 ppm) has been achieved at the residential properties addressed by this time critical removal action. If lead levels below 400 mg/kg cannot be achieved at an excavation depth of approximately two feet bgs for single- and multi-family dwellings and 12 inches for playfields, excavation will cease and a visible barrier will be placed at the bottom of the excavation to alert the property owner of the existence of high levels of lead;

5) Backfill excavated areas with clean fill and restore properties to pre-removal conditions.

6) Excavated material may be placed in a secure area on the smelter portion of the Site in a manner that will minimize contaminant migration and dispersion until the material can be addressed as part of the final remedial action. If this proves impracticable, EPA will transport and dispose off-site any hazardous substances, pollutants and contaminants to a CERCLA-approved disposal facility in accordance with EPA's Off-Site Rule (40 CFR § 300.440); and

7) Performance of any other response actions to address any release or threatened release of a hazardous substance, pollutant or contaminant that the EPA On-Scene Coordinator (OSC) determines may pose an imminent and substantial endangerment to the public health or the environment.

The removal action will be conducted in a manner not inconsistent with the NCP and consistent with the Lead Handbook. The OSC has initiated planning for provision of post-removal Site control consistent with the provisions of Section 300.415(l) of the NCP (40 C.F.R. § 300.415(l)). The threats posed by the lead contaminated surface soils meet the criteria listed in Section 300.415(b) of the NCP (40 C.F.R. § 300.415(b)), and the response actions proposed herein are consistent with any long-term remedial actions which may be required. However, removal of hazardous substances, pollutants and contaminants that pose a substantial threat of release are expected to greatly minimize requirements for post-removal Site controls.

Off-Site Rule

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

2. Contribution to remedial performance

The proposed action should not impede future remedial performance.

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

Not Applicable

4. Applicable or relevant and appropriate requirements (ARARs)

All applicable and relevant and appropriate requirements (ARARs) of Federal and State law will be complied with to the extent practicable. The existing ARARs identified by the Illinois EPA will remain in effect for this amended removal action. Any state ARARs identified in a timely manner will be complied with to the extent practicable.

Additionally, the OSC identified the following ARARs:

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

2. Subtitle D of RCRA, Section 1008 and Section 4001, *et seq.*, 42 USC § 691, *et seq.*, regulates solid waste.

3. Subtitle C of RCRA, 42 USC § 6901 *et seq.*, 40 CFR Part 260 *et seq.* implements federal and state regulations for contaminated soil that exhibit the characteristic of toxicity and are considered RCRA hazardous waste.

4. 40 CFR § 50.6 and § 50.12 establish national ambient air quality standards for air quality pertaining to particulate matter and lead. Engineering controls will be used at the Site to achieve those standards.

5. 49 U.S.C. § 5101 *et seq*. regulates the transportation of hazardous waste and hazardous substances by aircraft, railcars, vessels, and motor vehicles to or from a site.

6. 29 CFR § 1910 promulgates occupational safety and health standards for hazardous waste operations and emergency response. It regulates cleanup operations at uncontrolled hazardous waste sites.

Please refer to the initial Action Memorandum dated September 14, 2011 (Attachment I) for additional details.

Project Schedule

The time-critical removal actions will require approximately 50 working days to complete.

B. <u>Removal Project Ceiling Estimate – Extramural Costs:</u>

The detailed cleanup contractor cost is presented in Attachment IV and the Independent Government Cost Estimate is presented in Attachment V. Current cost projections will fund actions at the following locations: pre-school; elementary school athletic field; high school athletic field; and up to ten single- and multi-family dwellings. Estimated project costs are summarized below:

EXTRAMURAL COSTS:	Current Ceiling	Proposed Increase	Proposed Ceiling
Regional Removal Allowance Costs:			
Total Cleanup Contractor Costs (This cost category includes estimates for ERRS, and subcontractors and a 10% contingency)	$190,069	$1,235,081	$1,425,150
Subtotal ERRS	$190,069	$1,235,081	$1,425,150
Other Extramural Costs Not Funded from the Regional Allowance:			
Total START, including multiplier costs	$33,100	$59,600	$ 92,700
Subtotal, Extramural Costs	$223,169	$1,294,681	$1,517,850
Extramural Costs Contingency (10% of Subtotal, Extramural Costs)	$22,317	$ 129,468	$ 151,785
TOTAL, REMOVAL ACTION PROJECT CEILING	**$245,486**	**$1,424,149**	**$1,669,635**

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

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

Given the Site conditions, the nature of the hazardous substances and pollutants or contaminants documented on site, and the potential exposure pathways to nearby populations described in Section II, III, IV, and V above, actual or threatened releases of hazardous substances and pollutants or contaminants from this Site, if not addressed by implementing or delaying the response actions selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare, or the environment.

VIII. OUTSTANDING POLICY ISSUES

None

IX. ENFORCEMENT

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

The total EPA costs of this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be $2,744,048[2].

($1,654,675 + $39,600) + (61.96% x $1,694,275) = $2,744,048

X. RECOMMENDATION

This decision document, along with the Action Memorandum signed on September 14, 2011 represents the selected removal action for the Sandoval Zinc Residential Site, located in Sandoval, Marion County, Illinois. It was developed in accordance with CERCLA, as amended, and is not inconsistent with the NCP. This decision is based upon the Administrative Record for the Site (Attachment III).

Conditions at the Site meet the NCP Section 300.415(b) criteria for a removal action and the CERCLA Section 104(c) emergency exemption from the 12-month limitation. The total removal action project ceiling, if approved, will be $1,669,635, of which as much as $1,576,935 may be used from the removal allowance. I recommend your approval of the proposed removal action. You may indicate your decision by signing below.

Approve: _____ 8/7/2017

Margaret Guerriero, Acting Director
Superfund Division

Date

Disapprove: _____ _____

Margaret Guerriero, Acting Director
Superfund Division

Date

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

Enforcement Addendum

Figures: Refer to the original Action Memorandum in Attachment I

Attachments:

I. Initial Action Memorandum dated September 14, 2011
II. Environmental Justice Analysis
III. Administrative Record Index
IV. Detailed Cleanup Contractor Estimate
V. Independent Government Cost Estimate

cc: Brian Schlieger, U.S. EPA, 5104A/B517F **(Schlieger.Brian@epa.gov)**
Lindy Nelson, U.S. DOI, **w/o Enf. Addendum (Lindy_Nelson@ios.doi.gov)**
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BCC PAGE HAS BEEN REDACTED

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ENFORCEMENT ADDENDUM

HAS BEEN REDACTED – THREE PAGES

ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ATTACHMENT 2

ENVIRONMENTAL JUSTICE ANALYSIS
Sandoval Zinc Site
Sandoval, Illinois

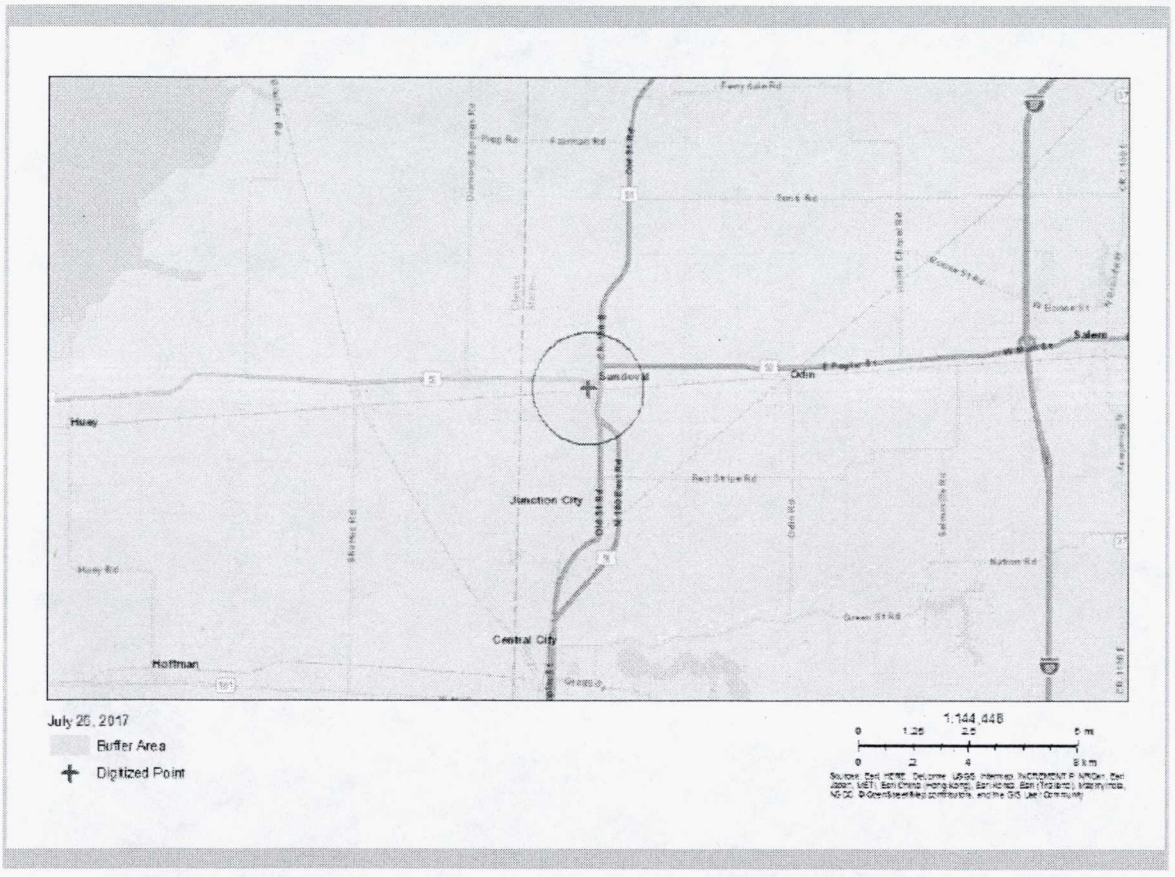
EPA United States Environmental Protection Agency

EJSCREEN Report (Version 2016)

1 mile Ring Centered at 38.613880,-89.118337, ILLINOIS, EPA Region 5

Approximate Population: 1,161

Input Area (sq. miles): 3.14



EJSCREEN Report (Version 2016)

1 mile Ring Centered at 38.613880,-89.118337, ILLINOIS, EPA Region 5

Approximate Population: 1,161

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)	10.2	11.2	7	10.6	27	9.32	68
Ozone (ppb)	55.9	50.8	92	50.3	97	47.4	90
NATA* Diesel PM (µg/m³)	0.379	1.28	9	0.931	<50th	0.937	<50th
NATA* Cancer Risk (lifetime risk per million)	31	36	28	34	<50th	40	<50th
NATA* Respiratory Hazard Index	0.94	1.8	13	1.7	<50th	1.8	<50th
Traffic Proximity and Volume (daily traffic count/distance to road)	160	500	56	370	63	590	59
Lead Paint Indicator (% Pre-1960 Housing)	0.29	0.42	40	0.39	45	0.3	59
Superfund Proximity (site count/km distance)	0.85	0.095	98	0.12	97	0.13	97
RMP Proximity (facility count/km distance)	0.34	0.69	49	0.51	62	0.43	69
Hazardous Waste Proximity+ (facility count/km distance)	N/A	0.12	N/A	0.11	N/A	0.11	N/A
Water Discharger Proximity (facility count/km distance)	0.086	0.38	11	0.31	21	0.31	25
Demographic Indicators							
Demographic Index	29%	35%	53	29%	64	36%	48
Minority Population	5%	37%	15	24%	27	37%	14
Low Income Population	52%	32%	80	33%	81	35%	78
Linguistically Isolated Population	0%	5%	44	2%	58	5%	44
Population With Less Than High School Education	22%	12%	81	11%	87	14%	78
Population Under 5 years of age	10%	6%	83	6%	84	6%	82
Population over 64 years of age	14%	13%	61	14%	56	14%	59

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

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

ATTACHMENT 4

DETAILED CLEANUP CONTRACTOR ESTIMATE

HAS BEEN REDACTED – ONE PAGE

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

ATTACHMENT 5

INDEPENDENT GOVERNMENT COST ESTIMATE

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