

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:)

Pilsen Soil Operable Unit 2 Residential)
Site, Chicago, Illinois)

H. Kramer & Co.,)

Respondent.)

Proceeding Under Sections 104, 106(a),)
107, and 122 of the Comprehensive)
Environmental Response, Compensation,)
and Liability Act, 42 U.S.C. §§ 9604,)
9606(a), 9607, and 9622)

U.S. EPA Region 5

CERCLA Docket No.

V-W-16-C-001

**ADMINISTRATIVE SETTLEMENT
AGREEMENT AND ORDER ON
CONSENT FOR REMOVAL ACTION**

**ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT FOR
TIME CRITICAL REMOVAL ACTION**

TABLE OF CONTENTS

I.	JURISDICTION AND GENERAL PROVISIONS.....	1
II.	PARTIES BOUND	1
III.	DEFINITIONS.....	2
IV.	FINDINGS OF FACT.....	4
V.	CONCLUSIONS OF LAW AND DETERMINATIONS	5
VI.	SETTLEMENT AGREEMENT AND ORDER.....	6
VII.	DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON- SCENE COORDINATOR.....	6
VIII.	WORK TO BE PERFORMED	7
IX.	PROPERTY REQUIREMENTS	14
X.	ACCESS TO INFORMATION	15
XI.	RECORD RETENTION.....	16
XII.	COMPLIANCE WITH OTHER LAWS	17
XIII.	EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES.....	17
XIV.	PAYMENT OF RESPONSE COSTS.....	18
XV.	DISPUTE RESOLUTION	20
XVI.	FORCE MAJEURE	21
XVII.	STIPULATED PENALTIES	22
XVIII.	COVENANTS BY EPA	24
XIX.	RESERVATIONS OF RIGHTS BY EPA.....	24
XX.	COVENANTS BY RESPONDENT.....	25
XXI.	OTHER CLAIMS	26
XXII.	EFFECT OF SETTLEMENT/CONTRIBUTION	27
XXIII.	INDEMNIFICATION.....	28
XXIV.	INSURANCE.....	28
XXV.	MODIFICATION	29
XXVI.	NOTICE OF COMPLETION OF WORK.....	29
XXVII.	INTEGRATION/APPENDICES	30
XXVIII.	EFFECTIVE DATE.....	30

I. JURISDICTION AND GENERAL PROVISIONS

1. This Administrative Settlement Agreement and Order on Consent (Settlement) is entered into voluntarily by the United States Environmental Protection Agency (EPA) and H. Kramer & Co. (H. Kramer) (Respondent). This Settlement provides for the performance of a removal action by the Respondent at the "Pilsen Soil Operable Unit 2 Residential Site" (the "Site"). The Site is located in the Lower West Side (Pilsen) area of Chicago. It is an approximately 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street. See Appendix A (showing Site location and boundaries).

2. This Settlement is issued under the authority vested in the President of the United States by Sections 104, 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9604, 9606(a), 9607 and 9622 (CERCLA). This authority was delegated to the Administrator of EPA on January 23, 1987 by Executive Order 12,580, 52 Fed. Reg. 2,923 (Jan. 29, 1987), and further delegated to Regional Administrators by EPA Delegation Nos. 14-14-A (Determinations of Imminent and Substantial Endangerment, Nov. 1, 2001), 14-14-C (Administrative Actions Through Consent Orders, Apr. 15, 1994) and 14-14-D (Cost Recovery Non-Judicial Agreements and Administrative Consent Orders, May 11, 1994). These authorities were further redelegated by the Regional Administrator of EPA Region 5 to the Director of the Superfund Division of EPA Region 5 by Regional Delegation Nos. 14-14-A, 14-14-C, and 14-14-D.

3. EPA has notified the State of Illinois (the "State") of this action pursuant to Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

4. EPA and Respondent recognize that this Settlement has been negotiated in good faith and that the actions undertaken by Respondent in accordance with this Settlement do not constitute an admission of any liability. Respondent does not admit, and retains the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Settlement, the validity of the findings of facts, conclusions of law, and determinations in Sections IV (Findings of Fact) and V (Conclusions of Law and Determinations) of this Settlement. Respondent agrees to comply with and be bound by the terms of this Settlement and further agrees that it will not contest the basis or validity of this Settlement or its terms.

II. PARTIES BOUND

5. This Settlement is binding upon EPA and upon Respondent and its heirs, successors, and assigns. Any change in ownership or corporate status of the Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter the Respondent's responsibilities under this Settlement.

6. Respondent is liable for carrying out all activities required by this Settlement.

7. Respondent shall provide a copy of this Settlement to each contractor hired to perform the Work required by this Settlement and to each person representing Respondent with

respect to the Site or the Work, and shall condition all contracts entered into hereunder upon performance of the Work in conformity with the terms of this Settlement. Respondent or its contractors shall provide written notice of the Settlement to all subcontractors hired to perform any portion of the Work required by this Settlement. Respondent shall nonetheless be responsible for ensuring that its contractors and subcontractors perform the Work in accordance with the terms of this Settlement.

III. DEFINITIONS

8. Unless otherwise expressly provided in this Settlement, terms used in this Settlement that are defined in CERCLA or in regulations promulgated under CERCLA shall have the meaning assigned to them in CERCLA or in such regulations. Whenever terms listed below are used in this Settlement or its attached appendices, the following definitions shall apply:

“Action Memorandum” shall mean the EPA Action Memorandum relating to the Site signed on August 3, 2015 by the Director of the Superfund Division of EPA Region 5 and all attachments thereto. The Action Memorandum is attached as Appendix B.

“Affected Property” shall mean all real property at the Site and any other real property where EPA determines, at any time, that access, land, water, or other resource use restrictions are needed to implement the removal action, including, but not limited to, the residential properties (with corresponding parcel numbers) comprising the Site listed in Appendix C.

“CERCLA” shall mean the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§ 9601-9675.

“Day” or “day” shall mean a calendar day. In computing any period of time under this Settlement, where the last day would fall on a Saturday, Sunday, or federal or State holiday, the period shall run until the close of business of the next working day.

“Effective Date” shall mean the effective date of this Settlement as provided in Section XXVIII.

“EPA” shall mean the United States Environmental Protection Agency and its successor departments, agencies, or instrumentalities.

“EPA Hazardous Substance Superfund” shall mean the Hazardous Substance Superfund established by the Internal Revenue Code, 26 U.S.C. § 9507.

“Future Response Costs” shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing deliverables submitted pursuant to this Settlement, in overseeing implementation of the Work, or otherwise implementing, overseeing, or enforcing this Settlement, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, the costs incurred pursuant to Section IX (Property Requirements) (including, but not limited to, cost of attorney time and any monies paid

to secure or enforce access or land, water, or other resource use restrictions, including, but not limited to, the amount of just compensation), Section XIII (Emergency Response and Notification of Releases), Paragraph 67 (Work Takeover), Paragraph 22 (Community Involvement Plan) (including, but not limited to, the costs of any technical assistance grant under Section 117(e) of CERCLA, 42 U.S.C. § 9617(e)), Section XV (Dispute Resolution), and all litigation costs. Future Response Costs shall also include Agency for Toxic Substances and Disease Registry (ATSDR) costs regarding the Site.

“Interest” shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually on October 1 of each year, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year. Rates are available online at http://www.epa.gov/ocfopage/finstatement/superfund/int_rate.htm.

“Non-Settling Owner” shall mean any person, other than a Respondent, that owns or controls any Affected Property, including the owners listed in Appendix C. The clause “Non-Settling Owner’s Affected Property” means Affected Property owned or controlled by Non-Settling Owner.

“National Contingency Plan” or “NCP” shall mean the National Oil and Hazardous Substances Pollution Contingency Plan promulgated pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605, codified at 40 C.F.R. Part 300, and any amendments thereto.

“Paragraph” shall mean a portion of this Settlement identified by an Arabic numeral or an upper or lower case letter.

“Parties” shall mean EPA and Respondent.

“RCRA” shall mean the Solid Waste Disposal Act, 42 U.S.C. §§ 6901-6992 (also known as the Resource Conservation and Recovery Act).

“Respondent” shall mean H. Kramer.

“Section” shall mean a portion of this Settlement identified by a Roman numeral.

“Settlement” shall mean this Administrative Settlement Agreement and Order on Consent and all appendices attached hereto (listed in Section XXVII (Integration / Appendices)). In the event of conflict between this Settlement and any appendix, this Settlement shall control.

“Site” shall mean the Pilsen Soil Operable Unit 2 Residential Site, Chicago, Illinois, encompassing approximately 25.2 acres. The Site is located in the Lower West Side (Pilsen) area of Chicago. It is an approximately 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street. See Appendix A (showing Site location and boundaries).

“State” shall mean the State of Illinois.

“Transfer” shall mean to sell, assign, convey, lease, mortgage, or grant a security interest in, or where used as a noun, a sale, assignment, conveyance, or other disposition of any interest by operation of law or otherwise.

“United States” shall mean the United States of America and each department, agency, and instrumentality of the United States, including EPA.

“Waste Material” shall mean (a) any “hazardous substance” under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (b) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (c) any “solid waste” under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

“Work” shall mean all activities and obligations Respondent is required to perform under this Settlement except those required by Section XI (Record Retention).

IV. FINDINGS OF FACT

9. Based on available information, including the Administrative Record in this matter, EPA hereby finds that:

a. The Site is an approximately 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street. See Appendix A (showing Site location and boundaries). The Site is comprised of all residential homes within its boundaries, including single family and multiple unit buildings. In 2010, the population within the Site was approximately 1,563. There are about 178 residential properties within the boundary of the Site; of these, approximately 121 properties have non-permanent covers in their yards (bare soil, grass, garden, gravel, etc.), with the rest of the yards having concrete or asphalt covers. See Appendix C (residential properties comprising the Site). Perez School lies within the Site, and the Benito Juarez Community Academy is about one block to the southwest. Throop Park is about a half block north, and Dvorak Park is about one block east of the Site. The Chicago Sanitary and Ship Canal is located approximately a half-mile to the south.

b. Lead, a hazardous substance under 42 U.S.C. § 9601(14) and 40 C.F.R. § 302.4, has been deposited into soils at the Site. Sampling results for the Site indicated that lead exceeded the 2014 EPA Removal Management Levels (RML) (hazard quotient [HQ] of 3) for residential soil at several locations throughout the Site for surface soil, subsurface soil, and soils in gardens and drip zones. For surface soil, average Site total lead concentrations (0-6 inches below ground surface [bgs], not including garden, drip zone, duplicate, or replicate samples) was 1,377 mg/kg (sample size [N] = 30). As for subsurface soil, the average Site total lead concentration (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs, not including garden, drip zone, duplicate, or replicate samples) was 1,094 mg/kg (N = 10). Total lead was detected in subsurface soil above 400 mg/kg at 6 of 6 residential properties (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 bgs, including duplicate samples, but not including garden samples). Average Site

garden soil sampling results for total lead was 945 mg/kg (N=14). Average Site drip zone sampling results for total lead was 1,065 mg/kg (N=2).

c. H. Kramer's secondary nonferrous metals facility at 1345 West 21st Street has operated adjacent to and upwind of the Site since the early 20th century. H. Kramer specializes in manufacturing brass and bronze ingots, where a portion of the facility's production capacity is devoted to metal alloys that contain lead as a minor component. Metals known to have been emitted by H. Kramer's facility (including lead, zinc, and copper) were found in Site soils. EPA believes that the nature of H. Kramer's processes contributed to high levels of lead at the Site. In addition, there are a number of other historical sources of lead at the Site.

d. Lead has been released at the Site into residential soils, and the threat of release from the Site is the off-site migration of soils contaminated by lead, as described above, into the surrounding neighborhood, which includes residences and schools, through wind and rain runoff and through present use (such as people walking, driving vehicles, or working or playing in the Site). In 2010, approximately 1,563 people lived within the boundaries of the Site, and the residential yards have high accessibility to sensitive populations including young children and pregnant women. The Perez School lies within the Site, and the Benito Juarez Community Academy is about one block southwest. Throop Park is about a half a block north of the Site, and Dvorak Park is about one block east.

e. A risk assessment conducted by EPA concluded that the soil concentrations of lead at the Site are at an unacceptable risk level to the residents in the Pilsen neighborhood.

f. H. Kramer is a corporation doing business in Illinois that generated, and therefore arranged for disposal, of the hazardous substances found at the Site.

g. EPA issued a General Notice of Potential Liability Letter to H. Kramer on June 19, 2015.

V. CONCLUSIONS OF LAW AND DETERMINATIONS

10. Based on the Findings of Fact set forth above, and the administrative record, EPA has determined that:

a. The Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

b. The contamination found at the Site, as identified in the Findings of Fact above, includes "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

c. Respondent is a "person" as defined by Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

d. Respondent is a responsible party under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), and is liable for performance of the response action and for response costs incurred and to be incurred at the Site.

(1) Respondent arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

e. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility as defined by Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

f. The conditions described in the Findings of Fact above constitute an imminent and substantial endangerment to the public health or welfare or the environment because of an actual or threatened release of a hazardous substance from the facility within the meaning of Section 106(a) of CERCLA, 42 U.S.C. § 9606(a).

g. The removal action required by this Settlement is necessary to protect the public health, welfare, or the environment and, if carried out in compliance with the terms of this Settlement, will be consistent with the NCP, as provided in Section 300.700(c)(3)(ii) of the NCP.

VI. SETTLEMENT AGREEMENT AND ORDER

11. Based upon the foregoing Findings of Fact, Conclusions of Law, Determinations, and the administrative record, it is hereby Ordered and Agreed that Respondent shall comply with all provisions of this Settlement, including, but not limited to, all attachments to this Settlement and all documents incorporated by reference into this Settlement.

VII. DESIGNATION OF CONTRACTOR, PROJECT COORDINATOR, AND ON-SCENE COORDINATOR

12. Respondent H. Kramer has retained primary contractors to perform the Work and provided EPA their qualifications, and EPA approves GHD/Conestoga-Rovers & Assoc., Inc. as contractor for H. Kramer. Respondent shall also notify EPA of the name(s) and qualification(s) of any other contractor(s) or subcontractor(s) retained to perform the Work at least seven (7) days prior to commencement of such Work. EPA retains the right to disapprove of any or all of the contractors and/or subcontractors retained by Respondent. If EPA disapproves of a selected contractor, Respondent shall retain a different contractor and shall notify EPA of that contractor's name and qualifications within seven (7) days after EPA's disapproval.

13. Respondent has designated, and EPA has approved, Walter Pochron of GHD/Conestoga-Rovers & Assoc., Inc. as Project Coordinator for H. Kramer, who shall be responsible for administration of all actions by Respondent required by this Settlement. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondent shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number, and

qualifications within seven (7) days following EPA's disapproval. Notice or communication relating to this Settlement from EPA to Respondent's Project Coordinator shall constitute notice or communication to Respondent.

14. EPA has designated Ramon C. Mendoza of the Emergency Response Branch #2 of EPA Region 5 as its On-Scene Coordinator (OSC). EPA and Respondent shall have the right, subject to Paragraph 13, to change their respective designated OSC or Project Coordinator. Respondent shall notify EPA seven (7) days before such a change is made. The initial notification by Respondent may be made orally, but shall be promptly followed by a written notice.

15. The OSC shall be responsible for overseeing Respondent's implementation of this Settlement. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any Work required by this Settlement, or to direct any other removal action undertaken at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

VIII. WORK TO BE PERFORMED

16. Respondent shall perform, at a minimum, all actions necessary to implement the work set forth in the approved Work Plan attached hereto as Appendix D. The actions to be implemented by Respondent generally include, but are not limited to, the following:

a. Respondent and EPA will coordinate work to obtain access agreements under paragraph 26 for the residential properties in Appendix C requiring soil sampling. The protocol that Respondent and EPA will follow is set forth in Appendix E (the Outreach Protocol). The access agreements will be worded to allow crews to access the subject property to perform soil sampling activities and to allow crews later to access the subject property to allow for remediation of shallow soils where lead is detected at concentrations greater than 400 mg/kg.

b. Property Documentation: In conjunction with the surface soil sample collection, the details regarding each of the properties will be recorded to develop a Remediation Plan for properties where lead is detected at concentrations greater than 400 mg/kg. This documentation will include the following:

- (1) Measuring the total property size;
- (2) Measuring the size of the front yard, the back yard, the side yard, and any garden areas;
- (3) Developing a detailed sketch of the property showing the location of the green spaces, structures, and other pertinent information;
- (4) Photographs of the property and green spaces;
- (5) Details regarding property access issues or unsafe conditions;

(6) Brief interview of the property owner, if present.

c. Surface Soil Sample Collection:

(1) For properties with a total surface area less than 5,000 square feet (ft²), five point composite samples will be collected, at a minimum, from each of the following locations: the front yard, the back yard, and the side yard (provided these areas are not covered with a permanent barrier (concrete, asphalt, or brick pavers)).¹ The composite locations will be equally spaced within the respective portion of the yard, outside of any drip zones, and away from influences of any painted surfaces. Due to the small size of many of the yards within the Site, if a portion of a yard (front yard, back yard, or side yard) measures less than 150 ft², then only a two point composite sample will be collected. Due to the difficulties associated with remediation around established tree roots, soil samples will not be collected within a 4-foot radius of trees that have a diameter of 2 inches or more.

(2) Distinct garden areas will be sampled separately as a discrete area of the yard, consisting of collecting a two or five point composite of aliquots (based on square footages noted above). Garden samples are anticipated to be collected from 0 to 12 inches bgs. Gardens and elevated garden beds (1 foot or more above grade) where the resident states the garden soils have been replaced with clean imported dirt/fill will not be sampled.

(3) Soil samples will be collected using the following procedures:

- (a) A public utility locate will be requested for each property to be sampled;
- (b) A new pair of nitrile glove will be donned by the sampling crew for each composite soil sample collected;
- (c) Surface materials such as grass, wood mulch, or gravel will be removed prior to sample collection;
- (d) Soil samples will be collected from within the 0 to 0.5 foot interval using a pre-cleaned stainless steel hand auger, soil coring tool, or trowel;
- (e) Soil collected from each point of the composite sample will be placed into a stainless steel or plastic bowl or a re-sealable bag and mixed thoroughly to form a composite sample;

¹ Based on an aerial photo review of the properties within the Site, none of the individual residential parcels within the Site is anticipated to exceed 5,000 ft² in size (the average lot size is approximately 3,000 ft²).

- (f) The mixed soil will then be placed directly into a laboratory-supplied glass jar and labeled with a unique sample identification number and placed into a cooler with packing material;
- (g) Unused soil will be placed back into the holes from which the samples were collected;
- (h) The remaining hole from the sampling will be back filled to grade using clean fill dirt and seeded if grass covered.

(4) Soil sampling equipment will be cleaned between composite locations using the following procedure:

- (a) Wash with clean potable water and laboratory detergent, using a brush as necessary to remove particulates;
- (b) Rinse with distilled water;
- (c) Air dry for as long as possible;
- (d) Clean equipment will be wrapped in foil or plastic sheeting until needed.

(5) Details regarding the collection of each sample (address, location, depth, date, time, and composite details) will be recorded in a field book or electronically. The location of each sampling point will be sketched on field forms, and the coordinates of the each point will be recorded using a geographic positioning system (GPS) receiver with sub-meter accuracy.

(6) Collected soil samples will be analyzed for the lead using EPA method SW-846 6010b. Test methods and additional details regarding sampling, sample handling, and analysis are provided in the Quality Assurance Project Plan (QAPP).

d. Field Quality Control Sampling: Quality assurance/quality control (QA/QC) samples will be collected at a frequency of one per twenty (20) investigative samples. QA/QC samples will include duplicate samples, matrix spike/matrix spike duplicate (MS/MSD) samples, and equipment rinsate samples.

17. For any regulation or guidance referenced in the Settlement, the reference will be read to include any subsequent modification, amendment, or replacement of such regulation or guidance. Such modifications, amendments, or replacements apply to the Work only after Respondent receives notification from EPA of the modification, amendment, or replacement.

18. Work Plan and Implementation.

a. Respondent has submitted to EPA, and EPA has approved, a work plan for performing the removal action (the "Sampling Work Plan") generally described in Paragraph 16. The Sampling Work Plan, which is attached as Appendix D, includes a description of the actions required by this Settlement. Within ten (10) days after the Effective Date, in accordance with Paragraph 19 (Submission of Deliverables), Respondent shall submit to EPA for approval a schedule for the actions required by this Settlement.

b. Respondent shall implement the Sampling Work Plan as approved in writing by EPA in accordance with the schedule approved by EPA. The Sampling Work Plan, the schedule, and any subsequent modifications shall be incorporated into and become fully enforceable under this Settlement.

c. Respondent shall commence implementation of the Work in accordance with the schedule included therein. Respondent shall not commence any Work except in conformance with the terms of this Settlement.

d. Unless otherwise provided in this Settlement, any additional deliverables that require EPA approval under the Sampling Work Plan shall be reviewed and approved by EPA in accordance with this Paragraph.

19. Submission of Deliverables.

a. General Requirements for Deliverables.

(1) Except as otherwise provided in this Settlement, Respondent shall direct all submissions required by this Settlement to the OSC at: Ramon C. Mendoza (SE-5J), Superfund Division, U.S. EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886.4314, mendoza.ramon@epa.gov. Respondent shall submit all deliverables required by this Settlement or any approved work plan to EPA in accordance with the schedule set forth in such plan.

(2) Respondent shall submit all deliverables in electronic form. If any deliverable includes maps, drawings, or other exhibits that are larger than 8.5" by 11", Respondent shall also provide EPA with paper copies of such exhibits.

b. Technical Specifications for Deliverables.

(1) Sampling and monitoring data should be submitted in standard regional Electronic Data Deliverable (EDD) format. Other delivery methods may be allowed if electronic direct submission presents a significant burden or as technology changes.

(2) Spatial data, including spatially-referenced data and geospatial data, should be submitted: (a) in the ESRI File Geodatabase format; and (b) as unprojected geographic coordinates in decimal degree format using North American

Datum 1983 (NAD83) or World Geodetic System 1984 (WGS84) as the datum. If applicable, submissions should include the collection method(s). Projected coordinates may optionally be included but must be documented. Spatial data should be accompanied by metadata, and such metadata should be compliant with the Federal Geographic Data Committee (FGDC) Content Standard for Digital Geospatial Metadata and its EPA profile, the EPA Geospatial Metadata Technical Specification. An add-on metadata editor for ESRI software, the EPA Metadata Editor (EME), complies with these FGDC and EPA metadata requirements and is available at <https://edg.epa.gov/EME/>.

(3) Each file must include an attribute name for each site unit or sub-unit submitted. Consult <http://www.epa.gov/geospatial/policies.html> for any further available guidance on attribute identification and naming.

(4) Spatial data submitted by Respondent does not, and is not intended to, define the boundaries of the Site.

20. Health and Safety Plan.

a. Within fourteen (14) days after the Effective Date, Respondent shall submit for EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-site work under this Settlement. This plan shall be prepared in accordance with "OSWER Integrated Health and Safety Program Operating Practices for OSWER Field Activities," Pub. 9285.0-OIC (Nov. 2002), available on the NSCEP database at <http://www.epa.gov/nscep/index.html>, and "EPA's Emergency Responder Health and Safety Manual," OSWER Directive 9285.3-12 (July 2005 and updates), available at <http://www.epaosc.org/HealthSafetyManual/manual-index.htm>. In addition, the plan shall comply with all currently applicable Occupational Safety and Health Administration (OSHA) regulations found at 29 C.F.R. Part 1910. If EPA determines that it is appropriate, the plan shall also include contingency planning. Respondent shall incorporate all changes to the plan recommended by EPA and shall implement the plan during the pendency of the removal action.

21. Quality Assurance, Sampling, and Data Analysis.

a. Respondent shall use quality assurance, quality control, and other technical activities and chain of custody procedures for all samples consistent with "EPA Requirements for Quality Assurance Project Plans (QA/R5)" EPA/240/B-01/003 (Mar. 2001, reissued May 2006), "Guidance for Quality Assurance Project Plans (QA/G-5)" EPA/240/R-02/009 (Dec. 2002), and "Uniform Federal Policy for Quality Assurance Project Plans," Parts 1-3, EPA/505/B-04/900A-900C (Mar. 2005).

b. Respondent has submitted to EPA, and EPA has approved, a Quality Assurance Project Plan (QAPP) that is consistent with the Sampling Work Plan, the NCP, and the Superfund Lead-Contaminated Residential Sites Handbook. Respondent shall ensure that EPA personnel and its authorized representatives are allowed access at reasonable times to all laboratories utilized by Respondent in implementing this Settlement. In addition, Respondent shall ensure that such laboratories shall analyze all samples submitted by EPA pursuant to the QAPP for quality assurance, quality control, and technical activities that will satisfy the stated

performance criteria as specified in the QAPP and that sampling and field activities are conducted in accordance with EPA's "Field Operations Group Operational Guidelines for Field Activities" (<http://www.epa.gov/region8/qa/FieldOperationsGroupOperationalGuidelinesForFieldActivities.pdf>) and "EPA QA Field Activities Procedure" (<http://www.epa.gov/irmpoli8/policies/2105-p-02.pdf>). Respondent shall ensure that the laboratories it utilizes for the analysis of samples taken pursuant to this Settlement meet the competency requirements set forth in EPA's "Policy to Assure Competency of Laboratories, Field Sampling, and Other Organizations Generating Environmental Measurement Data under Agency-Funded Acquisitions" (<http://www.epa.gov/fem/pdfs/fem-lab-competency-policy.pdf>) and that the laboratories perform all analyses according to accepted EPA methods. Accepted EPA methods consist of, but are not limited to, methods that are documented in the EPA's Contract Laboratory Program (<http://www.epa.gov/superfund/programs/clp/>), SW 846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (<http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>), "Standard Methods for the Examination of Water and Wastewater" (<http://www.standardmethods.org/>), 40 C.F.R. Part 136, and "Air Toxics - Monitoring Methods" (<http://www.epa.gov/ttnamti1/airtox.html>). However, upon approval by EPA, Respondent may use other appropriate analytical method(s), as long as (a) quality assurance/quality control (QA/QC) criteria are contained in the method(s) and the method(s) are included in the QAPP, (b) the analytical method(s) are at least as stringent as the methods listed above, and (c) the method(s) have been approved for use by a nationally recognized organization responsible for verification and publication of analytical methods, e.g., EPA, ASTM, NIOSH, OSHA, etc. Respondent shall ensure that all laboratories it uses for analysis of samples taken pursuant to this Settlement have a documented Quality System that complies with ANSI/ASQC E-4-2004, "Quality Systems for Environmental Data and Technology Programs: Requirements with Guidance for Use" (American National Standard, 2004), and "EPA Requirements for Quality Management Plans (QA/R-2)" EPA/240/B-01/002 (Mar. 2001, reissued May 2006), or equivalent documentation as determined by EPA. EPA may consider Environmental Response Laboratory Network (ERLN) laboratories, laboratories accredited under the National Environmental Laboratory Accreditation Program (NELAP), or laboratories that meet International Standardization Organization (ISO 17025) standards or other nationally recognized programs (<http://www.epa.gov/fem/accredit.htm>) as meeting the Quality System requirements. Respondent shall ensure that all field methodologies utilized in collecting samples for subsequent analysis pursuant to this Settlement are conducted in accordance with the procedures set forth in the QAPP approved by EPA.

c. Upon request, Respondent shall provide split or duplicate samples to EPA or its authorized representatives. Respondent shall notify EPA not less than five (5) days in advance of any sample collection activity unless shorter notice is agreed to by EPA. In addition, EPA shall have the right to take any additional samples that EPA deems necessary. Upon request, EPA shall provide to Respondent split or duplicate samples of any samples it takes as part of EPA's oversight of Respondent's implementation of the Work.

d. Respondent shall submit to EPA the results of all sampling and/or tests or other data obtained or generated by or on behalf of Respondent with respect to the Site and/or the implementation of this Settlement.

e. Respondent waives any objections to any data gathered, generated, or evaluated by EPA or Respondent in the performance or oversight of the Work that has been verified according to the QA/QC procedures required by the Settlement or any EPA-approved Work Plans or Sampling and Analysis Plans. If Respondent objects to any other data relating to the Work, Respondent shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within fifteen (15) days after the monthly progress report containing the data.

f. Notwithstanding any provision of this Settlement, the United States retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes and regulations.

22. Community Involvement Plan. EPA will prepare a community involvement plan, in accordance with EPA guidance and the NCP. If requested by EPA, Respondent shall participate in community involvement activities pursuant to the plan, including participation in (1) the preparation of information regarding the Work for dissemination to the public, with consideration given to including mass media and/or Internet notification, and (2) public meetings that may be held or sponsored by EPA to explain activities at or relating to the Site. Respondent's support of EPA's community involvement activities may include providing online access to initial submissions and updates of deliverables to (1) any community advisory groups, (2) any technical assistance grant recipients and their advisors, and (3) other entities to provide them with a reasonable opportunity for review and comment. All community involvement activities conducted by Respondent at EPA's request are subject to EPA's oversight. At EPA's discretion, Respondent shall establish a community information repository at or near the Site to house one copy of the administrative record.

23. Progress Reports. Respondent shall submit a written progress report to EPA concerning actions undertaken pursuant to this Settlement on a monthly basis, or as otherwise requested by EPA, from the date of receipt of EPA's approval of the schedule for the actions required by this Settlement in paragraph 18(b), until issuance of Notice of Completion of Work pursuant to Section XXVI, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the actions performed and any problems encountered, analytical data received during the reporting period, and the developments anticipated during the next reporting period, including a schedule of actions to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

24. Final Report. Within thirty (30) days after completion of all Work required by this Settlement, other than continuing obligations listed in Section XXVI (notice of completion), Respondent shall submit for EPA review and approval a final report summarizing the actions taken to comply with this Settlement. The final report shall conform, at a minimum, with the requirements set forth in Section 300.165 of the NCP entitled "OSC Reports." The final report shall include a good faith estimate of total costs or a statement of actual costs incurred in complying with the Settlement, a listing of quantities and types of materials removed off-Site or

handled on-Site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destination(s) of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits). The final report shall also include the following certification signed by a responsible corporate official of Respondent or Respondent's Project Coordinator: "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

25. Off-Site Shipments.

a. Respondent may ship hazardous substances, pollutants and contaminants from the Site to an off-Site facility only if it complies with Section 121(d)(3) of CERCLA, 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondent will be deemed to be in compliance with CERCLA Section 121(d)(3) and 40 C.F.R. § 300.440 regarding a shipment if Respondent obtains a prior determination from EPA that the proposed receiving facility for such shipment is acceptable under the criteria of 40 C.F.R. § 300.440(b). Respondent may ship Investigation Derived Waste (IDW) from the Site to an off-Site facility only if Respondent complies with EPA's "Guide to Management of Investigation Derived Waste," OSWER 9345.3-03FS (Jan. 1992).

b. Respondent may ship Waste Material from the Site to an out-of-state waste management facility only if, prior to any shipment, it provides written notice to the appropriate state environmental official in the receiving facility's state and to the OSC. This written notice requirement shall not apply to any off-Site shipments when the total quantity of all such shipments will not exceed ten cubic yards. The written notice must include the following information, if available: (1) the name and location of the receiving facility; (2) the type and quantity of Waste Material to be shipped; (3) the schedule for the shipment; and (4) the method of transportation. Respondent also shall notify the state environmental official referenced above and the OSC of any major changes in the shipment plan, such as a decision to ship the Waste Material to a different out-of-state facility. Respondent shall provide the written notice after the award of the contract for the removal action and before the Waste Material is shipped.

IX. PROPERTY REQUIREMENTS

26. Agreements Regarding Access and Non-Interference. Respondent shall, subject to the coordination between EPA and Respondent provided for in paragraph 16(a), use best efforts to secure from Non-Settling Owners of Affected Property an agreement, enforceable by Respondent and the EPA, providing that such Non-Settling Owner (i) provide the EPA, Respondent, and their representatives, contractors, and subcontractors with access at all reasonable times to such Affected Property to conduct any activity regarding the Settlement, and (ii) refrain from using such Affected Property in any manner that EPA determines will pose an

unacceptable risk to human health or to the environment due to exposure to Waste Material, or interfere with or adversely affect the implementation, integrity, or protectiveness of the removal action.

27. Best Efforts. As used in this Section, “best efforts” means the efforts that a reasonable person in the position of Respondent would use so as to achieve the goal in a timely manner, including the cost of employing professional assistance, as required by this Section. If Respondent is unable to accomplish what is required through “best efforts” in a timely manner, it shall notify EPA, and include a description of the steps taken to comply with the requirements. If EPA deems it appropriate, it may assist Respondent or take independent action, in obtaining such access and/or use restrictions. All costs incurred by the United States in providing such assistance or taking such action, including the cost of attorney time and the amount of monetary consideration or just compensation paid, constitute Future Response Costs to be reimbursed under Section XIV (Payment of Response Costs).

28. If EPA determines in a decision document prepared in accordance with the NCP that institutional controls in the form of state or local laws, regulations, ordinances, zoning restrictions, or other governmental controls or notices are needed, Respondent shall cooperate with EPA’s efforts to secure and ensure compliance with such institutional controls.

29. In the event of any Transfer of the Affected Property, unless the United States otherwise consents in writing, Respondent shall continue to comply with its obligations under the Settlement, including its obligation to secure access.

30. Notwithstanding any provision of the Settlement, EPA retains all of its access authorities and rights, as well as all of its rights to require land, water, or other resource use restrictions, including enforcement authorities related thereto under CERCLA, RCRA, and any other applicable statute or regulations.

X. ACCESS TO INFORMATION

31. Respondent shall provide to EPA, upon request, copies of all records, reports, documents, and other information (including records, reports, documents, and other information in electronic form) (hereinafter referred to as “Records”) within Respondent’s possession or control or that of its contractors or agents relating to activities at the Site or to the implementation of this Settlement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information regarding the Work. Respondent shall also make available to EPA, for purposes of investigation, information gathering, or testimony, its employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

32. Privileged and Protected Claims.

a. Respondent may assert all or part of a Record requested by EPA is privileged or protected as provided under federal law, in lieu of providing the Record, provided Respondent complies with Paragraph 32.b, and except as provided in Paragraph 32.c.

b. If Respondent asserts such a privilege or protection, it shall provide EPA with the following information regarding such Record: its title; its date; the name, title, affiliation (e.g., company or firm), and address of the author, of each addressee, and of each recipient; a description of the Record's contents; and the privilege or protection asserted. If a claim of privilege or protection applies only to a portion of a Record, Respondent shall provide the Record to EPA in redacted form to mask the privileged or protected portion only. Respondent shall retain all Records that it claims to be privileged or protected until EPA has had a reasonable opportunity to dispute the privilege or protection claim and any such dispute has been resolved in Respondent's favor.

c. Respondent may make no claim of privilege or protection regarding: (1) any data regarding the Site, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, radiological, or engineering data, or the portion of any other Record that evidences conditions at or around the Site; or (2) the portion of any Record that Respondent is required to create or generate pursuant to this Settlement.

33. Business Confidential Claims. Respondent may assert that all or part of a Record provided to EPA under this Section or Section XI (Record Retention) is business confidential to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Respondent shall segregate and clearly identify all Records or parts thereof submitted under this Settlement for which Respondent asserts business confidentiality claims. Records submitted to EPA determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies Records when they are submitted to EPA, or if EPA has notified Respondent that the Records are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such Records without further notice to Respondent.

34. Notwithstanding any provision of this Settlement, EPA retains all of its information gathering and inspection authorities and rights, including enforcement actions related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XI. RECORD RETENTION

35. Until ten (10) years after EPA provides Respondent with notice, pursuant to Section XXVI (Notice of Completion of Work), that all Work has been fully performed in accordance with this Settlement, Respondent shall preserve and retain all non-identical copies of Records (including Records in electronic form) now in its possession or control, or that come into its possession or control, that relate in any manner to its liability under CERCLA with regard to the Site. Respondent must also retain, and instruct its contractors and agents to preserve, for the same period of time specified above all non-identical copies of the last draft or final version of any Records (including Records in electronic form) now in their possession or control or that come into their possession or control that relate in any manner to the performance of the Work, provided, however, that Respondent (and its contractors and agents) must retain, in addition, copies of all data generated during the performance of the Work and not contained in

the aforementioned Records required to be retained. Each of the above record retention requirements shall apply regardless of any corporate retention policy to the contrary.

36. At the conclusion of the document retention period, Respondent shall notify EPA at least ninety (90) days prior to the destruction of any such Records, and, upon request by EPA, and except as provided in Paragraph 32 (Privileged and Protected Claims), Respondent shall deliver any such Records to EPA.

37. Respondent certifies individually that, to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed, or otherwise disposed of any Records (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA and that it has fully complied with any and all EPA and State requests for information regarding the Site pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927, and state law.

XII. COMPLIANCE WITH OTHER LAWS

38. Nothing in this Settlement limits Respondent's obligations to comply with the requirements of all applicable state and federal laws and regulations, except as provided in Section 121(e) of CERCLA, 42 U.S.C. § 6921(e), and 40 C.F.R. § 300.400(e) and 300.415(j). In accordance with 40 C.F.R. § 300.415(j), all on-site actions required pursuant to this Settlement shall, to the extent practicable, as determined by EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements (ARARs) under federal environmental or state environmental or facility siting laws.

39. No local, state, or federal permit shall be required for any portion of the Work conducted entirely on-site (i.e., within the areal extent of contamination or in very close proximity to the contamination and necessary for implementation of the Work), including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work that is not on-site requires a federal or state permit or approval, Respondent shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. Respondent may seek relief under the provisions of Section XVI (Force Majeure) for any delay in the performance of the Work resulting from a failure to obtain, or a delay in obtaining, any permit or approval required for the Work, provided that it has submitted timely and complete applications and taken all other actions necessary to obtain all such permits or approvals. This Settlement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XIII. EMERGENCY RESPONSE AND NOTIFICATION OF RELEASES

40. Emergency Response. If any event occurs during performance of the Work that causes or threatens to cause a release of Waste Material on, at, or from the Site that either constitutes an emergency situation or that may present an immediate threat to public health or welfare or the environment, Respondent shall immediately take all appropriate action to prevent, abate, or minimize such release or threat of release. Respondent shall take these actions in

accordance with all applicable provisions of this Settlement, including, but not limited to, the Health and Safety Plan. Respondent shall also immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer at (312) 353.2318 of the incident or Site conditions. In the event that Respondent fails to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondent shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XIV (Payment of Response Costs).

41. Release Reporting. In addition, in the event of any release of a hazardous substance from the Site, Respondent shall immediately notify the OSC or, in the event of his/her unavailability, the Regional Duty Officer at (312) 353.2318 and the National Response Center at (800) 424.8802. Respondent shall submit a written report to EPA within seven (7) days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004.

XIV. PAYMENT OF RESPONSE COSTS

42. Payments for Future Response Costs. Respondent shall pay to EPA up to \$65,000 of the Future Response Costs not inconsistent with the NCP. While EPA reserves the right to seek to recover Future Response Costs in excess of \$65,000 incurred in connection with this Settlement, if Respondent resolves the remedial phase of this Site's Removal Action (e.g. via cashout under Section 122(h) of CERCLA, 42 U.S.C. § 9622(h), or an agreement to perform the remedial work), EPA may, in its discretion, forego pursuing recovery of the Future Response Costs in excess of \$65,000 incurred in connection with this Settlement.

a. On a periodic basis, EPA will send Respondent a bill requiring payment that includes an Itemized Cost Summary, which includes direct and indirect costs incurred by EPA, its contractors, subcontractors, and the United States Department of Justice. Respondent shall make all payments within thirty (30) days after Respondent's receipt of each bill requiring payment, except as otherwise provided in Paragraph 44 (Contesting Future Response Costs).

b. Respondent shall make payment to EPA by Fedwire Electronic Funds Transfer (EFT) to:

Federal Reserve Bank of New York
ABA = 021030004
Account = 68010727
SWIFT address = FRNYUS33
33 Liberty Street
New York, NY 10045
Field Tag 4200 of the Fedwire message should read "D 68010727 Environmental Protection Agency"

and shall reference Site/Spill ID Number C5N8_02 and the EPA docket number for this action.

c. At the time of payment, Respondent shall send notice that payment has been made to Ramon C. Mendoza (SE-5J), Superfund Division, U.S. EPA, Region 5, 77 West Jackson Boulevard, Chicago, Illinois 60604, (312) 886.4314, mendoza.ramon@epa.gov, and to the EPA Cincinnati Finance Office by email at cinwd_acctsreceivable@epa.gov, or by mail to

EPA Cincinnati Finance Office
26 W. Martin Luther King Drive
Cincinnati, Ohio 45268

Such notice shall reference Site/Spill ID Number C5N8_02 and the EPA docket number for this action.

d. Deposit of Future Response Costs Payments. The total amount to be paid by Respondent pursuant to Paragraph 42.a shall be deposited by EPA in the EPA Hazardous Substance Superfund.

43. Interest. In the event that any payment for Future Response Costs is not made by the date required, Respondent shall pay Interest on the unpaid balance. The Interest shall accrue through the date of Respondent's payment. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondent's failure to make timely payments under this Section, including but not limited to, payment of stipulated penalties pursuant to Paragraph 55 (Stipulated Penalty Amounts – Deliverables).

44. Contesting Future Response Costs. Respondent may submit a Notice of Dispute, initiating the procedures of Section XV (Dispute Resolution) regarding payment of Future Response Costs billed under Paragraph 42 that are less than or equal to \$65,000, if it determines that EPA has made a mathematical error or included a cost item that is not within the definition of Future Response Costs, if it believes EPA incurred excess costs as a direct result of an EPA action that was inconsistent with a specific provision or provisions of the NCP, or if it determines that it has already paid at least \$65,000 of the Future Response Costs incurred in connection with this Settlement. Such Notice of Dispute shall be submitted in writing within thirty (30) days after receipt of the bill and must be sent to the OSC. Any such Notice of Dispute shall specifically identify the contested Future Response Costs and the basis for objection. If Respondent submits a Notice of Dispute, Respondent shall within the 30-day period pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 42. Simultaneously, Respondent shall establish, in a duly chartered bank or trust company, an interest-bearing escrow account that is insured by the Federal Deposit Insurance Corporation (FDIC), and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondent shall send to the OSC a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. If EPA prevails in the dispute, within five (5) days after the resolution of the dispute, Respondent shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 42. If Respondent prevails

concerning any aspect of the contested costs, Respondent shall pay that portion of the costs (plus associated accrued interest) for which it did not prevail to EPA in the manner described in Paragraph 42. Respondent shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XV (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondent's obligation to reimburse EPA for payment of Future Response Costs at or below \$65,000.

XV. DISPUTE RESOLUTION

45. Unless otherwise expressly provided for in this Settlement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement. The Parties shall attempt to resolve any disagreements concerning this Settlement expeditiously and informally.

46. Informal Dispute Resolution. If Respondent objects to any EPA action taken pursuant to this Settlement, including billings for Future Response Costs at or below \$65,000, it shall send EPA a written Notice of Dispute describing the objection(s) within seven (7) days after such action. EPA and Respondent shall have thirty (30) days from EPA's receipt of Respondent's Notice of Dispute to resolve the dispute through formal negotiations (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement.

47. Formal Dispute Resolution. If the Parties are unable to reach an agreement within the Negotiation Period, Respondent shall, within twenty (20) days after the end of the Negotiation Period, submit a statement of position to the OSC. EPA may, within twenty (20) days thereafter, submit a statement of position. Thereafter, an EPA management official at the Division Director level or higher will issue a written decision on the dispute to Respondent. EPA's decision shall be incorporated into and become an enforceable part of this Settlement. Following resolution of the dispute, as provided by this Section, Respondent shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs.

48. Except as provided in Paragraph 44 (Contesting Future Response Costs) or as agreed by EPA, the invocation of formal dispute resolution procedures under this Section does not extend, postpone, or affect in any way any obligation of Respondent under this Settlement. Stipulated penalties with respect to the disputed matter shall continue to accrue but payment shall be stayed pending resolution of the dispute as provided in Paragraph 57. Notwithstanding the stay of payment, stipulated penalties shall accrue from the first day of noncompliance with any applicable provision of this Settlement. In the event that Respondent does not prevail on the disputed issue, stipulated penalties shall be assessed and paid as provided in Section XVII (Stipulated Penalties).

XVI. FORCE MAJEURE

49. "Force Majeure" for purposes of this Settlement, is defined as any event arising from causes beyond the control of Respondent, of any entity controlled by Respondent, or of Respondent's contractors that delays or prevents the performance of any obligation under this Settlement despite Respondent's best efforts to fulfill the obligation. The requirement that Respondent exercise "best efforts to fulfill the obligation" includes using best efforts to anticipate any potential force majeure and best efforts to address the effects of any potential force majeure (a) as it is occurring and (b) following the potential force majeure such that the delay and any adverse effects of the delay are minimized to the greatest extent possible. "Force majeure" does not include financial inability to complete the Work or increased cost of performance.

50. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement for which Respondent intends or may intend to assert a claim of force majeure, Respondent shall notify EPA's OSC orally or, in his or her absence, the alternate EPA OSC, or, in the event both of EPA's designated representatives are unavailable, the Director of the Superfund Division, EPA Region 5, within seven (7) days of when Respondent first knew that the event might cause a delay. Within seven (7) days thereafter, Respondent shall provide in writing to EPA an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondent's rationale for attributing such delay to a force majeure; and a statement as to whether, in the opinion of Respondent, such event may cause or contribute to an endangerment to public health or welfare, or the environment. Respondent shall include with any notice all available documentation supporting its claim that the delay was attributable to a force majeure. Respondent shall be deemed to know of any circumstance of which Respondent, any entity controlled by Respondent, or Respondent's contractors knew or should have known. Failure to comply with the above requirements regarding an event shall preclude Respondent from asserting any claim of force majeure regarding that event, provided, however, that if EPA, despite the late or incomplete notice, is able to assess to its satisfaction whether the event is a force majeure under Paragraph 49 and whether Respondent has exercised its best efforts under Paragraph 49, EPA may, in its unreviewable discretion, excuse in writing Respondent's failure to submit timely or complete notices under this Paragraph.

51. If EPA agrees that the delay or anticipated delay is attributable to a force majeure, the time for performance of the obligations under this Settlement that are affected by the force majeure will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the force majeure shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a force majeure, EPA will notify Respondent in writing of its decision. If EPA agrees that the delay is attributable to a force majeure, EPA will notify Respondent in writing of the length of the extension, if any, for performance of the obligations affected by the force majeure.

52. If Respondent elects to invoke the dispute resolution procedures set forth in Section XV (Dispute Resolution), it shall do so no later than fifteen (15) days after receipt of EPA's notice. In any such proceeding, Respondent shall have the burden of demonstrating by a preponderance of the evidence that the delay or anticipated delay has been or will be caused by a force majeure, that the duration of the delay or the extension sought was or will be warranted under the circumstances, that best efforts were exercised to avoid and mitigate the effects of the delay, and that Respondent complied with the requirements of Paragraphs 49 and 50. If Respondent carries this burden, the delay at issue shall be deemed not to be a violation by Respondent of the affected obligation of this Settlement identified to EPA.

53. The failure by EPA to timely complete any obligation under the Settlement is not a violation of the Settlement, provided, however, that if such failure prevents Respondent from meeting one or more deadlines under the Settlement, Respondent may seek relief under this Section.

XVII. STIPULATED PENALTIES

54. Respondent shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraph 55 for failure to comply with the requirements of this Settlement specified below, unless excused under Section XVI (Force Majeure). "Compliance" by Respondent shall include completion of all activities and obligations, including payments, required under this Settlement, or any deliverable approved under this Settlement, in accordance with all applicable requirements of law, this Settlement, and any deliverables approved under this Settlement and within the specified time schedules established by and approved under this Settlement.

55. Stipulated Penalty Amounts - Deliverables. The following stipulated penalties shall accrue per violation per day for failure to submit timely or adequate deliverables pursuant to this Settlement:

<u>Penalty Per Violation Per Day</u>	<u>Period of Noncompliance</u>
\$250	1st through 14th day
\$500	15th through 30th day
\$1,000	31st day and beyond

56. In the event that EPA assumes performance of all or any portion(s) of the Work pursuant to Paragraph 67 (Work Takeover), Respondent shall be liable for a stipulated penalty in the amount of \$10,000.

57. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (a) with respect to a deficient submission under Paragraph 18 (Work Plan and Implementation), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondent of any deficiency; and (b) with respect to a decision by the EPA Management Official at the Division Director level or higher, under Paragraph 47 of Section XV (Dispute Resolution), during the period, if any, beginning the 21st

day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing in this Settlement shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement. Penalties shall continue to accrue during any dispute resolution period, and shall be paid within fifteen (15) days after the agreement or the receipt of EPA's decision or order.

58. Following EPA's determination that Respondent has failed to comply with a requirement of this Settlement, EPA may give Respondent written notification of the failure and describe the noncompliance. EPA may send Respondent a written demand for payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondent of a violation.

59. All penalties accruing under this Section shall be due and payable to EPA within thirty (30) days after Respondent's receipt from EPA of a demand for payment of the penalties, unless Respondent invokes the Dispute Resolution procedures under Section XV (Dispute Resolution) within the 30-day period. All payments to EPA under this Section shall indicate that the payment is for stipulated penalties, and shall be made in accordance with Paragraph 42 (Payments for Future Response Costs).

60. If Respondent fails to pay stipulated penalties when due, Respondent shall pay Interest on the unpaid stipulated penalties as follows: (a) if Respondent has timely invoked dispute resolution such that the obligation to pay stipulated penalties has been stayed pending the outcome of dispute resolution, Interest shall accrue from the date stipulated penalties are due pursuant to Paragraph 57 until the date of payment; and (b) if Respondent fails to timely invoke dispute resolution, Interest shall accrue from the date of demand under Paragraph 59 until the date of payment. If Respondent fails to pay stipulated penalties and Interest when due, the United States may institute proceedings to collect the penalties and Interest.

61. The payment of penalties and Interest, if any, shall not alter in any way Respondent's obligation to complete the performance of the Work required under this Settlement.

62. Nothing in this Settlement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondent's violation of this Settlement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Sections 106(b) and 122(I) of CERCLA, 42 U.S.C. §§ 9606(b) and 9622(I), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3), provided however, that EPA shall not seek civil penalties pursuant to Section 106(b) or Section 122(I) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided in this Settlement, except in the case of a willful violation of this Settlement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 67 (Work Takeover).

63. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement.

XVIII. COVENANTS BY EPA

64. Except as provided in Section XIX (Reservations of Rights by EPA), EPA covenants not to sue or to take administrative action against Respondent pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work. These covenants shall take effect upon the Effective Date. These covenants are conditioned upon the complete and satisfactory performance by Respondent of its obligations under this Settlement. These covenants extend only to Respondent and do not extend to any other person.

XIX. RESERVATIONS OF RIGHTS BY EPA

65. Except as specifically provided in this Settlement, nothing in this Settlement shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants, or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing in this Settlement shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondent in the future to perform additional activities pursuant to CERCLA or any other applicable law.

66. The covenants set forth in Section XVIII (Covenants by EPA) do not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement is without prejudice to, all rights against Respondent with respect to all other matters, including, but not limited to:

- a. liability for failure by Respondent to meet a requirement of this Settlement;
- b. liability for Future Response Costs in excess of \$65,000 incurred in connection with this Settlement, and for costs not included within the definition of Future Response Costs;
- c. liability for performance of response action other than the Work, including all actions necessary to implement the work set forth in the Action Memorandum or to implement the Remediation Plan developed under Section VIII;
- d. criminal liability;
- e. liability for violations of federal or state law that occur during or after implementation of the Work;

- f. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;
- g. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and
- h. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site not paid as Future Response Costs under this Settlement.

67. Work Takeover.

a. In the event EPA determines that Respondent: (1) has ceased implementation of any portion of the Work; (2) is seriously or repeatedly deficient or late in its performance of the Work; or (3) is implementing the Work in a manner that may cause an endangerment to human health or the environment, EPA may issue a written notice ("Work Takeover Notice") to Respondent. Any Work Takeover Notice issued by EPA (which writing may be electronic) will specify the grounds upon which such notice was issued and will provide Respondent a period of three (3) days within which to remedy the circumstances giving rise to EPA's issuance of such notice.

b. If, after expiration of the 3-day notice period specified in Paragraph 67.a, Respondent has not remedied to EPA's satisfaction the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, EPA may at any time thereafter assume the performance of all or any portion(s) of the Work as EPA deems necessary ("Work Takeover"). EPA will notify Respondent in writing (which writing may be electronic) if EPA determines that implementation of a Work Takeover is warranted under this Paragraph 67.b.

c. Respondent may invoke the procedures set forth in Paragraph 47 (Formal Dispute Resolution) to dispute EPA's implementation of a Work Takeover under Paragraph 67.b. However, notwithstanding Respondent's invocation of such dispute resolution procedures, and during the pendency of any such dispute, EPA may in its sole discretion commence and continue a Work Takeover under Paragraph 67.b until the earlier of (1) the date that Respondent remedies, to EPA's satisfaction, the circumstances giving rise to EPA's issuance of the relevant Work Takeover Notice, or (2) the date that a written decision terminating such Work Takeover is rendered in accordance with Paragraph 47 (Formal Dispute Resolution).

d. Notwithstanding any other provision of this Settlement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XX. COVENANTS BY RESPONDENT

68. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, and this Settlement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the EPA Hazardous Substance Superfund through Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claims under Sections 107 and 113 of CERCLA, Section 7002(a) of RCRA, 42 U.S.C. § 6972(a), or state law regarding the Work, Future Response Costs, and this Settlement;

c. any claim arising out of response actions at or in connection with the Site, including any claim under the United States Constitution, the Illinois Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, or at common law.

69. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to any of the reservations set forth in Section XIX (Reservations of Rights by EPA), other than in Paragraph 66.a (liability for failure to meet a requirement of the Settlement), 66.d (criminal liability), or 66.e (violations of federal/state law during or after implementation of the Work), but only to the extent that Respondent's claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

70. Nothing in this Settlement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

71. Respondent reserves, and this Settlement is without prejudice to, claims against the United States, subject to the provisions of Chapter 171 of Title 28 of the United States Code, and brought pursuant to any statute other than CERCLA or RCRA and for which the waiver of sovereign immunity is found in a statute other than CERCLA or RCRA, for money damages for injury or loss of property or personal injury or death caused by the negligent or wrongful act or omission of any employee of the United States, as that term is defined in 28 U.S.C. § 2671, while acting within the scope of his or her office or employment under circumstances where the United States, if a private person, would be liable to the claimant in accordance with the law of the place where the act or omission occurred. However, the foregoing shall not include any claim based on EPA's selection of response actions, or the oversight or approval of Respondent's deliverables or activities.

XXI. OTHER CLAIMS

72. By issuance of this Settlement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondent. The United States or EPA shall not be deemed a party to any contract entered into by Respondent or its directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out actions pursuant to this Settlement.

73. Except as expressly provided in Section XVIII (Covenants by EPA), nothing in this Settlement constitutes a satisfaction of or release from any claim or cause of action against Respondent or any person not a party to this Settlement, for any liability such person may have

under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages, and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

74. No action or decision by EPA pursuant to this Settlement shall give rise to any right to judicial review, except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXII. EFFECT OF SETTLEMENT/CONTRIBUTION

75. Nothing in this Settlement shall be construed to create any rights in, or grant any cause of action to, any person not a Party to this Settlement. Except as provided in Section XX (Covenants by Respondent), each of the Parties expressly reserves any and all rights (including, but not limited to, pursuant to Section 113 of CERCLA, 42 U.S.C. § 9613), defenses, claims, demands, and causes of action which each Party may have with respect to any matter, transaction, or occurrence relating in any way to the Site against any person not a Party hereto. Nothing in this Settlement diminishes the right of the United States, pursuant to Section 113(f)(2) and (3) of CERCLA, 42 U.S.C. § 9613(f)(2)-(3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

76. The Parties agree that this Settlement constitutes an administrative settlement pursuant to which the Respondent has, as of the Effective Date, resolved liability to the United States within the meaning of Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), and is entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, or as may be otherwise provided by law, for the "matters addressed" in this Settlement. The "matters addressed" in this Settlement are the Work and Future Response Costs under \$65,000 incurred in connection with this Settlement.

77. The Parties further agree that this Settlement constitutes an administrative settlement pursuant to which the Respondent has, as of the Effective Date, resolved liability to the United States within the meaning of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. § 9613(f)(3)(B).

78. The Respondent shall, with respect to any suit or claim brought by it for matters related to this Settlement, notify EPA in writing no later than sixty (60) days prior to the initiation of such suit or claim. The Respondent also shall, with respect to any suit or claim brought against it for matters related to this Settlement, notify EPA in writing within ten (10) days after service of the complaint or claim upon it. In addition, the Respondent shall notify EPA within ten (10) days after service or receipt of any Motion for Summary Judgment and within ten (10) days after receipt of any order from a court setting a case for trial, for matters related to this Settlement.

79. In any subsequent administrative or judicial proceeding initiated by EPA, or by the United States on behalf of EPA, for injunctive relief, recovery of response costs, or other relief relating to the Site, Respondent shall not assert, and may not maintain, any defense or claim based upon the principles of waiver, res judicata, collateral estoppel, issue preclusion,

claim-splitting, or other defenses based upon any contention that the claims raised in the subsequent proceeding were or should have been brought in the instant case; provided, however, that nothing in this Paragraph affects the enforceability of the covenant by EPA set forth in Section XVIII (Covenant by EPA).

XXIII. INDEMNIFICATION

80. The United States does not assume any liability by entering into this Settlement or by virtue of any designation of Respondent as EPA's authorized representatives under Section 104(e) of CERCLA, 42 U.S.C. § 9604(e), and 40 C.F.R. 300.400(d)(3). Respondent shall indemnify, save, and hold harmless the United States, its officials, agents, employees, contractors, subcontractors, and representatives for or from any and all claims or causes of action arising from, or on account of, negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, or subcontractors, and any persons acting on Respondent's behalf or under their control, in carrying out activities pursuant to this Settlement. Further, Respondent agrees to pay the United States all costs it incurs, including but not limited to attorneys' fees and other expenses of litigation and settlement arising from, or on account of, claims made against the United States based on negligent or other wrongful acts or omissions of Respondent, its officers, directors, employees, agents, contractors, subcontractors, and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondent in carrying out activities pursuant to this Settlement. Neither Respondent nor any such contractor shall be considered an agent of the United States.

81. The United States shall give Respondent notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondent prior to settling such claim.

82. Respondent covenants not to sue and agrees not to assert any claims or causes of action against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays. In addition, Respondent shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between Respondent and any person for performance of Work on or relating to the Site, including, but not limited to, claims on account of construction delays.

XXIV. INSURANCE

83. No later than ten (10) days before commencing any on-site Work, Respondent shall secure, and shall maintain until the first anniversary after issuance of Notice of Completion of Work pursuant to Section XXVI (Notice of Completion of Work), commercial general liability insurance with limits of \$1.0 million, for any one occurrence, and automobile insurance with limits of \$1.0 million, combined single limit, naming EPA as an additional insured with respect to all liability arising out of the activities performed by or on behalf of Respondent

pursuant to this Settlement. In addition, for the duration of the Settlement, until Notice of Completion is issued pursuant to Section XXVI, Respondent shall provide EPA with certificates of such insurance. Respondent shall resubmit such certificates each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement, Respondent shall satisfy, or shall ensure that its contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondent in furtherance of this Settlement. If Respondent demonstrates by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an lesser amount, Respondent need provide only that portion of the insurance described above that is not maintained by the contractor or subcontractor.

XXV. MODIFICATION

84. The OSC may modify any plan or schedule in writing or by oral direction. Any oral modification will be memorialized in writing by EPA promptly, but shall have as its effective date the date of the OSC's oral direction. Any other requirements of this Settlement may be modified in writing by mutual agreement of the parties.

85. If Respondent seeks permission to deviate from any approved work plan or schedule, Respondent's Project Coordinator shall submit a written request to EPA for approval outlining the proposed modification and its basis. Respondent may not proceed with the requested deviation until receiving oral or written approval from the OSC pursuant to Paragraph 84.

86. No informal advice, guidance, suggestion, or comment by the OSC or other EPA representatives regarding any deliverable submitted by Respondent shall relieve Respondent of its obligation to obtain any formal approval required by this Settlement, or to comply with all requirements of this Settlement, unless it is formally modified.

XXVI. NOTICE OF COMPLETION OF WORK

87. When EPA determines, after EPA's review of the Final Report, that all Work has been fully performed in accordance with this Settlement, with the exception of any continuing obligations required by this Settlement, including payment of Future Response Costs in excess of \$65,000 or record retention, EPA will provide written notice to Respondent. If EPA determines that such Work has not been completed in accordance with this Settlement, EPA will notify Respondent, provide a list of the deficiencies, and require that Respondent modify the Sampling Work Plan if appropriate in order to correct such deficiencies. Respondent shall implement the modified and approved Sampling Work Plan and shall submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement the approved modified Sampling Work Plan shall be a violation of this Settlement. Upon EPA's issuance of Notice of Completion, this Administrative Order on Consent shall be deemed to be terminated, provided that the Record Retention obligations of Section XI shall survive such termination.

XXVII. INTEGRATION/APPENDICES

88. This Settlement and its appendices constitute the final, complete, and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement. The parties acknowledge that there are no representations, agreements, or understandings relating to the settlement other than those expressly contained in this Settlement. The following appendices are attached to and incorporated into this Settlement: Appendix A (Site location and boundaries), Appendix B (the Action Memorandum), Appendix C (residential properties comprising the Site), Appendix D (the approved Work Plan), and Appendix E (the Outreach Protocol).

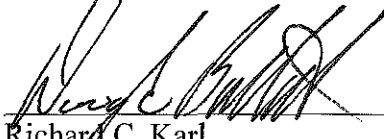
XXVIII. EFFECTIVE DATE

89. This Settlement shall be effective seven (7) days after the Settlement is signed by the Director of the Superfund Division of EPA Region 5.

IT IS SO AGREED AND ORDERED:

U.S. ENVIRONMENTAL PROTECTION AGENCY:

12/1/2015
Dated

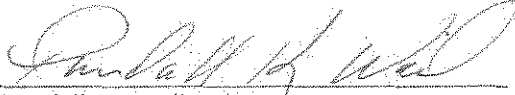

Richard C. Karl
for Director, Superfund Division
Region 5
U.S. Environmental Protection Agency

**Signature Page for Settlement Regarding the Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois**

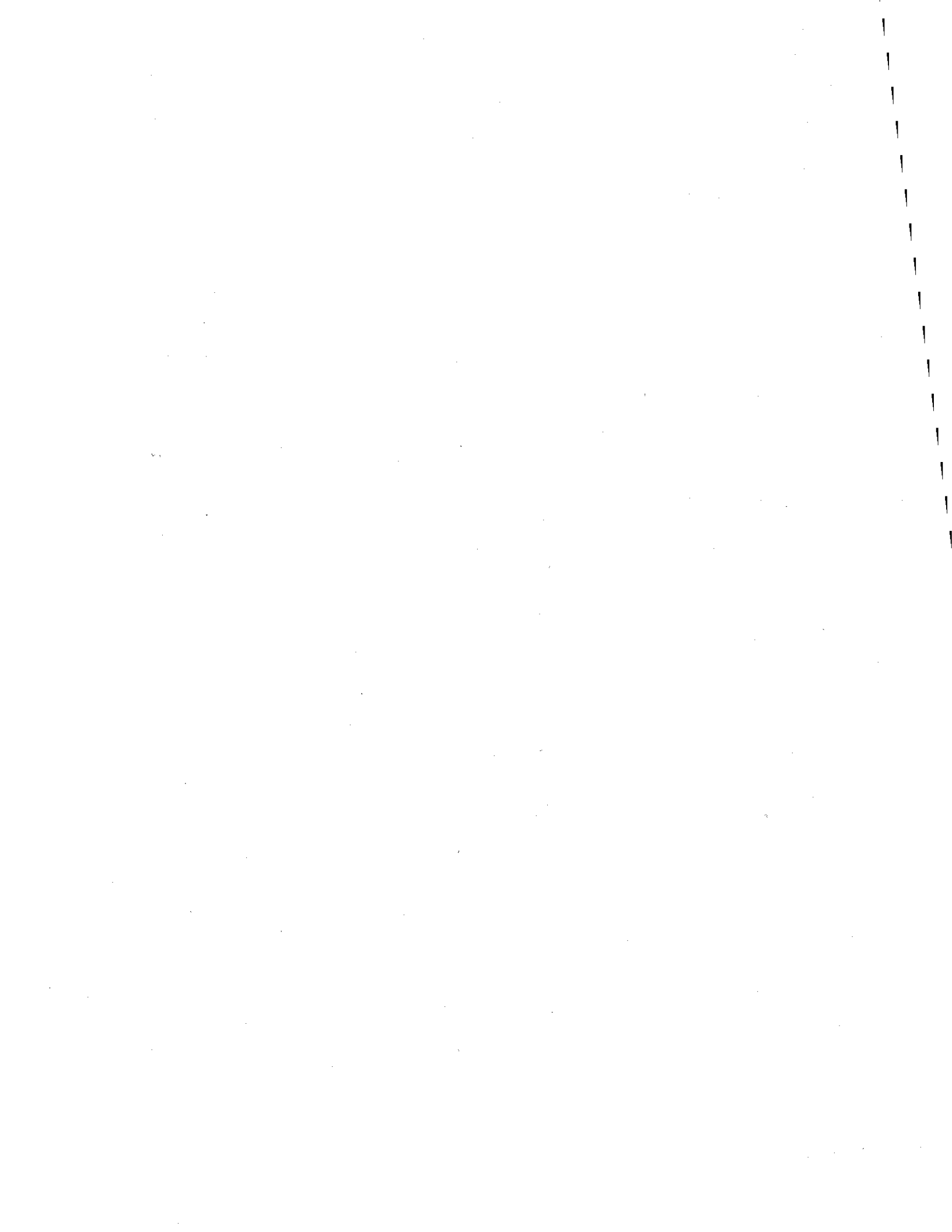
The undersigned representative of Respondent certifies that he is fully authorized to enter into the terms and conditions of this Settlement and to bind the party he represents to this document.

FOR _____:
H. Kramer & Co.

11/25/15
Dated



Randall K. Weil
Executive Vice President
H. Kramer & Co.



**In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois**

**Appendix A
Site Location and Boundaries**

Figure 2-0 - OU2 Site Features Map



FILE: D:\Pilsen\mxd\SAR_Residential\F2-0_Site_Features.mxd 6/25/2015 3:42:41 PM moflakon

**In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois**

**Appendix B
Action Memorandum**





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

US EPA RECORDS CENTER REGION 5



476697

REPLY TO THE ATTENTION OF:

MEMORANDUM

SUBJECT: ACTION MEMORANDUM - Request for Approval and Funding for a Time-Critical Removal Action and Exemption from the \$2 Million and 12-month Statutory Limits at the Pilsen Soil Operable Unit 2 Residential Site, Chicago, Cook County, Illinois (Site ID: C5N8__02)

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

THRU: Samuel Borries, Chief *Samuel Borries*
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 \$3,960,206 and grant an exemption from the \$2 million and 12-month statutory limits in order to conduct a time-critical removal action at the Pilsen Soil Operable Unit 2 Residential Site (the Site), Chicago, Cook County, Illinois. The removal action proposed herein will mitigate threats to public health, welfare, and the environment posed by the presence of lead-contaminated surface soil in residential properties at the Site by the proper excavation and off-site disposal of lead contaminated soil in the residential yards.

This Action Memorandum serves as approval for expenditures by EPA, 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 436 working days to complete.

II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID: ILN000504472

RCRA ID: none

State ID: none

Category: Time-Critical

A. Site Description

The Site consists of an area of residential properties where surface soil contaminated with lead may be attributed to H. Kramer & Co. (H. Kramer), a brass and bronze foundry located at 1345 West 21st Street in Chicago. The Site is located in the Lower West Side (Pilsen) area of Chicago (Figure 1-1). The Site is an approximate 25.2-acre semi-rectangular residential area bound to the north by West 18th Place, to the east by an alley halfway between South Allport Street and South Racine Avenue, to the south by West 21st Street, and to the west by South Loomis Street (Figure 2-0). According to National Oceanic and Atmospheric Administration (NOAA) meteorological data collected from 1928 to 2013, the predominant wind directions at the Site are from the south and west, and so the Site lies in the predominant downwind direction from H. Kramer (Figure 3).

The Site is a subset of the Assessment Area, which was investigated as part of EPA's Removal Site Evaluation (Removal Site Evaluation Report Residential, 2014). The Assessment Area is an approximately 164-acre residential, commercial, and industrial area in the Pilsen neighborhood and is made up of the Site and the East Pilsen Area (Figure 1-1 and Figure 2-0). From May to August 2013 EPA collected soil samples in residential areas to determine the nature and extent of heavy metal contamination (primarily lead) in soil and to evaluate potential contributing industrial sources. The boundaries of the Site were developed based on EPA's evaluation of the soil sample results, which is discussed further in this document. The Site described herein is also known as Operable Unit 2 (OU2) within the Assessment Area.

H. Kramer is suspected to be one of the primary industrial sources of lead that have impacted the Site and is located adjacent and upwind of 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 present. 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 to 2013, 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 were 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 have 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 releases of zinc, copper, and lead at H. Kramer and its close proximity in the predominant upwind direction of the Site, EPA expected to find elevated levels of lead, zinc, and copper in the soil at the Site.

A number of enforcement actions have been taken by Federal, State, and local authorities due to the offsite release of heavy metals including lead into ambient air from H. Kramer. A summary of these actions is summarized below:

- Between 1998 and May 31, 2005, the Chicago Department of the Environment (CDOE) (now known as Chicago Department of Health) received a total of 51 complaints against H. Kramer. In this time period, CDOE conducted 126 inspections. See CDOE (2005). From 1991 to 2005, CDOE issued 14 Notice of Violations (citations) to H. Kramer. These citations were primarily for atmospheric pollution and general nuisance (Municipal Code §§ 7-28-080 11-4-630).
- On September 19, 1990, EPA issued a Finding of Violation to H. Kramer. EPA found that the roof vents above its rotary furnace on the west side of the facility were a source of visible particulate emissions. H. Kramer thus violated the opacity limits in its Illinois Environmental Protection Agency (Illinois EPA) air permit.
- On August 27, 1996, EPA issued a Notice of Violation, alleging that H. Kramer violated the opacity limits set forth in the Illinois Pollution Control Board Regulations.
- In 1997, EPA issued an order requiring H. Kramer to implement managerial controls to reduce fugitive emissions and implement institutional controls to reduce the fugitive emissions from emissions sources that are routed to Baghouse 5.
- In January 2010, the Illinois EPA placed an air monitoring station on the roof of Manuel Perez Jr. Elementary School (Perez School) to sample ambient air concentrations of lead within the Site. (For the location of Perez School, see Figure 2-0.) In 2010, lead was detected in 11 of approximately 60 samples at concentrations above the National Ambient Air Quality Standard (NAAQS). According to Illinois EPA, results from the air monitoring station indicated that H. Kramer was the primary contributor to the elevated ambient air lead levels in the area.
- Between 2011 and 2013, EPA's National Enforcement Investigations Center (NEIC) found H. Kramer to be the major contributor of airborne lead-bearing particulate

matter in the Pilsen neighborhood (with cadmium, copper, and tin as co-contaminants). This resulted in H. Kramer, EPA, Illinois EPA, the Illinois Attorney General, and the U.S. Department of Justice (DOJ) agreeing to a preliminary injunction order and consent decree for repairs and emission control upgrades to H. Kramer's facility.

1. Removal Site Evaluation

Based on the previous investigations by Illinois EPA and EPA NEIC, lead bearing particulate matter from H. Kramer was found at the Perez School air monitoring station downwind to the northeast, suggesting that lead bearing particulates may have been deposited over the years in a residential area downwind of H. Kramer. To determine the nature and extent of the residential area potentially impacted by H. Kramer, EPA defined the aforementioned Assessment Area downwind of H. Kramer where soil in residential yards could be sampled and evaluated.

To help determine the extent of contamination potentially attributable to H. Kramer within the Assessment Area, EPA identified reference areas such as the Little Italy Area (where there have been no adjacent identifiable historical smelters or power plants, about 1 mile north and downwind of the Site) and the Harrison Park Reference Area¹, which is about 2000 feet west and crosswind of the Site (See Figure 1-1) and thus was presumed not to have been impacted by H. Kramer.

a. Soil Sampling Activities

In May 2013, July 2013, and August 2013, EPA and its Superfund Technical Assessment and Response Team contractor (EPA START) conducted soil sampling at the Assessment Area and the Little Italy and Harrison Park reference areas to determine the nature and extent, and to evaluate potential contributing industrial sources for lead contamination in the soil. For all residential properties sampled during the Removal Site Evaluation with a total surface area of approximately 5,000 square feet (ft²) or less, a two- to five-point composite sample was collected from 0-2 and 0-6 inches below ground surface (bgs) from the front yard and/or backyard. The composites were equally spaced within the respective portion of the yard, outside of any drip zones and away from influences of any painted surfaces. Additional soil samples were collected in distinct garden areas and were composite samples consisting of two to five soil aliquots collected from 0-6 or 0-12 inches bgs. The composites were equally spaced within garden areas, outside of the drip zone and away from influences of any painted surfaces. A separate soil sample was collected where distinct drip zones were present (only two locations). Drip zone soil samples were either: (1) a grab sample, consisting of soil from 0-6 inches bgs collected beneath a gutter downspout, or (2) a composite soil sample, consisting of up to five soil aliquots from 0- to 6-inches bgs collected from beneath the edge of the roof in homes lacking rain gutters.

In total, EPA and EPA START collected 129 soil samples from 49 properties within the Assessment Area. Of these, 71 soil samples were collected from 24 residential properties plus one church garden within the Site boundaries, and 58 soil samples were collected from 24

¹ Harrison Park Area is also known by residents as "Heart of Chicago."

properties in the East Pilsen Area. 34 soil samples from 19 properties were collected in the Harrison Park reference area and 14 samples from 11 properties in the Little Italy reference area.

Soil samples were submitted under chain of custody to STAT Analysis Corporation in Chicago for at least one of the following analyses: select total metals (antimony, copper, cadmium, chromium, mercury, lead, tin, and zinc); lead-fine-grained fraction (grain size < 250 micrometers [μm])²; *in vitro* lead bioaccessibility;* Toxicity Characteristic Leaching Procedure (TCLP) lead;* and pH.*

b. Identifying Source(s) of Lead Contamination in the Removal Assessment Area

EPA produced a number of reports to determine the significant contributing industrial sources of elevated lead concentrations in soil within the Assessment Area. EPA's Field Environmental Decision Support (FIELDS) Team used statistical analysis on the soil sample lab results to investigate similarities and differences between concentrations of cadmium, copper, lead, tin, and zinc in surface soil on the property of H. Kramer, in the immediate vicinity of the H. Kramer property, the Assessment Area, the Little Italy and Harrison Park reference areas, and the City of Chicago background (400 mg/kg, based on USGS (2003))³. EPA FIELDS concluded the following⁴:

- Concentrations of cadmium, copper, lead, tin, and zinc generally decreased with increasing distance, and downwind, from H. Kramer. Furthermore, these concentrations do not appear to increase with decreasing distance toward other potential sources of heavy metal contamination bordering the Assessment Area.
- Those portions of the Assessment Area closest to H. Kramer (within 0.25 mile north and 0.2 mile east of H. Kramer including the Site) were significantly more impacted with lead and zinc relative to the Little Italy reference area and the City of Chicago background (USGS, 2003).

² **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 (<250 μm) being analyzed for lead. Fine-grained lead are smaller particles which can be more easily disturbed and become airborne, resulting in a higher incidence of exposure to the residents. The fine-grained lead results were used for the risk assessment for the Site.

*Not conducted after May 2013 sampling event.

³ Only the soil samples from the 0- to 6- inch bgs were used in the analysis. Samples collected in gardens and drip zones were not used due to the potential for garden soils to be amended, mixed, and/or imported, and the potential for drip zone soils to contain lead from lead-based paint and thus be especially concentrated. In addition, no duplicate or replicate samples were used from any dataset.

⁴ For further discussion, see WESTON SOLUTIONS, INC., Removal Site Evaluation for Pilsen Soil Assessment Area: Residential (Nov. 2014); EPA FIELDS, John Canar, Linda Jacobson, and Chuck Roth, U.S. EPA Region 5 Report for the Statistical Analysis of Cadmium, Copper, Lead, Tin, and Zinc Found in Soil at or near the H. Kramer Facility, Chicago, IL 3 (Oct. 27, 2014); and EPA MEMO dated July 8, 2015 "Definition of Operable Unit 2 (OU2) Boundary [for the Pilsen Soil Operable Unit 2 Residential Site (C5N8_02)]".

- High zinc/lead ratios (>1), a signature characteristic of H. Kramer baghouse dust, are present in soil in the immediate vicinity of H. Kramer and in the southwest region of the Assessment Area. In contrast, zinc/lead ratios in the East Pilsen area and Harrison Park reference area were near or below Little Italy reference area levels or City of Chicago background levels in surface soil samples.

These findings also suggest the areas in the southwest region of the Assessment Area (including the Site) have been impacted by an industrial release of lead, as opposed to historical leaded gasoline emissions or abraded lead-based paint, because those sources do not have cadmium, copper, zinc, and tin associated with lead as they are in Site surface soils.

The February 2015 report from NEIC bolsters EPA FIELDS's conclusion that H. Kramer is a significant contributor for elevated lead in residential surface soils in an area containing the Site. NEIC was able to conclude that the lead in the soil came from a source with several co-contaminants – cadmium, copper, tin, and zinc – which are precisely the kinds of metals present in H. Kramer's emissions as discussed above. The shape, size, and composition of the lead-bearing particles in the area containing the Site were consistent with slag material from industrial processes like smelting, and the lead isotope ratios in soil within the Site boundaries suggests that the surface soils were mixed with emissions from a source that matched H. Kramer's baghouse dust and the particles collected on the TSP filters. NEIC also supported EPA FIELDS's finding that increased distance from H. Kramer corresponded with lower concentrations of lead, cadmium, copper, tin, and zinc in the soil.

Just like the EPA FIELDS report, EPA NEIC eliminated several non-industrial sources of lead as primary sources of lead contamination in the surface soils in the Assessment Area.

- **Leaded paint:** Associations of cadmium, copper, and tin in leaded paint are rare, and lead-based paint particle types were *not* observed in any of the soil areas. Thus, non-industrial lead from leaded paint historically used on homes and buildings in the Pilsen area was *not* a dominant source of lead in residential soils.
- **Leaded gasoline emissions:** Lead, cadmium, copper, tin, and zinc collectively are *not* characteristic of leaded gasoline emissions, and leaded fuel combustion particle types were *not* observed in any of the soil areas. Thus, vehicle exhaust from the historical use of leaded gasoline was *not* a dominant source of lead in residential soils.

In May 2015, EPA FIELDS further evaluated the data, including information contained in the NEIC report and new sampling data from a railroad spur just west of H. Kramer, to better delineate the Site boundaries, namely, the extent of lead contamination in residential soils in which H. Kramer may be considered a significant contributor.⁵ Figure 5 shows the Site boundaries along with the average total lead and total zinc concentrations in surface soil (which are major components of H. Kramer's historical emissions) for the Site, the East Pilsen area, and the Little Italy reference area. Figure 6 presents the average total lead and total zinc

⁵ See EPA MEMO dated July 8, 2015 "Definition of Operable Unit 2 (OU2) Boundary [for the Pilsen Soil Operable Unit 2 Residential Site (C5N8_02)]."

concentrations for the Harrison Park reference area. Although lead levels in the East Pilsen and Harrison Park Area are above Little Italy reference area levels or City of Chicago background levels in surface soil samples, the zinc to lead ratios are below 1, indicating a likely different source of lead contamination than from H. Kramer. Therefore, the East Pilsen and Harrison Park Areas are being further evaluated separately from the Pilsen Soil Operable Unit 2 Residential Site.⁶

c. Soil Sampling Results for the Pilsen Soil Operable Unit 2 Residential Site

Total metal analytical results were compared to the 2014 EPA Removal Management Levels (RML) (hazard quotient [HQ] of 3) for residential soil. Lead was the only metal that exceeded the 2014 EPA RMLs for residential soil (400 mg/kg for lead and fine-grained lead) at the Site. Based on these soil sample results, lead was confirmed to be the primary constituent of concern for the Site.

For surface soil, average Site total lead and fine-grained lead concentrations (0-6 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,377 and 1,578 mg/kg, respectively (sample size [N] = 30). These average concentrations exceed the EPA residential soil RML for lead of 400 mg/kg. Fine-grained lead was detected in surface soil above 400 mg/kg at 24 of 24 residential properties sampled at the Site; with the highest fine grain lead concentration in surface soils at 3,500 mg/kg. Surface soil results for the Site are shown in Figure 4-0.

As for subsurface soil, average Site total lead and fine grained lead concentrations (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,094 and 1,282 mg/kg, respectively (N = 10). Total lead and fine-grained lead were detected in subsurface soil above 400 mg/kg at 6 of 6 residential properties (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs including duplicate samples, not including garden samples).

Average Site garden soil sampling results for total lead and fine grained lead were 945 and 1,051 mg/kg, respectively (N = 14), exceeding the EPA residential soil RML for lead of 400 mg/kg. Average Site drip zone sampling results for total lead and fine-grained lead were 1,065 and 960 mg/kg, respectively (N = 2). A summary of total and fine grain lead analytical results for the Site are presented in Table 1 below:

⁶ Surface soil results for East Pilsen, Harrison Park, and Little Italy are respectively shown in Figures 4-1, 4-2, and 4-3.

Table 1	OU2 Surface Soil (0-6 inches bgs) Results			
	No. of Samples*	Average*	Range*	No. of Samples > 400 mg/kg*
Total Lead	30	1,377 mg/kg	320 to 3,200 mg/kg	27 of 30 samples
Fine-Grained Lead	30	1,578 mg/kg	450 to 3,500 mg/kg	30 of 30 samples
	OU2 Subsurface Soil (6-12, 6-14, 6-18, 6-21, 12-24, and 18-24 inches bgs) Results			
	No. of Samples*	Average*	Range*	No. of Samples > 400 mg/kg*
Total Lead	10	1,094 mg/kg	470 to 2,500 mg/kg	10 of 10 samples
Fine-Grained Lead	10	1,282 mg/kg	420 to 4,200 mg/kg	10 of 10 samples

*Does not include duplicate or replicate samples.

2. Physical Location

The geographical coordinates for the approximate center of the Site are 41° 51' 20.45" North latitude and 87° 39' 32.80" West longitude. The Site is in the predominantly downwind direction from H. Kramer, which borders the Site to the southwest.

The Perez School lies within the Site and the Benito Juarez Community Academy (high school) is about one block southwest. Throop Park is about a half a block north and Dvorak Park is about 1 block east of the Site. The Chicago Sanitary and Ship Canal is located approximately a half-mile to the south.

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. Region 5 has reviewed environmental and demographic data for the area surrounding the Site at the intersection of Cullerton and Throop Streets and determined there is a high potential for EJ concerns at this location.

3. Site Characteristics

The Site is made up of residential homes with single family and multiple unit buildings. The majority of residential front and back yards and gardens are sunken about three to six feet below street level. In 2010, the population within the Site was approximately 1,563 (EPA, 2015). There are about 178 residential properties within the boundary of the Site. Of these approximately 121 residential properties have non-permanent covers in their yards (bare soil, grass, garden, gravel, etc.), with the rest of the yards having concrete or asphalt covers.

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

The release or threatened release into the environment of a hazardous substance, pollutant, or contaminant occurred at the Site. Lead is present in surface soil in residential yards at the Site at concentrations greater than the EPA RML of 400 mg/kg, with fine grained lead concentrations as

high as 3,500 mg/kg in surface soil. The average Site surface soil total lead and fine-grained lead concentrations (0-6 inches bgs, not including garden, drip zone, duplicate, or replicate samples) were 1,377 and 1,578 mg/kg, respectively (N = 30).

EPA has concluded that there exists a potential for exposure of humans to lead, a hazardous substance, because of the presence of lead-contaminated soil in residential neighborhoods at the Site. Lead exposure via inhalation and/or ingestion can have detrimental effects on almost every organ and system in the human body. Off-site migration of the documented hazardous waste would greatly increase the potential exposure to nearby human populations, animals, or the food chain.

5. NPL Status

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

6. Maps, Pictures, and Other Graphic Representations

The following Figures are included as attachments:

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

Figure 2-0 - Site Features Map

Figure 3 - Predominant Wind Pathway Map at OU2

Figure 4-0 - OU2 Area Surface Soil Results

Figure 4-1 - East Pilsen Area Surface Soil Results

Figure 4-2 - Harrison Park Area (Heart of Chicago) Surface Soil Results

Figure 4-3 - Little Italy Area Surface Soil Results

Figure 5 - Total Lead and Zinc Surface Soil Results in OU2

Figure 6 - Total Lead and Zinc Surface Soil Results Little Italy and Harrison Park Areas

In addition, additional figures and graphs are in Attachment 2: Environmental Justice Report

B. Other Actions to Date

1. Previous Actions

No previous response actions have been taken by state, federal, or local authorities, nor by H. Kramer, to clean up any of the residential homes in the Site.

2. Current Actions

No current actions by private or local/state governments are underway at the Site. EPA has issued fact sheets and hosted two public availability sessions with Illinois EPA and the City of Chicago to inform the public regarding the findings of the Removal Site Evaluation, address immediate concerns of area residents, and discuss EPA's plans for cleaning up the contamination at the Site.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

No response actions have been taken by the State or City at the Site. However, the Illinois EPA oversaw a voluntary cleanup of part of H. Kramer's property adjacent to the Site (see Section II.A, *supra*), culminating in a no further remediation letter on March 29, 2012. The Alderman's Office has offered the residents at the Site free mulch as ground cover for any exposed soil since 2013.

2. 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, City of Chicago Department of Health, and Alderman Solis's Office.

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

Conditions at the Site may 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.

Lead contaminated-soil is situated throughout the residential community near the Site. Analysis of soil samples collected in the surface soils confirmed the presence of lead at concentrations exceeding the residential EPA RML of 400 mg/kg in every residential soil sampling location (24 of 24) for fine grained lead. 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. The average Site surface soil total lead and fine-grained lead concentrations were 1,377 and 1,578 mg/kg, respectively (N = 30), with the highest concentration fine grained lead detected at 3,500 mg/kg.

There are about 178 residential properties within the Site boundaries. In 2010, the population of OU2 was approximately 1,563 (EPA, 2015). The residential yards have high accessibility to sensitive populations including young children and pregnant women. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play.

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, and 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 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, Aug. 2007).

A Risk Assessment for the Site was conducted by an EPA Toxicologist and concluded that the soil concentrations of lead are at an unacceptable risk level to the residents accessing the Site.

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

The average Site surface soil total lead and fine-grained lead concentrations were 1,377 and 1,578 mg/kg, respectively (N = 30), with the highest concentration of fine grained lead detected at 3,500 mg/kg. Of particular concern are the concentrations of fine-grained lead, smaller lead particles which can be more easily disturbed and become airborne, resulting in a higher incidence of exposure to residents. Fine-grained lead was detected in surface soil above the EPA residential soil RML for lead of 400 mg/kg at 24 of 24 residential properties sampled at the Site.

Sensitive populations, including children under 7 years old and pregnant women, may become exposed through normal foot traffic, yard work, or play. Additionally the presence of the contaminants near the surface allows for the migration of the contaminant from residential yards via wind, rain 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.

4. The availability of other appropriate federal or state response mechanisms to respond to the release.

The State of Illinois does not have the financial resources to eliminate this threat.

IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the known lead contamination on Site, and the potential exposure pathways to on-Site and nearby populations and people living on the residences described in Sections II, and III above, actual or threatened release of a hazardous substances from the 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.

V. EXEMPTION FROM STATUTORY LIMITS

Section 104(c) of CERCLA, as amended by SARA, limits a Federal emergency response to a time period not to exceed 12 months and \$2 million unless three criteria are met. The quantities of residential homes and levels of hazardous substances at the Site warrant the exemption from the 12 month time frame and \$2 million limit based on the following factors:

A. There is an immediate risk to public health, welfare, and the environment

There is an immediate risk to public health because of the high levels of lead found in surface soil in the residential yards sampled at the Site. The average Site surface soil total lead and fine-grained lead concentrations were 1,377 and 1,578 mg/kg, respectively (N = 30). These average concentrations exceed the EPA residential soil RML for lead of 400 mg/kg. Fine-grained lead was detected in surface soil above 400 mg/kg at 24 of 24 residential properties sampled at the Site, with the highest concentration at 3500 mg/kg.

There are approximately 178 residential homes in the Site; of these, about 121 homes have yards which appear to be bare soil or grass. The residential yards have high accessibility to sensitive populations including young children and pregnant women. Sensitive populations such as children under the age of 7 years and pregnant women live in many of these residences. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play.

A Risk Assessment for the Site was conducted by an EPA Toxicologist and concluded that the soil concentrations of lead are at an unacceptable risk level to the residents accessing the Site.

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

The continued presence of hazardous substances at the Site constitutes an imminent threat to human health, welfare, and the environment and as such immediate and continued response actions are required. There are approximately 178 residential homes in the Site; of these, approximately 121 homes have yards which appear to be bare soil or grass. 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 live in many of these residences and young children have been observed playing in the contaminated yards. Adults and children may be exposed to high levels of lead from normal foot traffic, yard work, and play.

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

The City of Chicago and State of Illinois do not have the resources now or in the near future to clean up the residential yards at the Site. EPA estimates that the cleanup will take more than 12 months and cost more than two million dollars. If the Site is left unmitigated there will be continued risks to those in and around the Site.

VI. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

Removal activities at this Site will include, but are not limited to, excavation and proper disposal of lead-contaminated soils, specifically the removal of lead-contaminated soil at all the residential properties containing green space or bare soil where surface soils do not have a permanent cover and exceed the residential RML for total lead of 400 mg/kg.

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 include the following:

1. Develop a Work Plan for the lead-contaminated soil assessment of the Site, including soil sampling of additional residential homes to determine if their yards exceed the EPA RML for lead of 400 mg/kg in surface soil;
2. Develop and implement a Site health and safety plan, sampling plan, site security plan, air monitoring plan, and work plan;
3. Conduct land surveying to the extent necessary to establish a grid system to locate all property boundaries, special features (pipes, storage tanks, etc.), and sample locations, and obtain property access to conduct the removal action for those residences within the Site boundaries with surface lead concentrations above the EPA residential RML of 400 mg/kg;
4. Based upon the sampling plan, conduct extent of contamination sampling on-site to further delineate the extent of lead contaminated surface soil in each residential yard;
5. Excavate contaminated soil with concentrations above the residential RML of 400 mg/kg for lead. Soils with lead above the residential RML will be removed down to a maximum depth of 24 inches, to eliminate any direct contact threat and to ensure unrestricted exposure by Pilsen residents to Site soils. Excavated material that fails toxicity characteristic leaching procedure (TCLP) for lead may be treated with a fixation agent prior to disposal;
6. Based upon soil results, remove, transport and dispose of all characterized or identified hazardous substances, pollutants, wastes or contaminants at a RCRA/CERCLA approved disposal facility in accordance with the EPA off-site rule; 40 C.F.R. § 300.440;
7. Restoration of all excavated areas to their original condition prior to excavation; and

8. 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 public health or the environment.

The removal action will be conducted in a manner not inconsistent with the NCP and consistent with EPA's "Superfund Lead-Contaminated Residential Sites Handbook, OSWER 9285.7-50 August 2003". The OSC has initiated 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 Section 300.415(b)(2) of the NCP, 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.

1. Contribution to remedial performance

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

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

This section is not applicable.

3. 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 26, 2015, an email was sent to the Illinois EPA asking for any State of Illinois ARARs which may apply.

4. Project Schedule

This project is expected to be completed in approximately 436 working days.

B. Estimated Costs

The Independent Government Cost Estimate is presented in Attachment 3 and the detailed cleanup contractor cost is presented in Attachment 4. The estimated project costs are summarized below:

REMOVAL ACTION PROJECT CEILING ESTIMATE	
<u>Extramural Costs:</u>	
<u>Regional Removal Allowance Costs:</u>	
Total Cleanup Contractor Costs (This cost category includes estimates for ERRS, subcontractors, Notices to Proceed, and Interagency Agreements with Other Federal Agencies. Includes a 10% contingency)	\$ 3,042,538
<u>Other Extramural Costs Not Funded from the Regional Allowance:</u>	
Total START, Oversight, and report writing support.	\$ 401,120
Subtotal Extramural Costs	\$ 3,443,658
Extramural Costs Contingency (15% of Subtotal, Extramural Costs)	\$ 516,548
TOTAL REMOVAL ACTION PROJECT CEILING	\$ 3,960,206

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.

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 Sections II, III, and IV above, 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.

VIII. OUTSTANDING POLICY ISSUES

There are no outstanding policy issues.

IX. 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 \$ 6,549,501⁷

$$(\$ 3,960,206 + \$199,000) + (57.47\% \times \$ 4,159,206) = \$ 6,549,501$$

X. RECOMMENDATION

This decision document represents the selected removal action for the Pilsen Soil Operable Unit 2 Residential Site. 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 and the CERCLA section 104(c) emergency exemption from the 12-month and \$2 million statutory limitations, and I recommend your approval of the proposed removal action and 12-month and \$2 million exemptions. The total removal action project ceiling if approved will be \$3,960,206. Of this an estimated \$3,559,086 may be used for cleanup contractor costs. You may indicate your decision by signing below.

APPROVE: Richard C. Kelly DATE: 8-3-15
Director, Superfund Division

DISAPPROVE: _____ DATE: _____
Director, Superfund Division

⁷ 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.

Enforcement Addendum

Figures:

The following Figures are included as attachments:

Figure 1-1 - Site Location Map (including location of Little Italy Reference Area);

Figure 2-0 - Site Features Map;

Figure 3 - Predominant Wind Pathway Map at OU2;

Figure 4-0 - OU2 Area Surface Soil Results

Figure 4-1 - E. Pilsen Area Surface Soil Results

Figure 4-2 - Harrison Park Area (Heart of Chicago) Surface Soil Results

Figure 4-3 - Little Italy Area Surface Soil Results

Figure 5 - Total Lead and Zinc Surface Soil Results in OU2

Figure 6 - Total Lead and Zinc Surface Soil Results Little Italy & Harrison Park Areas

In addition, additional figures and graphs are in Attachment 2: Environmental Justice Report

Attachments:

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

cc: B. Schlieger, EPA 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

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ENFORCEMENT CONFIDENTIAL

NOT SUBJECT TO DISCOVERY

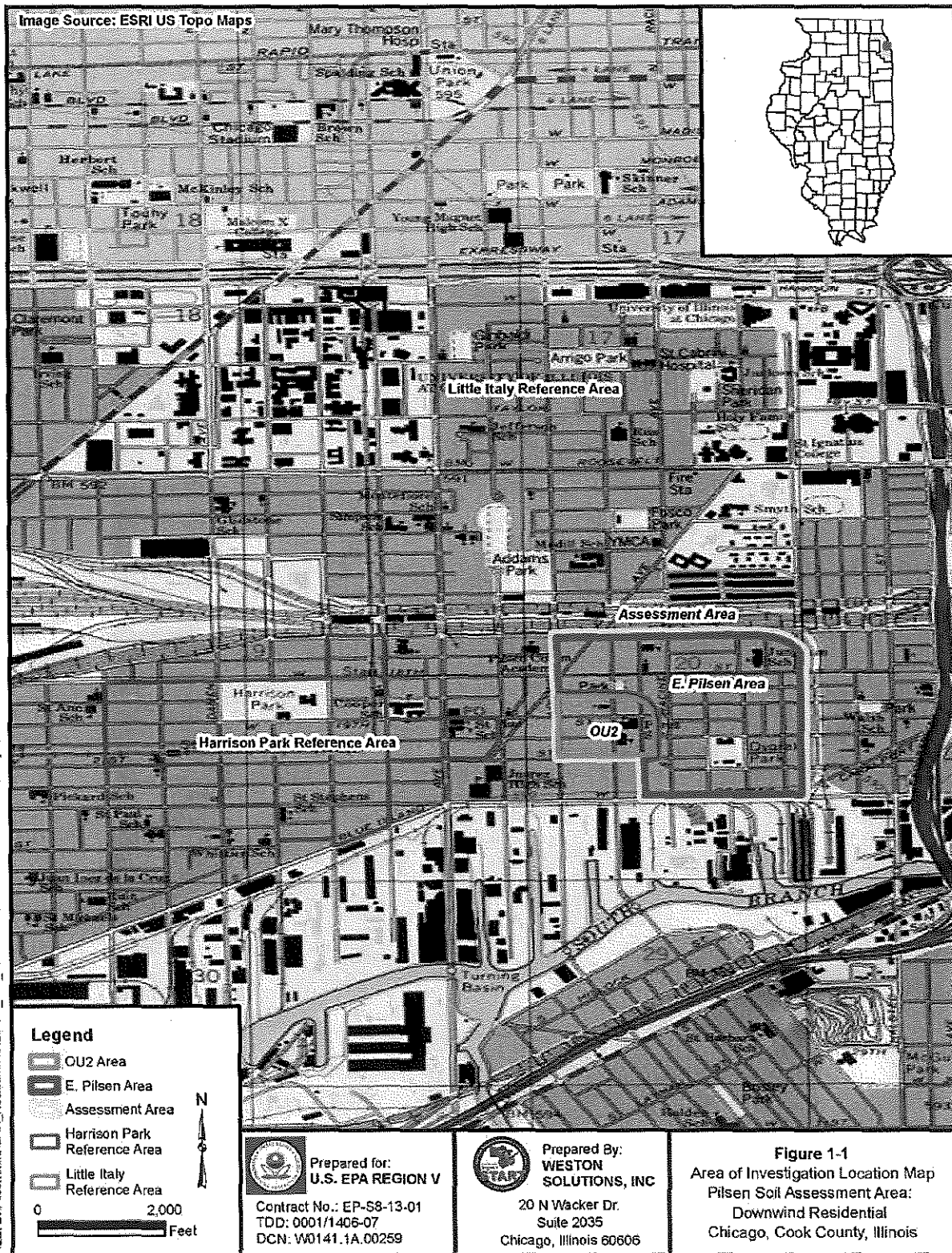
FOIA EXEMPT

NOT RELEVANT TO SELECTION

OF REMOVAL ACTION

FIGURES

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



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Figure 2-0 - OU2 Site Features Map



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FIGURE 3 – Predominant Wind Pathway Map at OU2

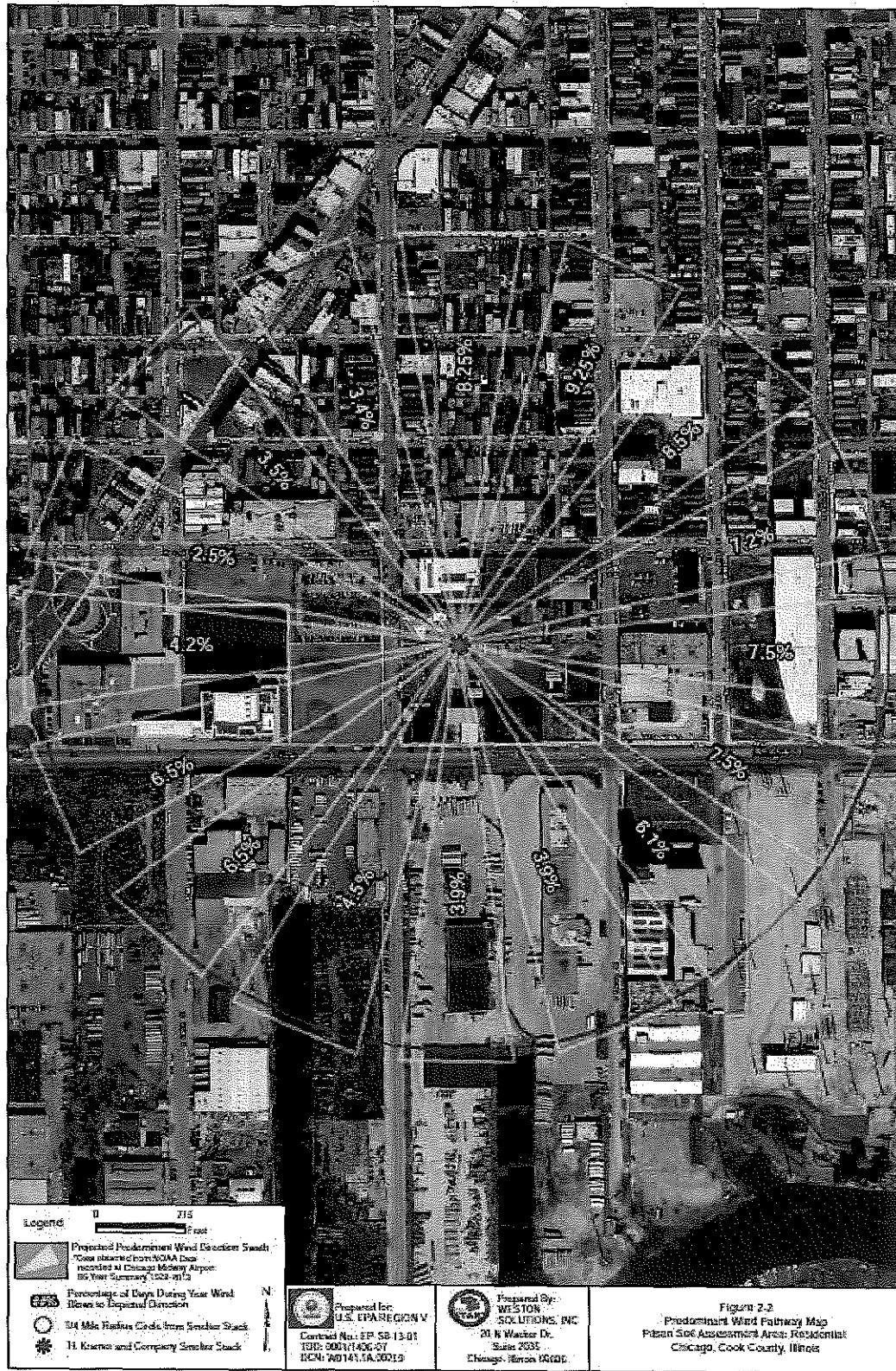
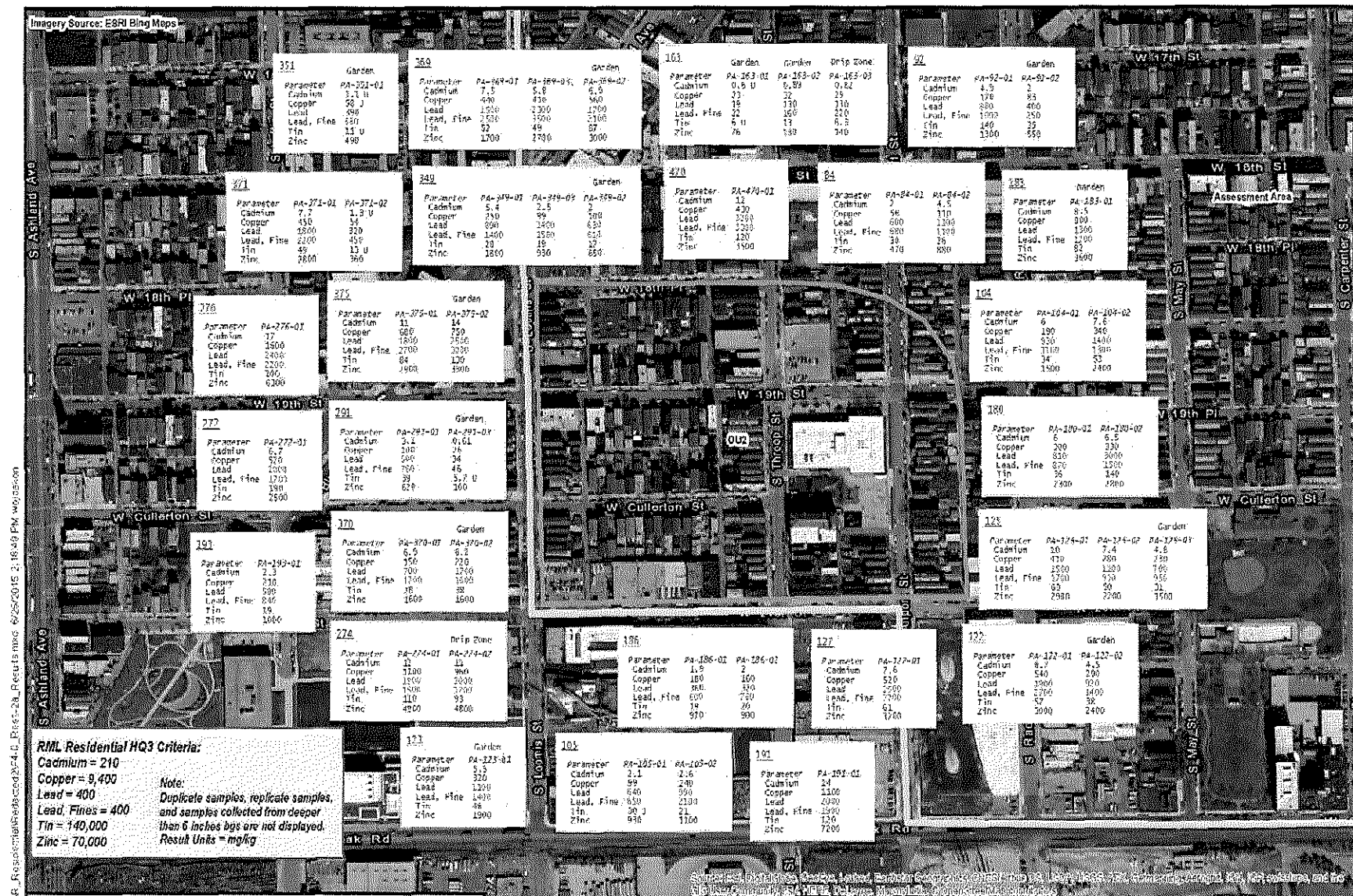


Figure 4-0: OU2 Area Surface Soil Results



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Legend

- H. Kramer Stack Location
- OU2 Area
- Assessment Area

0 300 Feet

Prepared For:
US EPA Region V
 Contract No.: EP-S8-13-01
 TDD: 000.1/1406-07
 DCN: W0141.1A.00269

Prepared By:
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Figure 4-0
 OU2 Residential Area (Res1 plus Res2a) Surface Soil Sampling Results
 Pilsen Soil Assessment Area: Downwind Residential
 Chicago, Cook County, Illinois

Figure 4-1 - East Pilsen Area Surface Soil Results

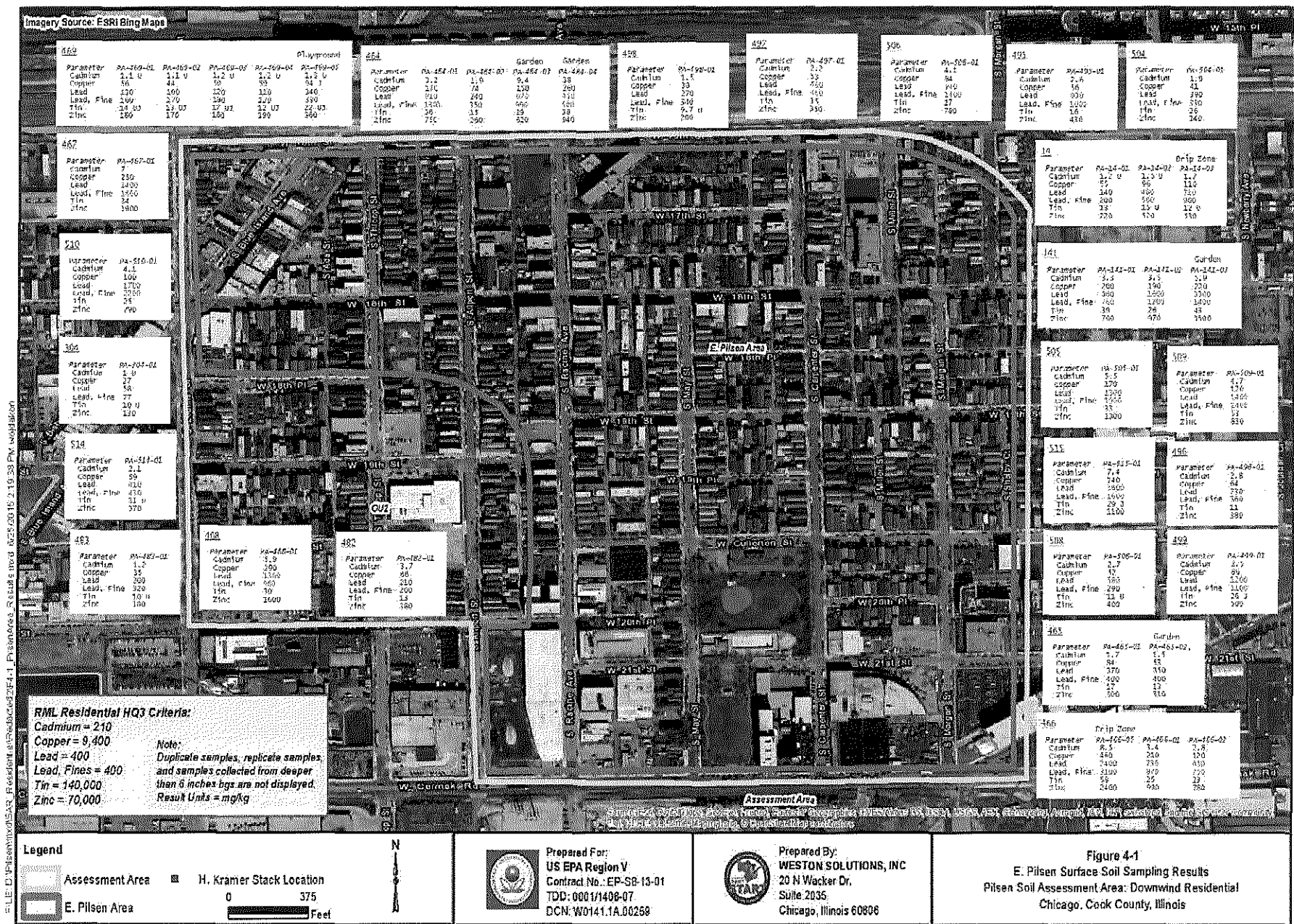


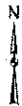
Figure 4-2: Harrison Park Area (Heart of Chicago) Surface Soil Results



FILE: D:\Pilsen\mxd\SAR_Residential\Redacted\F4-4_Harrison_Park.mxd 10/10/2014 2:04:09 PM wsljalon

Legend

Harrison Park Reference Area



Prepared For:
 US EPA Region V
 Contract No.: EP-S8-13-01
 TDD: 0001/1406-07
 DCN: W0141, 1A, 00260

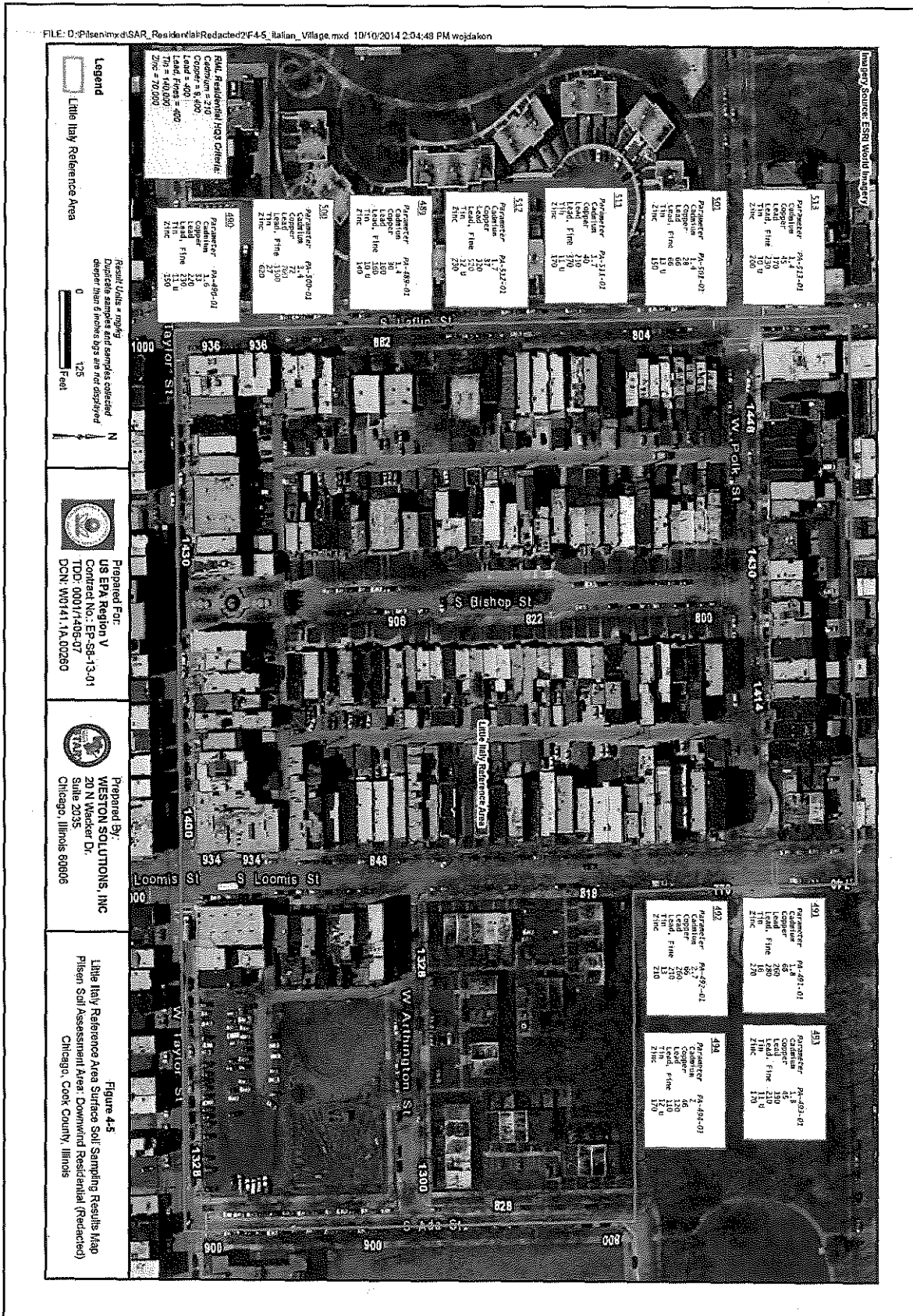


Prepared By:
 WESTON SOLUTIONS, INC
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 Chicago, Illinois 60606

Figure 4-4

Harrison Park Reference Area Surface Soil Sampling Results Map
 Pilsen Soil Assessment Area: Downwind Residential (Redacted)
 Chicago, Cook County, Illinois

Figure 4-3 Little Italy Area Surface Soil Results



Pilsen Soils: OU1 RR/Alley and OU2 Residential sites (surface soils)

Date: 7/8/2015

Figure 5. Total Lead and Zinc Surface Soil Results in OU2

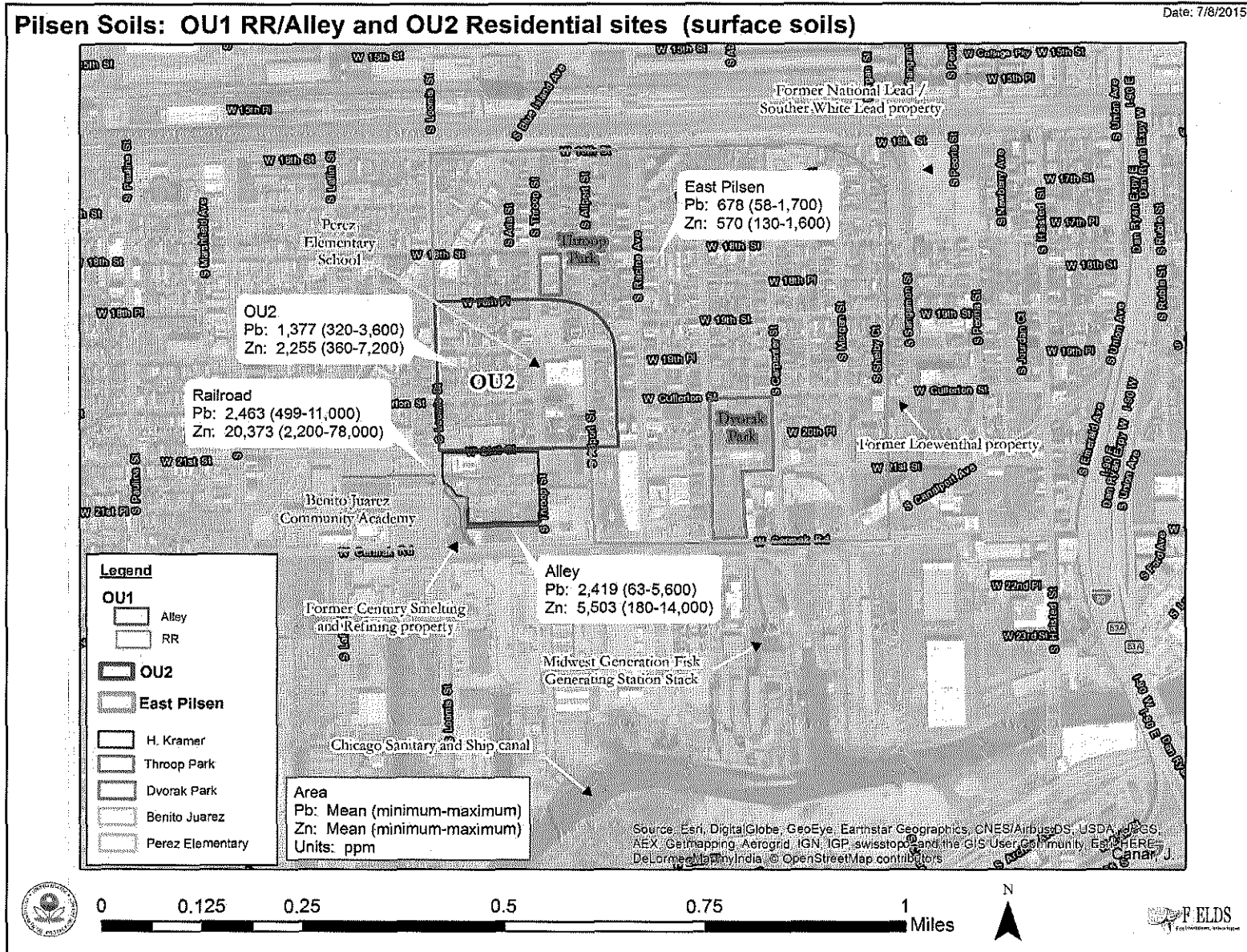
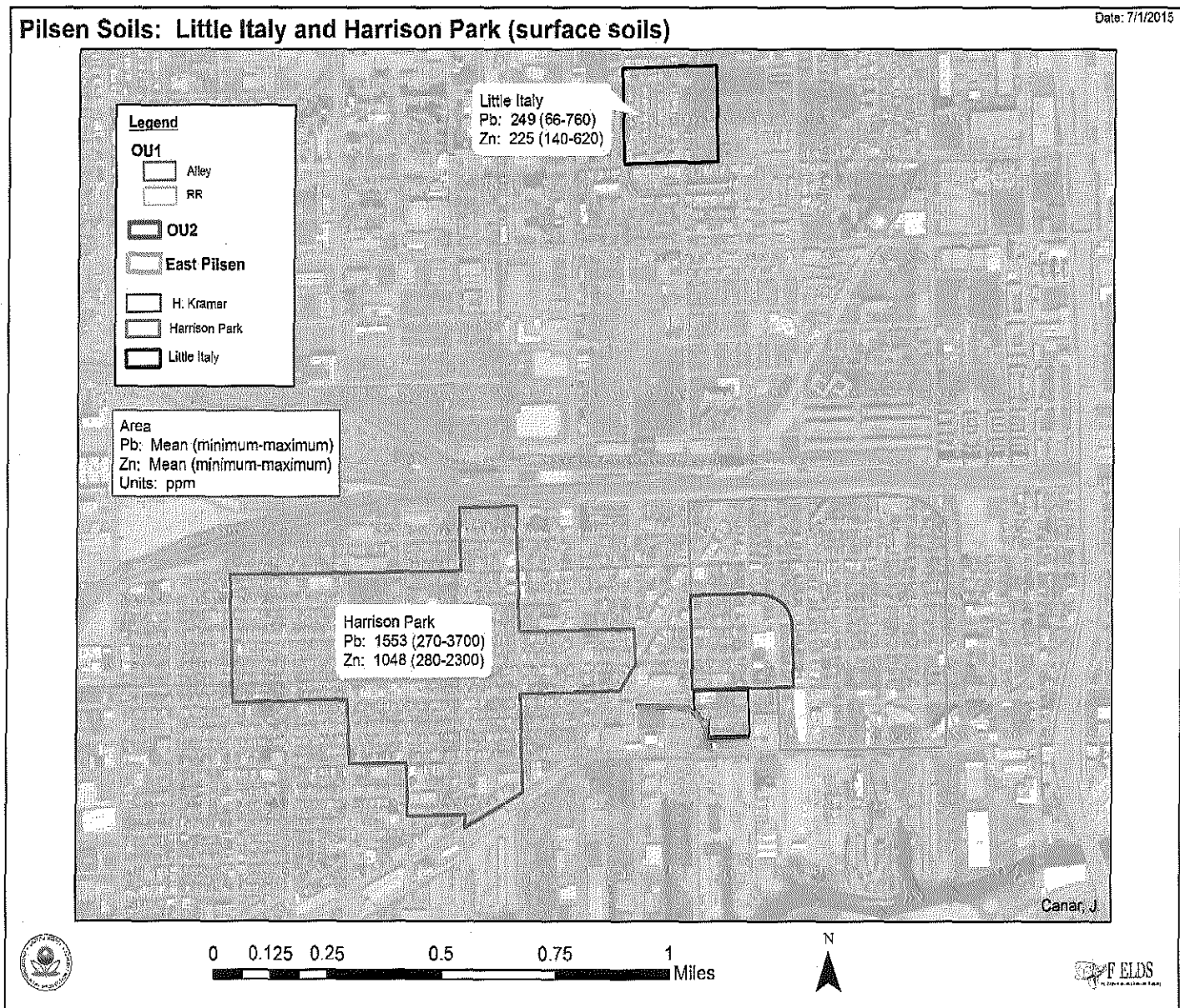


Figure 6. Total Lead and Zinc Surface Soil Results Little Italy & Harrison Park Areas



ATTACHMENT 1

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR THE
PILSEN SOILS RAILROAD AND ALLEY SITE
OPERABLE UNIT 2
CHICAGO, COOK COUNTY, ILLINOIS

ORIGINAL
JULY, 2015

<u>NO.</u>	<u>SEMS ID</u>	<u>DATE</u>	<u>AUTHOR</u>	<u>RECIPIENT</u>	<u>TITLE/DESCRIPTION</u>	<u>PAGES</u>
1	919188	Undated	H. Kramer & Co.	File	Brass & Bronze Ingots Nominal Composition Tables	6
2	919191	5/1/73	U.S. EPA	File	Air Pollution Engineering Manual - Chapter 6: Metallurgical Equipment	95
3	919192	1/1/86	Journal of Materials Science	File	Journal Article Abstract: "The Strength of Brass/Sn- Pb-Sb Solder Joints Containing 0 to 10% Sb"	1
4	918527	9/1/95	U.S. EPA Office of Compliance	File	Profile of the Nonferrous Metals Industry	138
5	919178	8/27/01	Pioneer Environmental	Retirement Program of Farley, Inc.	Site Investigation Report - Focused & Remediation Objectives Report for 900 W. 18th St. (Vol. I of II)	155
6	918533	1/1/03	USGS	File	Concentrations of Polynuclear Aromatic Hydrocarbons and Inorganic Constituents in Ambient Surface Soils, Chicago, Illinois: 2001-02	84
7	919190	8/1/03	U.S. EPA	File	Superfund Lead- Contaminated Residential Sites Handbook	124

8	919175	1/1/05	Chicago Department of Environment	File	Report Regarding H. Kramer and Company - 1345 West 21st St.	34
9	919186	6/1/05	IEPA	Pilsen Environmental Rights and Reform Organization	Response to Pilsen Environmental Rights and Reform Organization Questions Regarding Operations at H. Kramer and Company	12
10	919176	9/1/07	Conestoga Rovers & Associates	IEPA	Updated Focused Site Investigation Report - H. Kramer	665
11	919179	8/31/11	Parker, D., U.S. EPA	Som, K., U.S. EPA	Technical Report on the Characterization of Lead- Bearing Particulate Matter in the Pilsen Neighborhood	25
12	915292	4/30/13	Weston Solutions	Mendoza, R., U.S. EPA	Field Sampling Plan (Revision 2)	236
13	915298	4/2/14	Weston Solutions, Inc.	U.S. EPA	Site Assessment Report (Revision 3)	433
14	919189	10/24/14	ASTM International	File	Standard Specification for White Metal Bearing Alloys (Known Commercially as "Babbitt Metal")	4
15	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
16	919183	11/17/14	Mehl, R., Weston	Mendoza, R., U.S. EPA	Removal Site Evaluation Report for Pilsen Soil Assessment Area: Residential (Redacted Version)	593
17	918530	2/6/15	National Enforcement Investigations Center	U.S. EPA	Final Technical Report on the Characterization of Lead in Soils, Pilsen Neighborhood	117
18	919187	3/26/15	Mendoza, R., U.S. EPA	Everetts, B., IEPA	Letter re: Request for ARARs at the Pilsen Soils Operable Unit 2 Residential Site	2

19	919181	5/6/15	Fusinski, K., U.S. EPA	Mendoza, R., U.S. EPA	Memo re: Risk Assessment for the Pilsen Smelter Site Residential Neighborhood Areas Res1 and Res2a	6
20	919185	6/4/15	U.S. EPA	File	Envirofacts TRI Search Results - Fisk Generating Station	10
21	919180	7/8/15	Mendoza, R., U.S. EPA	Ribordy, M., U.S. EPA	Memo re: Definition of Operable Unit 2 Boundary for the Pilsen Soil Operable Unit 2 Residential Site	19
22	-	-	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 2 Railroad Spur and Alley Site (PENDING)	-

ATTACHMENT 2: Environmental Justice Analysis



EJSCREEN Report

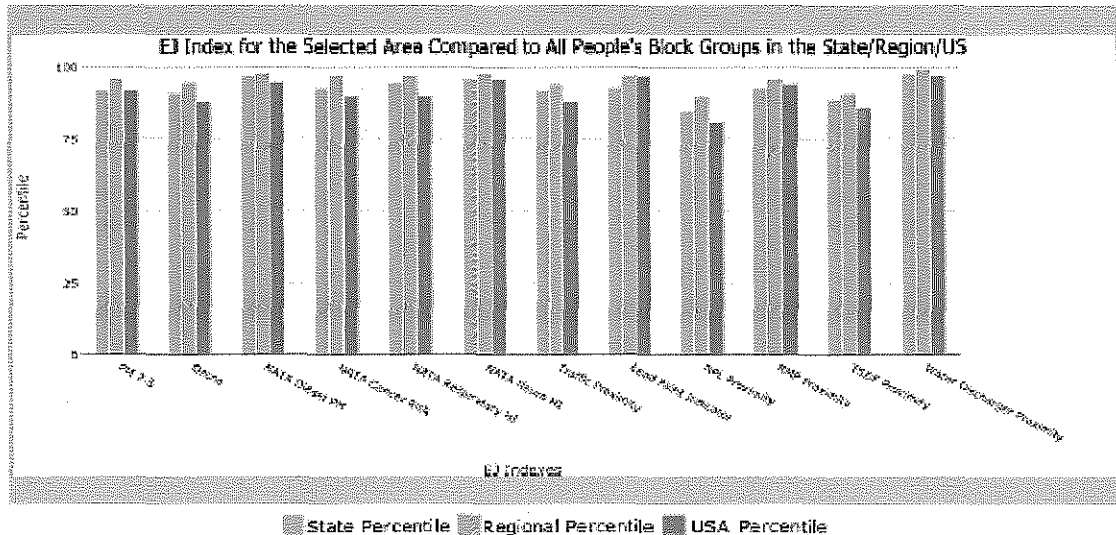


for 1 mile Ring Centered at 41.855133,-87.659631, ILLINOIS, EPA Region 5

Approximate Population: 39163

Pilsen Soils OU2 Residential

Selected Variables	State Percentile	EPA Region Percentile	USA Percentile
EJ Indexes			
EJ Index for PM2.5	92	88	92
EJ Index for Ozone	91	95	88
EJ Index for NATA Diesel PM	97	93	85
EJ Index for NATA Air Toxics Cancer Risk	93	97	90
EJ Index for NATA Respiratory Hazard Index	95	97	90
EJ Index for NATA Neurological Hazard Index	96	98	95
EJ Index for Traffic Proximity and Volume	92	94	88
EJ Index for Lead Paint Indicator	93	97	97
EJ Index for Proximity to NPL sites	85	90	81
EJ Index for Proximity to RMP sites	93	95	94
EJ Index for Proximity to TSDFs	89	91	88
EJ Index for Proximity to Major Direct Dischargers	95	99	97



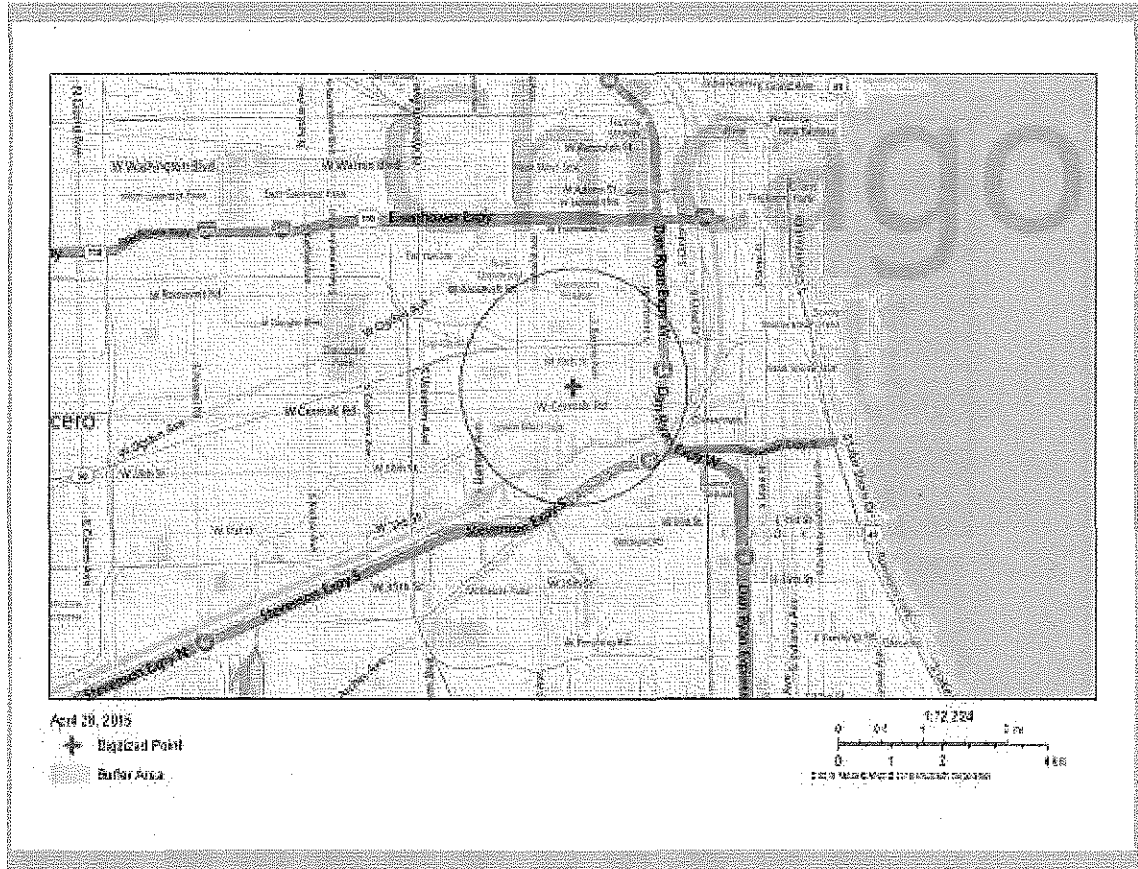
This report shows environmental, demographic, and EJ indicator values. It shows environmental and demographic raw data (e.g., the estimated concentration of ozone in the air), and also shows what percentile each raw data value represents. These percentiles provide perspective on how the selected block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



for 1 mile Ring Centered at 41.855133, -87.639691, ILLINOIS, EPA Region 5

Approximate Population: 39163

Pilsen Soils OU2 Residential





EISCREEN Report

for 1 mile Ring Centered at 41.855133, -87.659691, ILLINOIS, EPA Region 5

Approximate Population: 39163

Pilsen Soils OU2 Residential

Selected Variables	Raw Data	State Avg.	%ile in State	EPA Region Avg.	%ile in EPA Region	USA Avg.	%ile in USA
Environmental Indicators							
Particulate Matter (PM 2.5 in $\mu\text{g}/\text{m}^3$)	12.8	11.4	98	10.8	99	9.78	98
Ozone (ppb)	42.3	44.1	17	44.4	25	46.1	25
NATA Diesel PM ($\mu\text{g}/\text{m}^3$) [*]	2.74	0.968	96	0.712	95-100th	0.824	96-100th
NATA Cancer Risk (lifetime risk per million) [*]	67	48	91	42	90-95th	49	80-90th
NATA Respiratory Hazard Index [*]	3.1	1.8	93	1.5	90-95th	2.3	70-80th
NATA Neurological Hazard Index [*]	0.15	0.073	93	0.067	95-100th	0.063	95-100th
Traffic Proximity and Volume (daily traffic count/distance to road)	130	89	88	68	87	110	80
Lead Paint Indicator (% Pre-1960 Housing)	0.72	0.43	78	0.4	80	0.3	87
NPL Proximity (site count/km distance)	0.034	0.069	42	0.085	40	0.096	38
RMP Proximity (facility count/km distance)	0.68	0.43	82	0.33	86	0.31	88
TSD Facility Proximity (facility count/km distance)	0.036	0.037	72	0.051	64	0.054	64
Water Discharger Proximity (facility count/km distance)	0.84	0.27	90	0.23	92	0.25	91
Demographic Indicators							
Demographic Index	70%	34%	87	28%	92	35%	89
Minority Population	83%	38%	85	24%	92	36%	86
Low Income Population	56%	31%	85	32%	85	34%	83
Linguistically Isolated Population	20%	5%	90	2%	98	5%	92
Population With Less Than High School Education	32%	13%	90	12%	94	14%	89
Population Under 5 years of age	7%	6%	59	6%	51	7%	59
Population over 64 years of age	8%	13%	31	13%	24	13%	29

^{*} 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/ataw/natamain/index.html>.

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

ATTACHMENT 3

**INDEPENDENT GOVERNMENT COST ESTIMATE
HAS BEEN REDACTED – TWO PAGES**

**NOT RELEVANT TO SELECTION
OF REMOVAL ACTION**

ATTACHMENT 4

DETAILED CLEANUP CONTRACTOR ESTIMATE

HAS BEEN REDACTED – ONE PAGE

**In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois**

**Appendix C
Residential Properties Comprising the Site**



Aerial: Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation, September 2014
 Roads: U.S. Census Bureau, Geography Division, Processed TIGER 2010 Streets, Parcels: The Open Data portal for Cook County Government, Cook County Clerk/Map Department, ccglsdata - Parcel 2012

0 50 100 150

Feet

Coordinate System:
 NAD 1983 StatePlane Illinois East
 FIPS 1201 Feet



PILSEN AREA
 CHICAGO, ILLINOIS

OU2 RESIDENTIAL PROPERTIES

039826-01
 Nov 4, 2015

FIGURE 3

Table 1

**Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois**

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
Res 1 Area											
1	1317 19th St	Y		X	X		X			Small garden in FY, small BY	Small patch in FY
2	1321 19th St	Y					X			Small garden in FY	Small elevated garden in FY
3	1329 19th St	Y			X	X	X	X			Gravel on side yard
4	1337 19th St	Y		X	X	X				Small garden, brick BY	Raised garden in FY, Pavers in FY-good condition, BY not visible from street, but has tree
5	1341 19th St	Y			X						
6	1901 Loomis	Y								"Gravel cover"	
7	1345 W 19th	Y			X					Small BY	
	1343 W 19th	Y			X						Possibly commercial, possible BY-large brick fence blocking view
8	1339 W 19th	Y			X					Small BY	BY has soil
	1333 W 19th	N									
	1331 W 19th	N									
	1327 W 19th	N									
9	1323 W 19th	Y			X		X	X			
	1319 W 19th	N									
10	1313 W 19th	Y					X			Small BY	BY is asphalt parking with grassy island
11	1916 S. Throop St	Y				X				Small "borderpiece"	small sideyard in back
	1924 S. Throop St	N									
	1922 S. Throop St	Y			?						BY not visible
	1920 S. Throop St	Y			?						BY not visible
	1914 S. Throop St	N									
	1912 S. Throop St	Y			?						
	1910 S. Throop St	Y			?						BY not visible
	1906 S. Throop St	Y									Small strip in BY
12	1904 S. Throop St	Y	X								
	1900 S. Throop St	N									Commercial?
13	2011 S. Throop St	Y			X						
	2013 S. Throop St	N									
14	2015 S. Throop St	Y	X		X					"Greenspace"	Parcel is all green
	2017 S. Throop St	N									
15	2019 S. Throop St	Y	X		X		X			"Greenspace" + Garden	Parcel is open green space
16	2021 S. Throop St	Y			X					Gravel BY	Gravel BY

Table 1

**Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois**

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
	2025 S. Throop St	N									
17	2006 Allport	Y	X		X					"Empty Lot/Greenspace"	
18	2008 Allport	Y				X				"Small gap on side"	Small gravel area on side yard
19	2012 Allport	Y			X						Small strip in BY
20	2014 Allport	Y			X		X	X			Dogs
21	2016 Allport	Y			X					Brick BY	
	2018 Allport	Y			X			X			
	2020 Allport	N									
	2024 Allport	N									
	2022 S. Throop St	Y			X						Small BY- Strip of gravel
22	2020 S. Throop St	Y	X		X	X		X			Gravel in FY
23	2018 S. Throop St	Y			X			X			
24	2014 S. Throop St	Y			X						
25	2012 S. Throop St	Y	X		X		X	X		Small garden, brick FY/BY	Pavers in BY and SY, grass by garage in back
26	2010 S. Throop St	Y			X		X				
27	2006 S. Throop St	Y					X	X		Small garden	
28	2004 S. Throop St	Y	X								
29	2002 S. Throop St	Y	X		X			X		"Empty Lot/Greenspace"	Open lot
	2000 S. Throop St	N									
30	1313 W Cullerton St	Y	X	X	X	X	X			Small gardens, brick FY/BY	FY and SY have pavers. Elevated garden in FY. Pool on gravel in BY and gravel landscaping in BY
31	1317 W Cullerton St	Y	X		X					"Empty Lot/Greenspace"	gravel drive in back half of lot, Concrete in front
	1319 W Cullerton St	N									
32	1321 W Cullerton St	Y			X			X			
33	1323 W Cullerton St	Y	X		X	X		X		Small FY	dog
34	1327 W Cullerton St	Y			X		X	X			
35	1329 W Cullerton St	Y			X		X				
36	1331 W Cullerton St	Y	Y		X	X	X				FY has dirt-maybe on top of concrete. SY has patch of green along sidewalk
37	1335 W Cullerton St	N			X						BY has pavers in good condition
38	1337 W Cullerton St	Y	X		X	X					FY is gravel/dirt, SY has pavers
	1339 W Cullerton St	N									
	1343 W Cullerton St	N									No Greenspace-Burnt down
39	1347 W Cullerton St	Y					X			Small garden	Raised garden bed in FY

Table 1

**Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois**

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
40	1341 W Cullerton St	Y	X	X	X	X	X			Brick cover	Pavers in good condition, collect composite from all soil locations.
41	2001 S. Loomis	Y			X					Small BY	BY is ~8x10
	2003 S. Loomis St	N									
42	2005 S. Loomis	N									
43	2009 S. Loomis	Y	X		X	Y					
44	2011 S. Loomis	Y			X	X				Brick BY and SY	
	2013 S. Loomis	N									
	1312 W Cullerton St	N									
45	1316 W Cullerton St	Y			X		X			Gravel BY	Gravel BY
46	1320 W Cullerton St	Y			X					Brick/Gravel BY	Gravel and pavers in BY
47	1322 W Cullerton St	Y			X						Small BY
48	1326 W Cullerton St	Y	X		X					Small FY	Small BY
49	1328 W Cullerton St	Y			X					Small BY, gravel	Small BY with gravel
50	1330 W Cullerton St	Y	X								
51	1318 W Cullerton St	Y		X			X			Small front garden	Raised garden bed in FY
NA	1905 S. Loomis St	Y			X						Gravel in BY, Commercial/residential use
	1907 S. Loomis St	N									open paved lot
NA	1911 S. Loomis St	Y				X	X			Small BY garden	strip of soil towards BY in the SY
NA	1913 S. Loomis St	Y			X		X			Small BY garden	Gravel BY
	1915 S. Loomis St	Y			X						Pavers in BY with raised beds, some open dirt
NA	1917 S. Loomis St	Y	X				X			Small BY garden	
NA	1921 S. Loomis St	Y		X			X			Small FY & BY gardens	Raised garden bed in FY
NA	1923 S. Loomis St	Y	X	X			X				
NA	1925 S. Loomis St	Y	X		X	X	X				SY is gravel
NA	1346 W Cullerton St	Y	X		X		X	X			this building is a condo with multiple owners
	1346 W Cullerton St										
	1346 W Cullerton St										
NA	1342 W Cullerton St	Y	X	X	X						Burnt-open lot
NA	1340 W Cullerton St	Y			X						Burnt-open lot, foundation in front, Garage in back
NA	1338 W Cullerton St	Y			X						Small BY, fire damage to house
	1336 W Cullerton St	Y			X						Gravel in BY
NA	1332 W Cullerton St	Y	X			X				Small FY	FY and SY have dirt
	Total w/ Greenspace	71	23	8	55	15	25	13			
	Total Residential	93									

Table 1

**Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois**

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
RES 2a											
	1839 S. Allport St	Y	X	X	X			X			
	1841 S. Allport St	Y			X						
	1843 S. Allport St	Y	X								Dirt in FY
	1847 S. Allport St	Y	X		X						
	1849 S. Allport St	Y			X		X	X			
	1851 S. Allport St	Y	X	X	X						Raised garden in FY, Pavers in FY are in good condition, possible pavers in BY
	1853 S. Allport St	Y			X						Grassy BY
	1857 S. Allport St	Y		X			X				Raised garden in FY
	1859 S. Allport St	Y				X					Small SY in back
	1901 S. Allport St	N									
	1903 S. Allport St	N									
	1907 S. Allport St	Y	X		X					1 FULL YARD, associated with neighboring property?	Fencing between neighboring properties
	1909 S. Allport St	Y	X	X	X	X					Grassy BY
	1911 S. Allport St	Y	X		X			X			
	1913 S. Allport St	Y	X		X	X		X			
	1915 S. Allport St	Y	X		X					1 FULL YARD, associated with 2015 S Allport St?	Concrete parking in BY, otherwise all grassy
	1919 S. Allport St	Y				X	X				
	1921 S. Allport St	Y	X		X						Grassy area in BY
	1923 S. Allport St	N								Home under construction	new concrete pavers in FY, side yard is gravel
	1925 S. Allport St	N								Home under construction	new concrete pavers in FY, side yard is gravel
	1927 S. Allport St	Y	X		X	X	X			FY is brick	Pavers in FY
	1931 S. Allport St	Y			X					Parcel used for parking	parking in FY, BY is open grassy/gravel
	2001 S. Allport St	Y			X					BY is brick	
	2003 S. Allport St	Y			X						Gravel driveway in back
	2005 S. Allport St	N									
	2007 S. Allport St	Y					?				BY is not visible from street, but there is a large tree

Table 1

**Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois**

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
	2011 S. Allport St	Y	X	X	X					FY is brick	FY has brick pavers-good condition, No BY
	2013 S. Allport St	Y			X						dirt patch in BY
	2015 S. Allport St	Y			X		X	X		BY is brick	Brick in BY in good condition
	2017 S. Allport St	Y	X	X	X			X		1 FULL YARD	
	2019 S. Allport St	N									
	2021 S. Allport St	N									
	2025 S. Allport St	N									same as 1218 Allport
	1830 S. Allport St	N									
	1832 S. Allport St	Y	X				X				BY is asphalt/concrete. Front has dirt patch
	1836 S. Allport St	Y			X		X				BY gravel driveway and grassy area
	1838 S. Allport St	Y	X	X			X				BY garden is possible
	1840 S. Allport St	Y	X	X	X						BY is gravel
	1842 S. Allport St	Y	X		X						BY not completely visible from alley. Concrete pad in back of BY
	1844 S. Allport St	Y	X	X							
	1848 S. Allport St	Y		X	X		X				Possible garden/yard in BY
	1850 S. Allport St	Y	X		?	X					Possible garden/yard in BY
	1852 S. Allport St	Y			X						
	1854 S. Allport St	Y	X		X						Gravel on soil in FY
	1858 S. Allport St	N								Parcel used as grocery store	Address previously id as 1856
	1829 S Throop St	N					X			Side yard is brick	pavers in good condition. Ramon indicated no need to sample
	1831 S Throop St	Y			X						Gravel drive in back
	1833 S Throop St	Y	X	X						Large garden	
	1835 S Throop St	Y		X	X			X		Small garden	
	1839 S Throop St	Y	X	X						Large garden	dogs on property
	1841 S Throop St	N									
	1834 S Throop St	N									
	1836 S Throop St	N									
	1838 S Throop St	N									
	1856 S Throop St	Y					X				Possible garden in BY

Table 1

Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
	1858 S Throop St	N								Parcel used as grocery store	
	1314 W 19th St	N									
	1316 W 19th St	N									
	1320 W 19th St	Y			X						Dirt patch in BY
	1322 W 19th St	Y		X	X		X	X		Medium garden	
	1324 W 19th St	Y	X	X	X			X			
	1326 W 19th St	N									
	1328 W 19th St	N									
	1332 W 19th St	Y			X						
	1334 W 19th St	Y	X		X					1 FULL YARD, associated with 1336 W. 19th?	Full yard
	1336 W 19th St	Y	X		X		X				Dirt under small patio in FY
	1338 W 19th St	Y	X	X	X		X			1 FULL YARD, associated with 1340 W 19th?	Pavers in back in good condition
	1340 W 19th St	Y			X		X				
	1344 W 19th St	Y			X		X				
	1835 S Loomis St	N									
	1837 S Loomis St	N									
	1839 S Loomis St	Y		X						Small garden	Small raised bed in FY, no BY
	1841 S Loomis St	Y		X						Small garden	Small garden patch
	1845 S Loomis St	Y			X		X				
	1847 S Loomis St	Y		X		X	X			Large garden	Raised beds on SY and BY
	1857 S Loomis St	Y		X						Large garden	Raised garden
	1859 S. Loomis St	Y		X	X	X	X				
	1315 W 18th Pl	N									
	1317 W 18th Pl	N									
	1321 W 18th Pl	N									
	1323 W 18th Pl	N									
	1325 W 18th Pl	Y					X			BY is brick	Pavers in BY-good condition, raised garden beds in BY, Easy alley access
	1327 W 18th Pl	N									

Table 1

Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
1331	W 18th Pl	Y	X	X	X		X	X		Small garden	
1333	W 18th Pl	Y	X	X	X	X	X	X		Small garden	Large BY, Need sampling?
1335	W 18th Pl	Y	X	X	X					Small garden	
Total w/ Greenspace		59	29	24	43	10	22	11			
Total Residential		86									

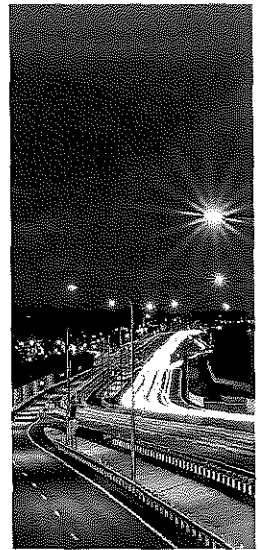
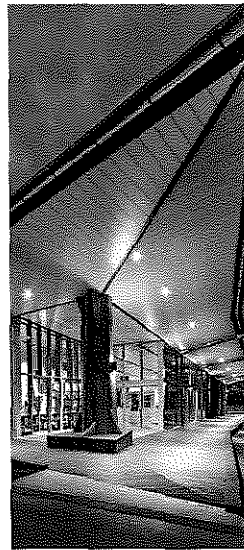
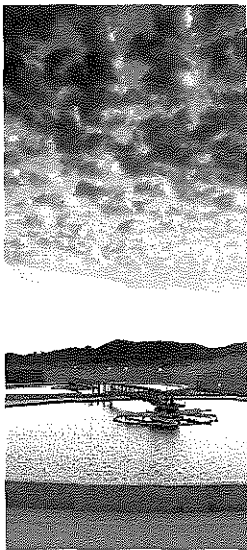
Notes:

- FY - Front Yard
- BY - Back Yard
- NA - Not Available
- Y - Yes
- N - No
- X - Yes
- SY - Side Yard

Table based on EPA summary table emailed on June 23, 2015. Note some adresses have been corrected.

**In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois**

**Appendix D
Approved Work Plan**



Field Sampling Plan

OU2 Residential Area
Pilsen Area of Chicago, Illinois

H. Kramer

Executive Summary

USEPA studies have identified elevated concentrations of lead in residential properties within limited portions of the Pilsen neighborhood of Chicago, Illinois. The specific area associated with the investigations outlined in this Field Sampling Plan has been defined by the USEPA as Operational Unit 2 (OU2). The USEPA studies have shown lead concentrations greater than the USEPA's residential remedial goal of 400 mg/kg in some of the properties sampled.

The USEPA's studies collected soil samples within a subset of the residential properties within OU2. This Field Sampling Plan has been developed to outline procedures and methodology for collecting soil samples from the remaining residential properties within OU2 from which the USEPA and respondent will be able to secure access/remediation agreements. These resulting soil analytical data will then be used to develop a Removal Plan to address properties where lead is detected at concentrations greater than 400 mg/kg.

Table of Contents

1.	Introduction.....	1
2.	Background	1
	2.1 Residential Area Sampling.....	1
3.	Scope of Work.....	1
	3.1 Residential Access Agreements	1
	3.2 Supporting Documents	2
	3.3 Property Documentation	2
	3.4 Surface Soil Sample Collection	3
	3.4.1 Field Quality Control Sampling	4
	3.5 Management of Investigative Derived Waste	5
	3.6 Sample Handling, Tracking, and Custody Procedures	5
	3.7 Sample Labeling	5
4.	Data Management.....	5
5.	Reporting.....	6

Figure Index

Figure 1	Site Location
Figure 2	OU2 Limits
Figure 3	OU2 Residential Properties

Table Index

Table 1	Residential Properties in OU2
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1. Introduction

Studies completed by the United States Environmental Protection Agency (USEPA) have identified elevated concentrations of lead in soil at residential properties within limited portions of the Pilsen neighborhood of Chicago, Illinois. The specific area associated with the investigations outlined in this Field Sampling Plan (FSP) has been defined by the USEPA as Operational Unit 2 (OU2) (Site). The USEPA studies have shown lead concentrations in soil greater than the USEPA's residential remedial goal of 400 milligrams per kilogram (mg/kg) in some of the properties sampled. The Site (OU2) location is shown on Figure 1 and the limits of OU2 are shown on Figure 2. OU2 has been separated by the USEPA into two areas, Residential Area 1 (Res 1) and Residential Area 2a (Res 2a).

The USEPA's studies collected soil samples within a subset of the residential properties within OU2. The objective of this FSP is to outline the procedures and methodologies for collecting soil samples from the remaining residential properties within OU2 (without permanent surface cover material), from which the USEPA and respondent will be able to secure access/remediation agreements. The resulting soil analytical data will be used to finalize the removal scope-of-work and to develop a Removal Plan to address residential properties where lead is detected at concentrations greater than the Removal Management Level of 400 mg/kg.

This document should not be construed as an admission of liability or allocation. As such, there is no discussion herein about the causes of contamination.

2. Background

2.1 Residential Area Sampling

The results of the USEPA's residential sampling within residential areas are provided within the Removal Site Evaluation for Pilsen Soil Assessment Area: Residential, Cook County, Illinois Redacted; dated November 4, 2014 (herein called "Residential Report").

3. Scope of Work

3.1 Residential Access Agreements

The USEPA and the respondent will coordinate work to obtain access agreements for the residential properties within OU2 requiring soil sampling. The goal is to obtain written access agreements with the property owners with the objective of completing the soil sampling during the winter of 2015 or spring of 2016 (weather/ground condition permitting). The access agreements will be worded to allow crews to access the subject property to perform soil sampling activities and to allow crews to later access the subject property to allow for removal of shallow soils) where lead is detected at concentrations greater than 400 mg/kg. It is important to include the remediation statement within the access agreement as it is useless to sample a property where the owner will not allow remediation to be completed. Table 1 provides a summary of the residential property

addresses for which the USEPA will attempt to obtain access agreements within OU2¹. Figure 3 shows the locations of the residential properties in OU2.

- Res 1 is an approximately 14-acre semi-rectangular area in the southwest corner of the Assessment Area, bound by West 19th Street to the north, South Allport Street to the east, West 21st Street to the south, and South Loomis Street to the west (**Figure 2.1**).
- Res 2a is an approximately 11-acre arc-shaped area extending approximately 330 feet northward from the northwest corner of Res 1 to West 18th Place and approximately 175 feet eastward from the southeast corner of Res 1 to the alleyway just east of South Allport Street (**Figure 2**). The northeast border of Res 2a curves southward from the intersection of West 18th Place and South Throop Street to the intersection of West 19th Street and the alleyway just east of South Allport Street.

3.2 Supporting Documents

Prior to beginning the field sampling/documentation program, a Health and Safety Plan (HASP) will be developed and implemented. The HASP will be developed in accordance with Federal Occupational Safety and Health Administration (OSHA) standards for hazardous waste operations (29 CFR 1910.120).

USEPA policy requires that all work performed by or on behalf of USEPA involving the collection of environmental data be implemented in accordance with a USEPA-approved Quality Assurance Project Plan (QAPP). In addition to this FSP, a QAPP has been developed (GHD, November 2015) to integrate all technical and quality aspects of the project and documents, quality assurance (QA), quality control (QC), and technical activities and procedures associated with planning, implementing, and assessing environmental data collection operations. The QAPP has been submitted to the USEPA for review and approval.

In general, field sampling procedures will be conducted in accordance with the practices outlined in the Superfund Lead-Contaminated Residential Sites Handbook (USEPA, 2003). However, due to the small size of many of the yards within OU2, if a portion of a yard (front yard, back yard or side yard) measures less than 150 square feet (ft²), then only a two point composite sample will be collected.

3.3 Property Documentation

In conjunction with the residential soil sampling, the details regarding each of the properties will be recorded. This documentation will include the following:

- Measuring the total property size
- Measuring the size of front yard, the back yard, the side yard, and any garden areas
- Developing a detailed sketch of the property showing the location of the green spaces, structures, and other pertinent information
- Photographs of the property and green spaces
- Details regarding property access issues or unsafe conditions

¹ Table 1 has been developed jointly between the USEPA and the respondent which included an October 2015 Site walk to verify addresses and locations.

- Brief interview of the property owner, if present

This recorded information will be used to develop a Remediation Plan for properties where lead is detected at concentrations greater than 400 mg/kg.

3.4 Surface Soil Sample Collection

For properties with a total surface area less than 5,000 square feet, five point composite samples will be collected, at a minimum, from each of the following locations: the front yard, the back yard, and the side yard, provided these areas are not covered with a permanent barrier (concrete, asphalt, or brick pavers). The composite locations will be equally spaced within the respective portion of the yard, outside of any drip zones, and away from influences of any painted surfaces². Based on an aerial photo review of the properties within OU2, none of the individual residential parcels within OU2 are anticipated to exceed 5,000 ft² in size (the average lot size is approximately 3,000 ft²). Due to the small size of many of the yards within OU2, if a portion of a yard (front yard, back yard, or side yard) measure less than 150 ft², then only a two point composite sample will be collected³. Due to the difficulties associated with remediation around established tree roots, soil samples will not be collected within a 4 foot radius of trees that have a diameter of 2 inches or more.

Distinct garden areas will be sampled separately as a discrete area of the yard, consisting of collecting a two to five point composite of aliquots. Garden samples are anticipated to be collected from 0 to 12 inches below ground surface.

Soil samples will be collected using the following procedures:

- A public utility locate will be requested for each property to be sampled
- A new pair of nitrile glove will be donned by the sampling crew for each composite soil sample collected
- Surface materials such as grass, wood mulch, or gravel will be removed prior to sample collection
- Soil samples will be collected from within the 0 to 0.5 foot interval using a pre-cleaned stainless steel hand auger, soil coring tool, or trowel
- Soil collected from each point of the composite sample will be placed into a stainless steel or plastic bowl, or resealable bag, and mixed thoroughly to form a composite sample
- The mixed soil will then be placed directly into a laboratory-supplied glass jar and labeled with a unique sample identification number and placed into a cooler with packing material
- Unused soil will be placed back into the holes from which the samples were collected
- The remaining hole from the sampling will be back filled to grade using clean fill dirt and reseeded (if grass covered)

Soil sampling equipment will be cleaned between composite locations using the following procedure:

² Consistent with Weston's residential sampling protocols.

³ Generally consistent with Weston's residential sampling protocols of collecting two to five point composite samples.

- Wash with clean potable water and laboratory detergent, using a brush as necessary to remove particulates
- Rinse with distilled water
- Air dry for as long as possible

Clean equipment should be wrapped in foil or plastic sheeting until needed.

Details regarding the collection of each sample (address, location, depth, date, time and composite details) will be recorded in a field book or electronically. The location of each sampling point will be sketched on field forms, and the coordinates of the each point will be recorded using a geographic positioning system (GPS) receiver with sub-meter accuracy.

Collected soil samples will be analyzed for the lead using EPA method SW-846 6010b. Test methods and additional details regarding sampling, sample handling, and analysis are provided in the QAPP (GHD, August 2015).

3.4.1 Field Quality Control Sampling

Quality assurance/quality control (QA/QC) samples will be collected at a frequency of one per 20 investigative samples. QA/QC samples will include duplicate samples, matrix spike/matrix spike duplicate (MS/MSD) samples, and equipment rinsate samples.

Field Duplicate Samples

During investigation activities, field duplicate samples will be collected and submitted to the laboratory. Field duplicate samples are analyzed to check for sampling and analytical precision. Field duplicate samples consist of collecting two sets of samples from the same location/interval with different sample identification numbers for each set of samples. One field duplicate will be collected for each 20 or fewer investigative samples submitted.

Equipment Rinsate Blank Samples

Equipment rinsate blank samples will be collected for any sampling activity that requires equipment decontamination (i.e., non-dedicated equipment). One equipment rinsate blank will be collected for each 20 or fewer investigative samples submitted.

Equipment rinsate blank samples are analyzed to document that decontamination procedures are not causing cross-contamination between sample locations. An equipment rinsate blank sample will consist of pouring deionized water over precleaned sampling equipment and then into laboratory-supplied sample containers.

Matrix Spike/Matrix Spike Duplicate Samples

MS/MSD sample volumes are additional sample aliquots provided to the laboratory to evaluate the accuracy and precision of the sample preparation and analysis technique. Matrix spikes provide information about the effect of the sample matrix on the preparation and measurement methodology. One MS/MSD sample will be collected for each 20 or fewer investigative samples submitted.

Collected soil samples will be shipped or couriered under chain-of-custody procedures to TestAmerica Laboratories, Inc. (TestAmerica) located in University Park, Illinois.

3.5 Management of Investigative Derived Waste

Field activities will produce waste products, such as spent sampling supplies (e.g., decontamination fluids etc.), and expendable personal protective equipment (PPE), such as nitrile gloves. Disposable sampling supplies and PPE will be containerized in trash bags and disposed of at the end of the project. Decon fluids will be containerized in 55-gallon steel drums for characterization and later disposal.

3.6 Sample Handling, Tracking, and Custody Procedures

Samples will be placed in laboratory-supplied coolers after collection and labeling. Cushioning material, such as bubble wrap, will be placed around the sample containers in the cooler to protect them from breakage. All samples will be shipped within two business days and delivered overnight to the laboratory by commercial courier.

Each cooler will contain a chain-of custody form, be sealed with a custody seal containing the sampler's initials. The cooler will then be sealed with packing tape.

3.7 Sample Labeling

A unique numbering system will be used to identify each collected sample. This system will provide a tracking number to allow retrieval and cross-referencing of sample information. A listing of the sample identification numbers with written descriptions of sample location, type, time, and date will be maintained by the on-Site sampling personnel. The sample number system to be used is described as follows:

Example: S-YYMMDD-AA-XXX

Where:

S designates sample type (WG - groundwater, W – water, G - gas, S - soil)

YYMMDD date of collection (year, month, day)

AA sampler initials

XXX sequential number starting with 001 for each event

A description of the address and sampling locations within the property will be recorded in the field book or electronically to allow cross-referencing between the property address, sample collection location and the unique sample number.

4. Data Management

Details regarding the following project related tasks are provided in the QAPP:

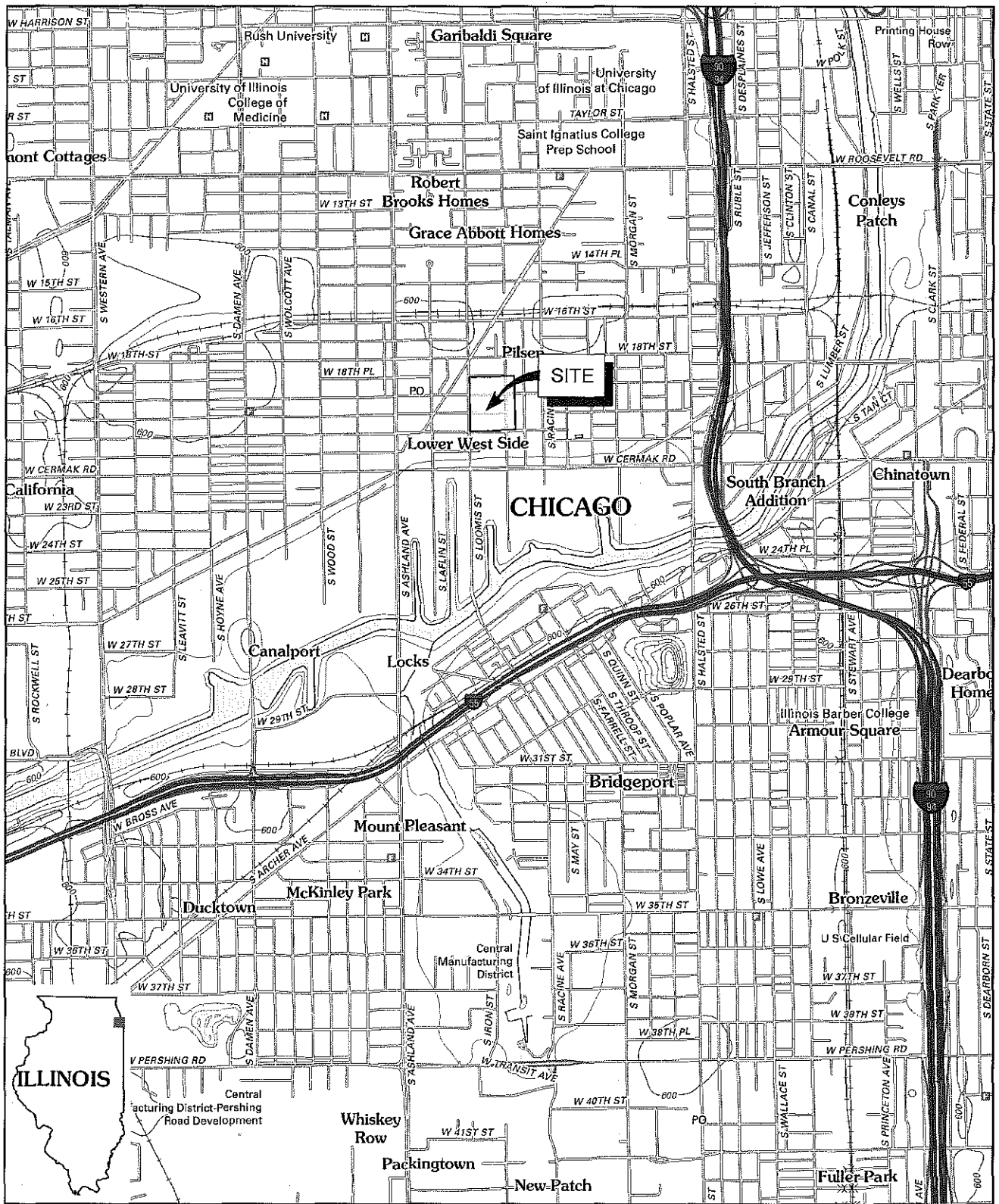
- Project Organization
- Measurement and Performance Criteria
- Data Quality Objectives
- Documentation, Records and Data Management

- Data Validation Requirements

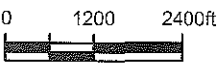
5. Reporting

The data collected during the OU2 residential soil sampling program will be presented in a data summary report. This report will include a summary of the work completed and present the data collected during the investigation. The report will include text summarizing the investigations completed, data summary tables, figures, and an appendix with the laboratory reports. The report will be submitted to the USEPA.

The resulting soil analytical data will be used to finalize the remedial scope-of-work and to develop a Remediation Plan to address residential properties where lead is detected at concentrations greater than 400 mg/kg.



BASE SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE, ENGLEWOOD, ILLINOIS 2012

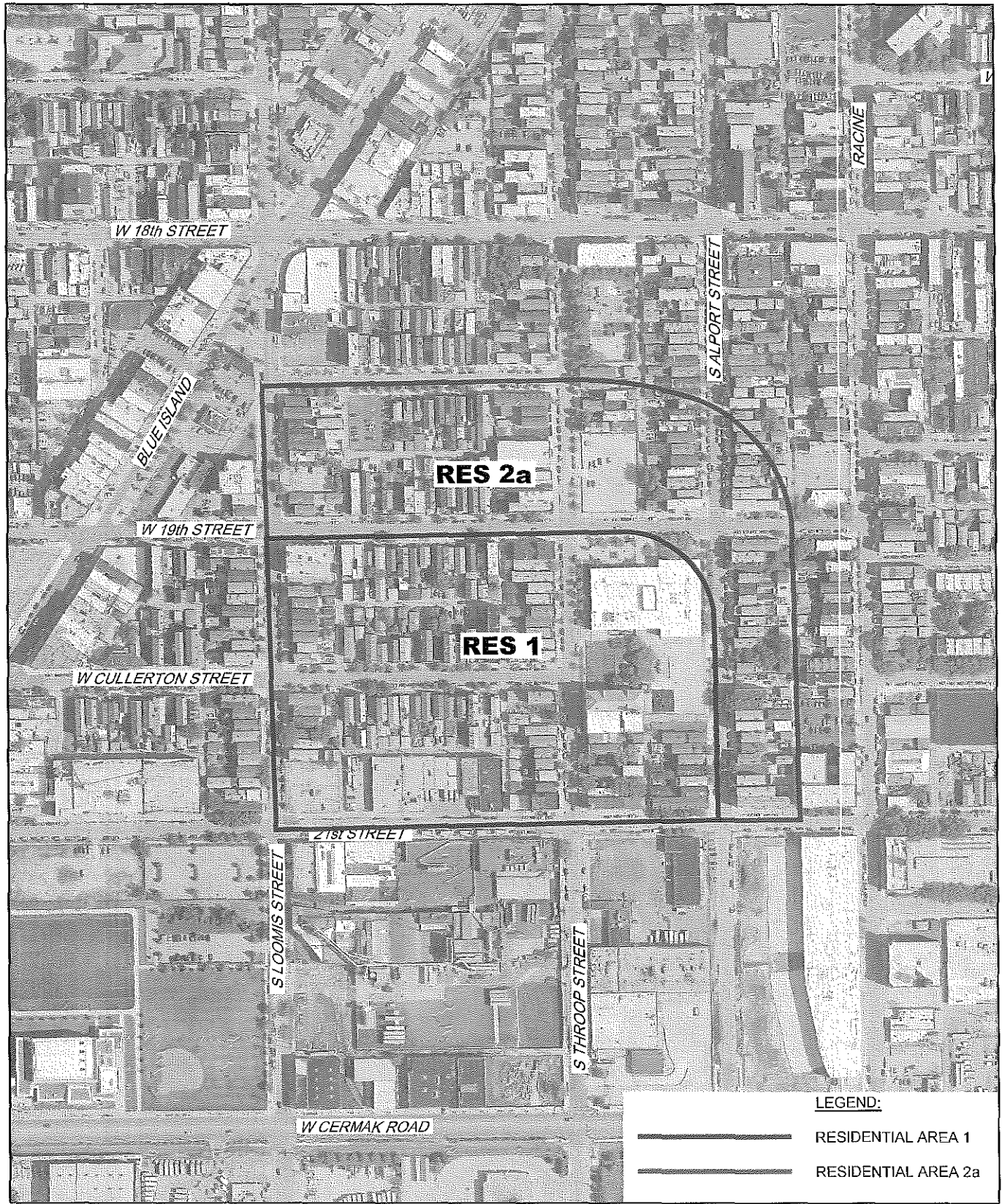


OU2 PILSEN AREA
CHICAGO, ILLINOIS

SITE LOCATION

39826-01
Aug 7, 2015

FIGURE 1



PILSEN AREA
CHICAGO, ILLINOIS

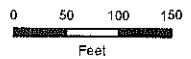
OU2 LIMITS

39826-01
Aug 7, 2015

FIGURE 2



Aerial: Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation, September 2014
 Roads: U.S. Census Bureau, Geography Division, Processed TIGER 2010 Streets; Parcels: The Open Data portal for Cook County Government, Cook County Clerk/Map Department, ccgldata - Parcel2012



PILSEN AREA
 CHICAGO, ILLINOIS

OU2 RESIDENTIAL PROPERTIES

039826-01
 Nov 4, 2015

FIGURE 3

Table 1
Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
Res 1 Area											
1	1317 19th St	Y		X	X		X			Small garden in FY, small BY	Small patch in FY
2	1321 19th St	Y					X			Small garden in FY	Small elevated garden in FY
3	1329 19th St	Y			X	X	X	X			Gravel on side yard
4	1337 19th St	Y		X	X	X				Small garden, brick BY	Raised garden in FY, Pavers in FY-good condition, BY not visible from street, but has tree
5	1341 19th St	Y			X						
6	1901 Loomis	Y								"Gravel cover"	
7	1345 W 19th	Y			X					Small BY	
	1343 W 19th	Y			X						Possibly commercial, possible BY-large brick fence blocking view
8	1339 W 19th	Y			X					Small BY	BY has soil
	1333 W 19th	N									
	1331 W 19th	N									
	1327 W 19th	N									
9	1323 W 19th	Y			X		X	X			
	1319 W 19th	N									
10	1313 W 19th	Y					X			Small BY	BY is asphalt parking with grassy island
11	1916 S. Throop St	Y				X				Small "borderpiece"	small sideyard in back
	1924 S. Throop St	N									
	1922 S. Throop St	Y			?						BY not visible
	1920 S. Throop St	Y			?						BY not visible
	1914 S. Throop St	N									
	1912 S. Throop St	Y			?						
	1910 S. Throop St	Y			?						BY not visible
	1906 S. Throop St	Y									Small strip in BY
12	1904 S. Throop St	Y	X								
	1900 S. Throop St	N									Commercial?
13	2011 S. Throop St	Y			X						
	2013 S. Throop St	N									
14	2015 S. Throop St	Y	X		X					"Greenspace"	Pacel is all green
	2017 S. Throop St	N									
15	2019 S. Throop St	Y	X		X		X			"Greenspace" + Garden	Pacel is open green space
16	2021 S. Throop St	Y			X					Gravel BY	Gravel BY

Table 1
Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
	2025 S. Throop St	N									
17	2006 Allport	Y	X		X					"Empty Lot/Greenspace"	
18	2008 Allport	Y				X				"Small gap on side"	Small gravel area on side yard
19	2012 Allport	Y			X						Small strip in BY
20	2014 Allport	Y			X		X	X			Dogs
21	2016 Allport	Y			X			X		Brick BY	
	2018 Allport	Y			X			X			
	2020 Allport	N									
	2024 Allport	N									
	2022 S. Throop St	Y			X						Small BY- Strip of gravel
22	2020 S. Throop St	Y	X		X	X		X			Gravel in FY
23	2018 S. Throop St	Y			X			X			
24	2014 S. Throop St	Y			X						
25	2012 S. Throop St	Y	X		X		X	X		Small garden, brick FY/BY	Pavers in BY and SY, grass by garage in back
26	2010 S. Throop St	Y			X		X				
27	2006 S. Throop St	Y					X	X		Small garden	
28	2004 S. Throop St	Y	X								
29	2002 S. Throop St	Y	X		X			X		"Empty Lot/Greenspace"	Open lot
	2000 S. Throop St	N									
30	1313 W Cullerton St	Y	X	X	X	X	X			Small gardens, brick FY/BY	FY and SY have pavers. Elevated garden in FY. Pool on gravel in BY and gravel landscaping in BY
31	1317 W Cullerton St	Y	X		X					"Empty Lot/Greenspace"	gravel drive in back half of lot, Concrete in front
	1319 W Cullerton St	N									
32	1321 W Cullerton St	Y			X			X			
33	1323 W Cullerton St	Y	X		X	X		X		Small FY	dog
34	1327 W Cullerton St	Y			X		X	X			
35	1329 W Cullerton St	Y			X		X				
36	1331 W Cullerton St	Y	Y		X	X	X				FY has dirt-maybe ontop of concrete. SY has patch of green along sidewalk
37	1335 W Cullerton St	N			X						BY has pavers in good condition
38	1337 W Cullerton St	Y	X		X	X					FY is gravel/dirt, SY has pavers
	1339 W Cullerton St	N									
	1343 W Cullerton St	N									No Greenspace-Burnt down
39	1347 W Cullerton St	Y					X			Small garden	Raised garden bed in FY

Table 1
Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
40	1341 W Cullerton St	Y	X	X	X	X	X			Brick cover	Pavers in good condition, collect composite from all soil locations.
41	2001 S. Loomis	Y			X					Small BY	BY is ~8x10
	2003 S. Loomis St	N									
42	2005 S. Loomis	N									
43	2009 S. Loomis	Y	X		X	Y					
44	2011 S. Loomis	Y			X	X				Brick BY and SY	
	2013 S. Loomis	N									
	1312 W Cullerton St	N									
45	1316 W Cullerton St	Y			X		X			Gravel BY	Gravel BY
46	1320 W Cullerton St	Y			X					Brick/Gravel BY	Gravel and pavers in BY
47	1322 W Cullerton St	Y			X						Small BY
48	1326 W Cullerton St	Y	X		X					Small FY	Small BY
49	1328 W Cullerton St	Y			X					Small BY, gravel	Small BY with gravel
50	1330 W Cullerton St	Y	X								
51	1318 W Cullerton St	Y		X			X			Small front garden	Raised garden bed in FY
NA	1905 S. Loomis St	Y			X						Gravel in BY, Commercial/residential use
	1907 S. Loomis St	N									open paved lot
NA	1911 S. Loomis St	Y				X	X			Small BY garden	strip of soil towards BY in the SY
NA	1913 S. Loomis St	Y			X		X			Small BY garden	Gravel BY
	1915 S. Loomis St	Y			X						Pavers in BY with raised beds, some open dirt
NA	1917 S. Loomis St	Y	X				X			Small BY garden	
NA	1921 S. Loomis St	Y		X			X			Small FY & BY gardens	Raised garden bed in FY
NA	1923 S. Loomis St	Y	X	X			X				
NA	1925 S. Loomis St	Y	X		X	X	X				SY is gravel
NA	1346 W Cullerton St	Y	X		X		X	X			this building is a condo with multiple owners
	1346 W Cullerton St										
	1346 W Cullerton St										
NA	1342 W Cullerton St	Y	X	X	X						Burnt-open lot
NA	1340 W Cullerton St	Y			X						Burnt-open lot, foundation in front, Garage in back
NA	1338 W Cullerton St	Y			X						Small BY, fire damage to house
	1336 W Cullerton St	Y			X						Gravel in BY
NA	1332 W Cullerton St	Y	X			X				Small FY	FY and SY have dirt
	Total w/ Greenspace	71	23	8	55	15	25	13			
	Total Residential	93									

Table 1
Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
RES-2a											
	1839 S. Allport St	Y	X	X	X			X			
	1841 S. Allport St	Y			X						
	1843 S. Allport St	Y	X								Dirt in FY
	1847 S. Allport St	Y	X		X						
	1849 S. Allport St	Y			X		X	X			
	1851 S. Allport St	Y	X	X	X						Raised garden in FY, Pavers in FY are in good condition, possible pavers in BY
	1853 S. Allport St	Y			X						Grassy BY
	1857 S. Allport St	Y		X			X				Raised garden in FY
	1859 S. Allport St	Y				X					Small SY in back
	1901 S. Allport St	N									
	1903 S. Allport St	N									
	1907 S. Allport St	Y	X		X					1 FULL YARD, associated with neighboring property?	Fencing between neighboring properties?
	1909 S. Allport St	Y	X	X	X	X					Grassy BY
	1911 S. Allport St	Y	X		X			X			
	1913 S. Allport St	Y	X		X	X		X			
	1915 S. Allport St	Y	X		X					1 FULL YARD, associated with 2015 S Allport St?	Concrete parking in BY, otherwise all grassy
	1919 S. Allport St	Y				X	X				
	1921 S. Allport St	Y	X		X						Grassy area in BY
	1923 S. Allport St	N								Home under construction	new concrete pavers in FY, side yard is gravel
	1925 S. Allport St	N								Home under construction	new concrete pavers in FY, side yard is gravel
	1927 S. Allport St	Y	X		X	X	X			FY is brick	Pavers in FY
	1931 S. Allport St	Y			X					Parcel used for parking	parking in FY, BY is open grassy/gravel
	2001 S. Allport St	Y			X					BY is brick	
	2003 S. Allport St	Y			X						Gravel driveway in back
	2005 S. Allport St	N									
	2007 S. Allport St	Y					?				BY is not visible from street, but there is a large tree

Table 1

Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
	2011 S. Allport St	Y	X	X	X					FY is brick	FY has brick pavers-good condition, No BY
	2013 S. Allport St	Y			X						dirt patch in BY
	2015 S. Allport St	Y			X		X	X		BY is brick	Brick in BY in good condition
	2017 S. Allport St	Y	X	X	X			X		1 FULL YARD	
	2019 S. Allport St	N									
	2021 S. Allport St	N									
	2025 S. Allport St	N									same as 1218 Allport
	1830 S. Allport St	N									
	1832 S. Allport St	Y	X				X				BY is asphalt/concrete. Front has dirt patch
	1836 S. Allport St	Y			X		X				BY gravel driveway and grassy area
	1838 S. Allport St	Y	X	X			X				BY garden is possible
	1840 S. Allport St	Y	X	X	X						BY is gravel
	1842 S. Allport St	Y	X		X						BY not completely visible from alley. Concrete pad in back of BY
	1844 S. Allport St	Y	X	X							
	1848 S. Allport St	Y		X	X		X				Possible garden/yard in BY
	1850 S. Allport St	Y	X		?	X					Possible garden/yard in BY
	1852 S. Allport St	Y			X						
	1854 S. Allport St	Y	X		X						Gravel on soil in FY
	1858 S. Allport St	N								Parcel used as grocery store	Address previously id as 1856
	1829 S Throop St	N				X				Side yard is brick	pavers in good condition. Ramon indicated no need to sample
	1831 S Throop St	Y			X						Gravel drive in back
	1833 S Throop St	Y	X	X						Large garden	
	1835 S Throop St	Y		X	X			X		Small garden	
	1839 S Throop St	Y	X	X						Large garden	dogs on property
	1841 S Throop St	N									
	1834 S Throop St	N									
	1836 S Throop St	N									
	1838 S Throop St	N									
	1856 S Throop St	Y					X				Possible garden in BY

Table 1
Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
1858	S Throop St	N								Parcel used as grocery store	
1314	W 19th St	N									
1316	W 19th St	N									
1320	W 19th St	Y			X						Dirt patch in BY
1322	W 19th St	Y		X	X		X	X		Medium garden	
1324	W 19th St	Y	X	X	X			X			
1326	W 19th St	N									
1328	W 19th St	N									
1332	W 19th St	Y			X						
1334	W 19th St	Y	X		X					1 FULL YARD, associated with 1336 W. 19th?	Full yard
1336	W 19th St	Y	X		X		X				Dirt under small patio in FY
1338	W 19th St	Y	X	X	X		X			1 FULL YARD, associated with 1340 W 19th?	Pavers in back in good condition
1340	W 19th St	Y			X		X				
1344	W 19th St	Y			X		X				
1835	S Loomis St	N									
1837	S Loomis St	N									
1839	S Loomis St	Y		X						Small garden	Small raised bed in FY, no BY
1841	S Loomis St	Y		X						Small garden	Small garden patch
1845	S Loomis St	Y			X		X				
1847	S Loomis St	Y		X		X	X			Large garden	Raised beds on SY and BY
1857	S Loomis St	Y		X						Large garden	Raised garden
1859	S. Loomis St	Y		X	X	X	X				
1315	W 18th Pl	N									
1317	W 18th Pl	N									
1321	W 18th Pl	N									
1323	W 18th Pl	N									
1325	W 18th Pl	Y					X			BY is brick	Pavers in BY-good condition, raised garden beds in BY, Easy alley access
1327	W 18th Pl	N									

Table 1

Residential Properties in OU2
OU2 Area of Pilsen - Chicago, Illinois

# on Map	Address	Greenspace Presence	Front Yard	Front Garden	Back Yard	Side Yard	Garden	Sampled By EPA	Lead Exceeds 400 mg/kg	Weston Notes	October 2015 Comments
	1331 W 18th Pl	Y	X	X	X		X	X		Small garden	
	1333 W 18th Pl	Y	X	X	X	X	X	X		Small garden	Large BY, Need sampling?
	1335 W 18th Pl	Y	X	X	X					Small garden	
	Total w/ Greenspace	59	29	24	43	10	22	11			
	Total Residential	86									

Notes:

FY - Front Yard

BY - Back Yard

NA - Not Available

Y - Yes

N - No

X - Yes

SY - Side Yard

Table based on EPA summary table emailed on June 23, 2015. Note some addresses have been corrected.

**In the Matter of Pilsen Soil Operable Unit 2 Residential Site,
Chicago, Illinois**

**Appendix E
Outreach Protocol**

Appendix E
Outreach Protocol

1. EPA and H. Kramer/GHD have jointly verified the number and location of homes which need to be sampled in the OU2 Site, specifically homes with non-permanent covers.
2. H. Kramer/GHD will verify owners of residences in the Site and their current addresses, using the residential U.S. EPA list (2013) and current County tax records.
3. EPA will transmit (via certified mail return receipt requested) letters to the owner of each residence (using the addresses developed in item 2, above) requesting permission for EPA and H. Kramer/GHD (and their respective officers, employees, contractors, and authorized representatives) to access the subject property to perform soil sampling activities and later to remediate portions of the subject property's soils if and where lead is detected at concentrations greater than 400 mg/kg. The letter shall include a copy of the consent for access form attached to this Outreach Protocol as well as a self-addressed stamped envelope for returning a signed consent for access form. The mailing will include versions of the letter and consent for access form in Spanish. For mail returned undelivered, EPA and H. Kramer/GHD shall follow up by process server or by hand-delivering copies of the letter and the consent for access to the relevant properties (or to the owner's address of record, if different from the property address, to the extent feasible) indicating that the recipient (if not the owner) should provide the letter and consent for access form to their landlord/property owner. After those initial mail and personal delivery outreach efforts, for those parcels that still do not return signed consent for access forms, EPA shall have sole responsibility for further pursuit of the owners of those parcels to execute the consent for access forms.
4. Concurrent with Items 2-3, EPA will:
 - a) Announce and conduct a public meeting or open house before mailing the letters and consent for access forms to announce the outreach effort and have one public availability session approximately 14 days after the letters go out.
 - b) Coordinate with the alderman's office to have letters/consent for access forms available for pickup at his office (for anyone/off hours).
 - c) Post the letter/consent for access forms and contact numbers on the EPA Website.
 - d) Coordinate with H. Kramer/GHD to verify that executed consent for access forms have been signed by the owners (i.e. not by renters).

- e) Work with community groups to get the word out to the homeowners and residents in the Site.
5. Items 1-4 will take place over a period of approximately 60 days. A deadline date will be provided in the letters for return of the executed consent for access forms within 30 days from date of receipt.
 6. H. Kramer will prepare and submit to EPA a report that summarizes the sampling results. EPA will keep the sampling results confidential; however, EPA will furnish parcel owners the sampling results for their respective parcels.

CONSENT FOR ACCESS TO PROPERTY

Name (please print): _____

Daytime Phone Number: _____

Evening Phone Number: _____

Email: _____

Address of Property: _____

I consent to officers, employees, contractors, and authorized representatives of the United States Environmental Protection Agency (EPA) and/or of H. Kramer & Company (H. Kramer) entering and having continued access to the property described above to perform the following response actions:

- (1) Collecting samples, surface and subsurface, including but not limited to soil and air;
- (2) The documenting of scientific and engineering observations, including, but not limited to taking notes, photographs, and surveying;
- (3) Removing contaminated soil and related activities;
- (4) Completing restoration efforts once contaminated soil has been removed to include replacement of removed soil with clean soil, re-sodding of previously grass covered areas, limited landscaping restoration, replacement of gravel, repair of possible damage or property loss as a direct result of sampling, removal, and restoration activities; and
- (5) Other such actions as the EPA On-Scene Coordinator determines may be necessary to protect human health and the environment.

I realize that these possible actions are being undertaken pursuant to the response authorities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. Section 9601 *et seq.*

I give this written permission voluntarily, on behalf of myself and all other co-owners of the Property, with knowledge of my right to revoke my voluntary consent at any time, and without threats or promises of any kind. I understand that EPA, H. Kramer, or their authorized representatives will contact me before the start of any investigation or remedial activities on my property, and I will notify any tenants in my property of any such investigation or remedial activities.

This document should be signed only by the legal owner of the property described above.

Owner Signature: _____ Date: _____

Owner Name (printed): _____

Owner's Address (if different from the Address listed above): _____

Please sign and return this form to:
Ramon Mendoza, EPA Region 5 (SE-5J), 77 West Jackson Blvd., Chicago, IL 60604

