FEDERAL ON-SCENE COORDINATOR'S REPORT, REV. 1
COMPREHENSIVE ENVIRONMENTAL RESPONSE,
COMPENSATION, AND LIABILITY ACT
REMOVAL ACTION AT THE USS LEAD SITE
EAST CHICAGO, LAKE COUNTY, INDIANA
SITE ID: 053J

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V Emergency Response Branch
77 W. Jackson Boulevard
Chicago, Illinois 60604

Prepared by:

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Prepared by: Richard H. Mehl Jr. Date: 8/31/09
Richard H. Mehl Jr., START Project Manager

Reviewed and
Approved by: Lisa Graczyk Date: 8/31/09
Lisa Graczyk, Quality Reviewer

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: August 31, 2009

SUBJECT: ON-SCENE COORDINATOR'S REPORT, REV. 1 – CERCLA Removal Action at the USS Lead Site, East Chicago, Lake County, Indiana, Site ID 053J

FROM: Fredrick A. Micke, On Scene Coordinator
Emergency Response Branch, SE-5J

TO: Linda Nachowicz, Chief
Emergency Response Branch, SE-5J

THROUGH: Charles Gebien, Chief
Emergency Response Branch Section II, S3, SE-5J

Please find attached the United States Environmental Protection Agency (U.S. EPA) Federal On-Scene Coordinator's (OSC) Report for the removal action conducted at the USS Lead Site (Site), East Chicago, Lake County, Indiana. This report follows the format outlined in the National Oil and Hazardous Substances Pollution Contingency Plan, Title 40 of the *Code of Federal Regulations* (40 CFR), Part 300.165. The removal was initiated on June 9, 2008, and was completed on September 25, 2008. The OSC for this Site was Mr. Fredrick A. Micke.

U.S. EPA took this action to mitigate the threats posed by the presence of lead in soil on privately owned parcels that posed an immediate threat to public health, welfare, and the environment. Total project costs under the control of the OSC are estimated at $848,300, of which $776,800 was for the Emergency and Rapid Response Services contractor.

In this report, any indications of specific costs incurred at the Site are only an approximation subject to audit and final definitization by U.S. EPA. The OSC report is not a final reconciliation of costs.

Portions of this report's appendices may contain confidential business or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public. The Site is not on the National Priorities List.

Attachment
cc: Gail Stanuch – SE-5J

FEDERAL ON-SCENE COORDINATOR'S REPORT, REV. 1
COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT
REMOVAL ACTION AT THE USS LEAD SITE
EAST CHICAGO, LAKE COUNTY, INDIANA
SITE ID: 053J
NPL STATUS: NON-NPL

Removal Dates: June 9 through September 25, 2008

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
Region V
Division of Superfund
Emergency Response Branch

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Note: Attachments B, C, and D are presented on compact disk (CD).

Emergency and Enforcement Response Branch
Office of Superfund, U.S. EPA, Region V

OSC REPORT STANDARD APPENDICES LIST *

Site Name: USS Lead Site, East Chicago, Lake County, Indiana
Site ID No.: 053J
Task Order No.: 0467

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2. Financial Files	ID#
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3. Technical Files	ID#
- Analytical Results/QA/QC	3-A
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* All files are arranged in chronological order.

* Portions of these OSC Report Appendices may contain confidential business information or enforcement-sensitive information and must be reviewed by the Office of Regional Counsel prior to release to the public.

* Note that certain files for this Site are maintained elsewhere by ERB; these appendices are those files maintained by the OSC during the removal action.

EXECUTIVE SUMMARY OF THE REMOVAL ACTIVITY

SITE: USS Lead Site

LOCATION: East Chicago, Lake County, Indiana

PROJECT DATES: June 9 through September 25, 2008

INCIDENT DESCRIPTION: The USS Lead Site (Site) includes the residential area north of the US Smelter and Lead (USS Lead) facility in East Chicago, Lake County, Indiana. The area is roughly bounded by Aster Street (St.) on the west, Chicago Avenue (Ave.) on the north, Parish Ave. on the east, and 151st St. on the south. The area includes about 1,200 homes; a small number of parks; open space as a part of the railroad right-of-way; schools; and public buildings. The removal action targeted lead-contaminated soil at 13 residential properties in East Chicago.

The likely source of the lead contamination is the USS Lead facility, which was a primary and secondary smelter of lead in the East Chicago, Indiana area. The facility began operations around 1906 and ceased operations in 1985. From about 1920 until 1973, the USS Lead facility was a primary smelter of lead. Operations included a refining process that created high-quality lead free of bismuth. From 1973 until its closure in 1985, the USS Lead facility was a secondary smelter and a reprocessor of car batteries. Secondary refinery operations included (1) battery breaking with tank treatment of spent battery acid at a rate of 16,000 gallons per day; (2) baghouse dust collection with storage in on-site waste piles of up to 8,000 tons of flue dust; and (3) blast furnace slag disposal in a wetland next to and along the southern facility boundary. Secondary lead recovery operations at the facility ended in 1985. USS Lead paid a settlement to fund operation and maintenance of the closed and remediated facility in an agreement with the Resource Conservation and Recovery Act (RCRA) Corrective Action process of the U.S. EPA.

In 1985, the Indiana Department of Environmental Management (IDEM) sampled some residential properties north of the USS Lead facility. IDEM found elevated lead levels in residential yards and attributed the contamination to the USS Lead facility. In September 1985, the Indiana State Board of Health found USS Lead in violation of state law and stated that the lead-contaminated soils may pose a risk to human health and the environment. IDEM referred the USS Lead facility to U.S. EPA for cleanup.

Since 1985, U.S. EPA has overseen the remediation and management of lead-contaminated soils within the boundaries of the USS Lead facility under the RCRA corrective action process. Cleanup efforts at the facility included the removal of lead-contamination soil and its placement in a Corrective Action Management Unit and the remediation of on-site wetlands. In 2003, U.S. EPA sampled soils in the residential area north of the USS Lead facility as a part of the RCRA Corrective Action investigation. These sampling results showed that some yards contained high levels of lead contamination. Most of the yards with the highest lead sampling results were in the southern portion of the residential area.

According to the Region V Superfund Environmental Justice Analysis, the population of the area within 1 mile of the Site is 92 percent minority. This percentage meets the Region V demographic criterion for identifying an environmental justice case.

ACTIONS: The levels of lead in soil in some residential yards exceed the regulatory removal action level for lead of 1,200 parts per million (ppm). Present throughout the residential community, these lead levels represent imminent and substantial endangerment of public health, welfare, and the environment. Therefore, U.S. EPA approved an Action Memorandum for the Site on January 22, 2008. The Action Memorandum requests a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) time-critical removal action at the Site.

On June 9, 2008, U.S. EPA; the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START); and Environmental Quality Management (EQM), the Emergency and Rapid Response Services (ERRS) contractor, mobilized to the Site to begin the removal of lead-contaminated soil from 13 residential properties. The residential removal cleanup level was established at 400 ppm.

Removal activities were completed on September 25, 2008. The ERRS contractor arranged for the transportation and disposal of 1,838 tons of lead-contaminated soil at the Forest Lawn Landfill. Clean backfill for the Removal Action totaled 3,120 cubic yards.

_____

Fredrick A. Micke, On-Scene Coordinator
U.S. EPA, Region V
Chicago, Illinois

I. SUMMARY OF EVENTS

A. SITE CONDITIONS AND BACKGROUND

1. Initial Situation

The USS Lead Site (Site) is located in East Chicago, Lake County, Indiana. The general Site area is roughly bounded by Aster Street (St.) on the west, Chicago Avenue (Ave.) on the north, Parish Ave. on the east, and 151st St. on the south. The site is located in a mixed light-industrial and residential area that includes about 1,200 homes; a small number of parks; open space as a part of a railroad right-of-way; schools; and public buildings. The removal action targeted lead-contaminated soil at 13 residential properties within this area (Figure 1 and Figures 2 through 13). The Meridian coordinates for the Site are 41E37'25" North and 87E27'41" West. The East Chicago neighborhood in the Site area has been an area of intense industrial activity dating back to the early 1900s. Smelting and other metals-related processes dominated area industrial activities. Many companies involved in metal work included lead-related processes that involved smelting and lead compound production.

2. Location of Hazardous Substance(s)

Between 1985 and 2007, several environmental investigations were performed at the Site to document contamination. These investigations are summarized below.

- In 1985, the Indiana Department of Environmental Management (IDEM) sampled some residential properties north of Site. IDEM found elevated lead levels in residential yards and attributed the contamination to the US Smelter and Lead (USS Lead) facility.
- In 2002, as part of the Superfund Soil Sampling Project, IDEM sampled the Site area. Two samples contained lead at concentrations above 1,200 parts per million (ppm), the regulatory removal action level for lead.
- In 2003, the United States Environmental Protection Agency (U.S. EPA) sampled soils in the residential area north of the USS Lead facility as a part of the Resource Conservation and Recovery Act (RCRA) Corrective Action investigation. Six samples contained lead at levels exceeding the removal action level for lead.
- In 2006, the U.S. EPA conducted soil investigations in the residential area north of the USS Lead facility at multiple depth intervals. Lead levels in the soil decreased with depth. Lead-impacted soil was found down to 6 inches below ground surface (bgs).
- In 2007, samples from two residential yards confirmed lead levels above the regulatory removal action level for lead.

Because the previous investigations results indicated lead at concentrations exceeding the regulatory removal action level of 1,200 ppm, the U.S. EPA approved an Action Memorandum for the Site on January 22, 2008. The Action Memorandum requests a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) time-critical removal action.

3. Cause of Release or Discharge

Many of the companies involved in metal work in the Site area used processes that involved smelting and lead compound production. As a part of their activities, companies in the Site area generated lead products or wastes in a particulate form. The potential emission sources at these facilities include furnace stacks, waste piles, and spills of lead products. Chronic airborne pollution from the USS Lead facility and from other facilities in the Site area is the probable source of the lead contamination at the Site. Also, it is believed that soil impacted with lead and waste products from smelting operations may have been given to local residents for use as backfill material.

4. Efforts to Obtain Response by Responsible Party

This site is being addressed through federal, state, and potentially responsible party (PRP) actions.

B. ORGANIZATION OF RESPONSE

On June 9, 2008, the U.S. EPA; the Weston Solutions, Inc. (WESTON®), Superfund Technical Assessment and Response Team (START); and Environmental Quality Management (EQM), the Emergency and Rapid Response Services (ERRS) contractor, mobilized to the Site. Consistent with the U.S. EPA Action Memorandum, the U.S. EPA team began removing lead-contaminated soil from 13 privately owned residential properties (Figures 2 through 13). Table 1 summarizes the organization of the response.

C. INJURY/ POSSIBLE INJURY TO NATURAL RESOURCES

1. Content and Time of Notice to Natural Resource Trustees

(Not Applicable)

2. Trustee Damage Assessment and Restoration Activities

(Not Applicable)

D. CHRONOLOGICAL NARRATIVE OF RESPONSE ACTIONS

1. Threat Abatement Actions Taken

On June 9, 2008, U.S. EPA, the ERRS contractor, and WESTON START mobilized to the Site to begin removal activities. Before mobilization, the activities summarized below were completed.

- The ERRS contractor completed a health and safety plan (HASP) for the Site.
- The Indiana Underground Plant Protection Service (IUPPS) located and marked utilities at all 13 residences.
- Waste characterization was performed, and waste profiles were established for disposal purposes. A representative waste sample was collected and analyzed for Toxicity Characteristic Leaching Procedure (TCLP) metals, TCLP volatile organic compounds (VOC), TCLP semivolatile organic compounds (SVOC), and pH.

Republic Services, Inc. granted non-hazardous, special waste approval for disposal of Site soil.

U.S. EPA identified 15 properties that contained soil with lead concentrations exceeding the regulatory removal action level for lead of 1,200 ppm. The U.S. EPA obtained access agreements to conduct remedial action for 13 of the 15 properties. The U.S. EPA was unable to obtain access agreements for two properties: 4907 Grasselli Ave. and 714 East 151st St. Upon completion of the removal action, removal completion letters for each property were delivered to the property owners (Attachment D).

Removal activities for each of the 13 properties are discussed below in chronological order. Attachment A provides a photographic log of Site conditions and removal activities, Attachment B provides additional Site photographs, Attachment C provides the analytical results for samples collected during the removal activities, and Attachment D provides Site removal completion letters to property owners.

Removal activities were initiated at 4932 and 4934 Grasselli Ave. on June 11, 2008. This vacant lot is located at the corner of Grasselli Ave. and 151st St. just northeast of the railroad right-of-way. The triangular plot occupied about 11,250 square feet (ft^2) and was divided into 10 grids around several large trees (Figure 2). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4932 and 4934 Grasselli Ave. on June 11, 2008. Temporary perimeter safety fencing was installed to restrict Site access during construction activities.
- Air monitoring was conducted from June 12 through July 3, 2008, to ensure that airborne particles did not migrate off site and to ensure that lead levels did not pose a risk to Site personnel. Four SKC air pumps connected to 5-micrometer (μm) mixed cellulose ester (MCE) filter media encased in cartridges were used. Three of the sampling pumps were attached to perimeter fencing in a triangular pattern to collect readings regardless of wind direction. The fourth pump and cartridge were affixed to Site personnel involved in earth-moving work. The sampling cartridges were submitted for laboratory analysis for total lead. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level.
- Excavation of impacted soil began on June 12, 2008. The ERRS contractor used an excavator to load soil into roll-off boxes and dump trucks. Soil was excavated to about 2 feet bgs in Grids 1 through 10. Work around several large trees was completed using shovels and hand digging in order to preserve the trees and their root systems. An approximately 1,250-ft^2 portion in the middle of the area (Figure 2) was excavated to a depth of more than 2 feet bgs. Lead levels in the soil remained elevated above the residential removal cleanup level of 400 ppm. Because a soil barrier (backfill) later was placed over the property, direct contact and migration were prevented. Therefore, no further soil was removed from this area. The ERRS contractor placed plastic barrier sheeting over this area for delineation before backfilling.
- A total of approximately 44 loads or 600 tons of lead-contaminated soil was removed from 4932 and 4934 Grasselli Ave. (Table 2). Excavation was completed on July 3, 2008.

- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm) (Figure 2 and Table 3 show post-excavation results).
- Confirmatory soil samples also were collected to verify field readings before backfilling. A five-point composite sample was collected from an area of less than 5,000 ft^2 as specified in the U.S. EPA Superfund Lead-Contaminated Residential Sites Handbook. These samples were submitted for total lead laboratory analysis. Ten confirmatory samples were collected at 4932 and 4934 Grasselli Ave., one from each grid shown in Figure 2. The laboratory results indicated that the lead levels in all 10 grids were below the residential removal cleanup level of 400 ppm (Figure 2 and Table 3).
- Backfilling was conducted from July 14 through 16, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and to compact it to a level grade. A total of 46 loads or 920 cubic yards (yd^3) of soil was backfilled (Table 2).

Removal activities were conducted at 5040 Kennedy Ave. from July 8 through September 10, 2008. This residential property is located on the corner of Kennedy Ave. and 151st St. The removal targeted the residence's backyard, two small areas between the front of the house and city sidewalk, and a small area of soil on the south side of the house (Figure 3). A metal tool shed and large deck attached to the rear of the house were left in place, and excavation was conducted around them. The vacant lot next to this property was used to stage filled roll-off boxes awaiting transport after clearance was received from the City of East Chicago and the adjacent property owner. The removal activities are summarized below.

- Equipment and personnel were mobilized to 5040 Kennedy Ave. on July 8, 2008. Property owners gave verbal agreement to allow wooden parameter fencing to be temporarily removed for equipment access. A section of fencing was dismantled at the beginning of each work day and repaired before Site personnel left for the day.
- Air monitoring was conducted from July 8 through 11, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on July 8, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. Soil was excavated to a depth of 2 feet bgs. Work around tree roots, the front sidewalk, deck support footings, and the metal tool shed was completed using shovels and hand digging.
- A total of approximately 7 loads or 56 tons of lead-contaminated soil was removed from 5040 Kennedy Ave. (Table 2). Excavation was completed on July 11, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm) (Figure 3 and Table 3 show post-excavation results).
- Confirmatory soil samples also were collected to verify field readings before backfilling. Four five-point composite samples were collected and submitted for laboratory analysis on July 14, 2008. The four soil samples included two from the

backyard and one each from the side and front plots. The laboratory results indicated that lead levels in all four samples were below the residential cleanup level of 400 ppm (Figure 3 and Table 3).

- Backfilling was conducted from July 14 through 16, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and compact it to a level grade. A total of 8 loads or 160 yd^3 of soil was backfilled (Table 2).

Removal activities were conducted at 4936 Melville Ave. from July 14 through September 25, 2008. This residential property includes a large side yard with a crushed stone cover. The side yard was field screened using the Innov-X but not remediated after no elevated lead levels were found in the soil. Subsequently, the removal targeted two small areas in front of the house to the city sidewalk and a small area at the rear of the property next to an alley (Figure 4). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4936 Melville Ave. on July 14, 2008. The alley and side yard provided ample access and staging space for equipment during the removal.
- Air monitoring was conducted at 4936 Melville Ave. on July 14, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on July 14, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. An outdoor light was temporarily moved from in front of the house to accommodate remediation activities. In the two areas in front of the residence, soil was removed to about 1 foot bgs. In the approximately 50-ft^2 area in the rear of the property, soil was excavated to over 2 feet bgs. Lead levels in the soil remained elevated above the residential removal cleanup level of 400 ppm. Because a soil barrier (backfill) later was placed over this area, direct contact and migration were prevented. Therefore, no further soil was removed from this area. The ERRS contractor placed plastic barrier sheeting over this area for delineation before backfilling.
- A total of approximately 16 loads or 124 tons of lead-contaminated soil was removed from 4936 Melville Ave. (Table 2). Excavation was completed on July 14, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm) (Figure 4 and Table 3 show post-excavation results).
- Backfilling was conducted on July 16 and 17, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and compact it to a level grade. A total of 10 loads or 200 yd^3 of soil was backfilled (Table 2).

Removal activities were conducted at 4912 Melville Ave. from July 15 through September 10, 2008. This residence is located directly south of the vacant lot at the corner of Melville Ave. and 149th St. WESTON START used the Innov-X to field screen the green space surrounding the house. Three areas with high lead levels were targeted for removal: the back and side yard south of the house, and two small areas at the base of the gutter downspouts on the north side of the house (Figure 5). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4912 Melville Ave. on July 15, 2008. The alley and neighboring vacant lot provided access and staging space for equipment during the removal.
- Air monitoring began on July 15, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on July 15, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. In the two small areas on the north side of the house under the gutter downspouts, soil was excavated to 1.5 feet bgs. In the side yard and back yard, soil was excavated to 1 foot bgs. Work was conducted around tree roots and bushes.
- A total of approximately 21 loads or 175 tons of lead-contaminated soil was removed from 4912 Melville Ave. (Table 2). Excavation was completed on August 6, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm) (Figure 5 and Table 3 show post-excavation results).
- Confirmatory soil samples also were collected to verify field readings before backfilling. One five-point composite sample was collected from the side yard and submitted for laboratory analysis on July 17, 2008. In addition, two five-point composite samples were collected from the back yard and submitted for laboratory analysis on August 6, 2008. The laboratory results indicated that lead levels in all three samples were below the residential cleanup level of 400 ppm (Figure 5 and Table 3).
- Backfilling was conducted from August 12-14, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and compact it to a level grade. A total of 14 loads or 280 yd^3 of soil was backfilled (Table 2).

Removal activities were conducted at 5011 Melville Ave. from July 21 through September 10, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. The side yard south of the house and back yard yielded high field screening values. Prior to initiating removal activities, three five-point composite samples were collected and submitted for laboratory analysis on July 17, 2008. The soil samples, two from the side yard and one from the back yard, all indicated total lead levels exceeding 650 ppm (Figure 6). The removal activities are summarized below.

- Equipment and personnel were mobilized to 5011 Melville Ave. on July 21, 2008. The alley and nearby vacant lot provided access and staging space for equipment during the removal.
- On July 22, 2008, the property owner requested that soil from underneath the front porch not be removed, for concern that the porch foundation may become unstable.
- Air monitoring began on July 22, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.

- Excavation of impacted soil began on July 22, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. An outdoor light was temporarily moved from the side yard to accommodate remediation activities. Two large patches of bushes in the side yard and a concrete walkway from the rear of the house back to the alley were left in place, and excavation activities were conducted around these area. Soil was excavated to 2 feet bgs from behind and around the south side of the house. After excavation and further field screening, lead levels in soil directly behind the house north of the concrete walkway remained elevated. Because a soil barrier (backfill) later was placed over the property, direct contact and migration were prevented. Therefore, no further soil was removed from this area. The ERRS contractor placed plastic barrier sheeting over this area for delineation before backfilling.
- A total of approximately 11 loads or 180 tons of lead-contaminated soil was removed from 5011 Melville Ave. (Table 2). Excavation was completed on July 28, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm) (Figure 6 and Table 3 show post-excavation results).
- Confirmatory soil samples also were collected to verify field readings before backfilling. Three five-point composite samples were collected and submitted for laboratory analysis on July 25, 2008. The laboratory results indicated that lead levels in all three samples were below the residential cleanup level of 400 ppm (Figure 6 and Table 3).
- Backfilling was conducted from August 12 through14, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and compact it to a level grade. A total of 11 loads or 220 yd^3 of soil was backfilled (Table 2).

Removal activities were conducted at 4729 Kennedy Ave. from August 7 through September 10, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. A small area in the northwest corner of the front yard and the back yard yielded high lead levels and were targeted for removal (Figure 7). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4729 Kennedy Ave. on August 7, 2008.
- Air monitoring was conducted on August 7, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on August 7, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. Soil was excavated to a depth of 2 feet bgs in both the front and back yard areas. A small crab apple tree was removed from the Site after the property owner verbally approved its removal.
- A total of approximately 13 loads or 154 tons of lead-contaminated soil was removed from 4729 Kennedy Ave. (Table 2). Excavation was completed on August 12, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an

Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm). The field post-excavation screening results indicated that lead levels in the samples were below the residential cleanup level of 400 ppm (Figure 7 and Table 3).

- Backfilling was completed from August 14 through 18, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and compact it to a level grade. A total of 10 loads or 200 yd^3 of soil was backfilled (Table 2).

Removal activities were conducted at 716 East 151st St. from August 12 through September 10, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. The front and back yards were targeted for removal (Figure 8). The removal activities are summarized below.

- Equipment and personnel were mobilized to 716 East 151st St. on August 12, 2008. A portion of chain-link fence was taken down to allow better equipment access to the backyard. The fence was removed with the owner's approval, and the fence was repaired after remediation was complete.
- Air monitoring began on August 13, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on August 12, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. Soil was excavated to a depth of 2 feet bgs from both the front and back yards.
- A total of approximately 4 loads or 48 tons of lead-contaminated soil was removed from 716 East 151st St. (Table 2). Excavation was completed on August 14, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm). The post-excavation field screening results indicated that lead levels in the samplse were below the residential cleanup level of 400 ppm (Figure 8 and Table 3).
- Backfilling was completed on August 18, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) to the Site and compact it to a level grade. A total of 3 loads or 60 yd3 of soil was backfilled (Table 2).

Removal activities were conducted at 506 East 151st St. from August 14 through September 10, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. The front yard and side yard west side of the house yielded high lead levels and were targeted for removal (Figure 9). The removal activities are summarized below.

- Equipment and personnel were mobilized to 506 East 151st St. on August 14, 2008. A portion of fencing on the west side of the house was temporarily removed to allow equipment access.
- Air monitoring began on August 14, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on August 14, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. Soil was

excavated to a depth of 2.5 feet bgs from the front and side yards. During the excavation activities, a track hoe struck a residential gas line. The gas supply to the residence was temporarily halted, and the gas company repaired the line before excavation continued.

- A total of approximately 8 loads or 83 tons of lead-contaminated soil was removed from 506 East 151st St. Excavation was completed on August 18, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm). The post-excavation field screening results indicated that lead levels in the samples were below the residential cleanup level of 400 ppm (Figure 9 and Table 3).
- Backfilling was completed on August 18, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) and compact it to a level grade. A total of 9 loads or 180 yd^3 of soil was backfilled (Table 2).

Removal activities were conducted at 4807 McCook Ave. from August 19 through September 10, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. Two areas from the front of the house to the city sidewalk and the back yard yielded high lead levels and were targeted for removal (Figure 10). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4807 McCook Ave. on August 19, 2008. A portion of fencing between the back yard and alley was temporary removed to allow equipment access.
- Air monitoring began on August 19, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on August 19, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes in the back yard. The smaller areas in front of the house required hand digging with shovels because of limited equipment access. Soil was excavated to a depth of 2 feet bgs in both the front and back yard areas.
- A total of approximately 8 loads or 89 tons of lead-contaminated soil was removed from 4807 McCook Ave. (Table 2). Excavation was completed on August 22, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm). The post-excavation field screening results indicated that lead levels in the samples were below the residential cleanup level of 400 ppm (Figure 10 and Table 3).
- Backfilling was completed on August 28, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) and compact it to a level grade. A total of 9 loads or 180 yd^3 of soil was backfilled.

Removal activities were conducted at 4830 McCook Ave., from August 21 through September 24, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. The front and back yards yielded high lead levels and were targeted for removal (Figure 11). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4830 McCook Ave. on August 21, 2008. The alley and vacant area behind the property provided access and staging space for equipment during the removal.
- Air monitoring began on August 21, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on August 21, 2008. Because of limited Site access, a small track hoe and wheel barrels were used to remove soil and transport it into the alley behind the garage for disposal. The smaller plots in front of the house required hand digging with shovels. Soil was excavated to a depth of 2 feet bgs in the front and back yards, and tree roots were left in place.
- A total of approximately 3 loads or 50 tons of lead-contaminated soil was removed from 4830 McCook Ave. (Table 2). Excavation was completed on August 27, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm). The post-excavation field screening results indicated that lead levels in the sample were below the residential cleanup level of 400 ppm (Figure 11 and Table 3).
- Backfilling was completed on September 11, 2008. Dump trucks and wheel barrels were used to deliver clean fill (top soil) and compact it to a level grade. A total of 6 loads or 120 yd^3 of soil was backfilled.

Removal activities were conducted at 5016 Kennedy Ave. from August 25 through September 25, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. The back and side yards yielded high lead levels and were targeted for removal (Figure 12). The removal activities are summarized below.

- Equipment and personnel were mobilized to 5016 Kennedy Ave. on August 25, 2008. The vacant lot next to the side yard on the south side of the house provided ample access and equipment staging space.
- Air monitoring began on August 25, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on August 25, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. Soil was excavated to a depth of 2 feet bgs to a sandy layer in both areas.
- A total of approximately 12 loads or 105 tons of lead-contaminated soil was removed from 5016 Kennedy Ave. (Table 2). Excavation was completed on September 10, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm). The post-excavation field screening results indicated that lead levels in the samples were below the residential cleanup level of 400 ppm (Figure 12 and Table 3).

- Backfilling was completed on September 19, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) and compact it to a level grade. A total of 9 loads or 180 yd^3 of soil was backfilled.

Removal activities were conducted at 4929 Melville Ave. from September 11 through 25, 2008. WESTON START used the Innov-X to field screen the yards surrounding the house. The back and front yards yielded high lead levels and were targeted for removal (Figure 13). The removal activities are summarized below.

- Equipment and personnel were mobilized to 4929 Melville Ave. on September 11, 2008. Portions of fencing in front of the house and between the backyard and alley were temporarily removed to allow equipment access.
- Air monitoring began on September 11, 2008. Results were reviewed daily to confirm that lead levels in airborne particles were under the specified worker exposure level. No exceedances were documented at this work location.
- Excavation of impacted soil began on September 11, 2008. The ERRS contractor used a track hoe to fill a Bobcat bucket, which loaded soil into roll-off boxes. The smaller areas in front of the house required hand digging with shovels because of limited equipment access. Soil was excavated to a depth of 2.5 feet bgs.
- A total of approximately 20 loads or 174 tons of lead-contaminated soil was removed from 4929 Melville Ave. (Table 2). Excavation was completed on September 22, 2008.
- WESTON START conducted soil screening and sampling to determine the areas and depths of excavation required for remediation. Site soil was field screened using an Innov-X (Alpha Model 4000A) to determine the lead levels (in ppm) (Figure 13 and Table 3show post-excavation results).
- Confirmatory soil samples also were collected to verify field readings before backfilling. Two five-point composite samples were collected one from the front and one from the back yard, and submitted for laboratory analysis on September 22, 2008. The laboratory results indicated that lead levels in both samples were below the residential cleanup level of 400 ppm (Figure 13 and Table 3).
- Backfilling was completed on September 22 through 24, 2008. Dump trucks and a Bobcat were used to deliver clean fill (top soil) and compact it to a level grade. A total of 21 loads or 420 yd^3 of soil was backfilled.

On September 25, 2008, ERRS and START completed Site cleanup activities and demobilized all personnel and equipment from the Site.

2. Treatment/Disposal/Alternative Technology Approaches Pursued

Throughout the project, efforts were taken to minimize the impact of construction activities on the private residences and surrounding community. Sidewalks, concrete walkways, and permanent stone paths were left in place, and excavation work was conducted around them. These engineered barriers provided migration prevention, and soil was left in place under them. All large trees were left in place. Care was taken to remove only the impacted soil required from around trees because the tree root systems acted as another barrier against lead migration.

Republic Services, Inc., approved the Site soil as a special waste based on results for a representative soil sample collected on June 6, 2008. The Forest Lawn Landfill in Three Oaks, Michigan, accepted the soil as a special waste. The ERRS contractor transported impacted soil by truck to the landfill from June 12 through September 22, 2008. D&R Disposal of East Chicago, Indiana, delivered backfill to the Site from June 14 through September 24, 2008. Finally, to restore the vegetative layer, Star Landscaping of Dyer, Indiana, hydro-seeded the properties from September 10 through 25, 2008. Table 2 summarizes the soil disposal, backfill soil, and restoration date for each of the 13 properties.

Throughout the project, WESTON START used an Innov-X (Alpha Model 4000A) to field screen the lead content of Site soil, determine the areal extent of contamination, and guide excavation activities. Before physical soil samples were submitted to the laboratory, they were screened with the Innov-X (Alpha Model 4000A), and the lead levels (in ppm) were recorded. Laboratory results were compared to the Innov-X levels to create a statistical correlation curve that illustrates the precision of the Innov-X field screening instrument (Figure 14). The lead values, which ranged from 9.3 to 1,400 ppm, were plotted with a linear best-fit line. The resulting R^2 or goodness-of-fit value was 0.9851, or 98.51 percent. Because of the high precision of the Innov-X instrument, field screening values also were used to document cleanup level compliance at selected properties.

3. Public Information and Community Relations Activity

(Not Applicable)

E. RESOURCES COMMITTED

Extramural Costs:

Total ERRS Contractor Costs:	$723,743
Total WESTON START Costs:	$62,128
Extramural Subtotal:	$785,871
Estimated Total Project Costs:	$830,000
Project Ceiling:	$848,300

II. EFFECTIVENESS OF REMOVAL ACTIVITIES

A. ACTIONS TAKEN BY PRPs

(Not Applicable)

B. ACTIONS TAKEN BY STATE AND LOCAL FORCES

(Not Applicable)

C. ACTIONS TAKEN BY FEDERAL AGENCIES AND SPECIAL TEAMS

(Not Applicable)

D. ACTIONS TAKEN BY CONTRACTORS, PRIVATE GROUPS, AND VOLUNTEERS

The U.S. EPA ERRS contractor, EQM, excavated the lead-contaminated soil from the Site. The ERRS contractor coordinated the transportation and disposal of the associated waste streams and arranged for Site security, utilities, and the use of equipment necessary to perform the removal action (such as an excavator, Bobcat, track hoe, tri-axle dump truck, and roll-off box transport trucks). The ERRS contractor also procured all subcontractors.

The U.S. EPA START contractor, WESTON, provided technical support to the U.S. EPA while on Site. In addition, WESTON START performed general and health and safety oversight, documentation of all Site activities, air monitoring, multi-media sampling, and START-related cost tracking.

All impacted soil was transported to the Forest Lawn Landfill located at 8230 W. Forestlawn Road in Three Oaks, Michigan. The ERRS contractor used several 20-yd^3 roll-off boxes and a tri-axle dump truck to transport the impacted soil. The ERRS contractor contracted D&R Disposal of East Chicago, Indiana, to provide clean backfill for the project. Backfill and top soil were delivered to work areas by dump truck. The ERRS contractor contracted Star Landscaping of nearby Dyer, Indiana, to perform hydro-seeding to restore the Site vegetation.

Three contracted laboratories performed all analyses required during the removal activities. Bureau Vista North America, Inc., located at 22345 Roethel Drive in Novi, Michigan, and EMSL Analytical, Inc., located at 2444 W. George Street in Chicago, Illinois, analyzed all lead in air samples. Microbac Laboratories located at 250 West 84th Drive in Merrillville, Indiana, performed all additional analytical work for the Site.

III. DIFFICULTIES ENCOUNTERED

A. ITEMS THAT AFFECTED THE RESPONSE

(Not Applicable)

B. ISSUES OF INTERGOVERNMENTAL COORDINATION

(Not Applicable)

C. DIFFICULTIES INTERPRETING, COMPLYING WITH, OR IMPLEMENTING POLICIES AND REGULATIONS

(Not Applicable)

IV. RECOMMENDATIONS

A. MEANS TO PREVENT RECURRENCE OF THE DISCHARGE OR RELEASE

All source material has been removed from the Site. To ensure that the risk to human health, welfare, or the environment posed by Site-related contaminants is mitigated, engineered barriers and institutional controls should be maintained at all property addresses. Engineered barriers consist of the clean backfill and plastic sheeting installed at each Site in areas where confirmation soil results or screening levels exceeded the remediation objectives.

B. MEANS TO IMPROVE RESPONSE ACTIONS

(Not Applicable)

C. PROPOSALS FOR CHANGES IN REGULATIONS AND RESPONSE PLANS

(Not Applicable)

FIGURES

Legend

Property Locations

0 500 Feet

N

Imagery Source: http://services.arcgisonline.com/v92

Prepared For:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-0806-008
DCN: 467-2A-AEFW

Prepared By:
WESTON SOLUTIONS, INC.
20 N. Wacker Dr., Suite 1210
Chicago, Illinois 60606

Figure 1
Property Locations
USS Lead Removal Site
East Chicago, Lake County, Indiana

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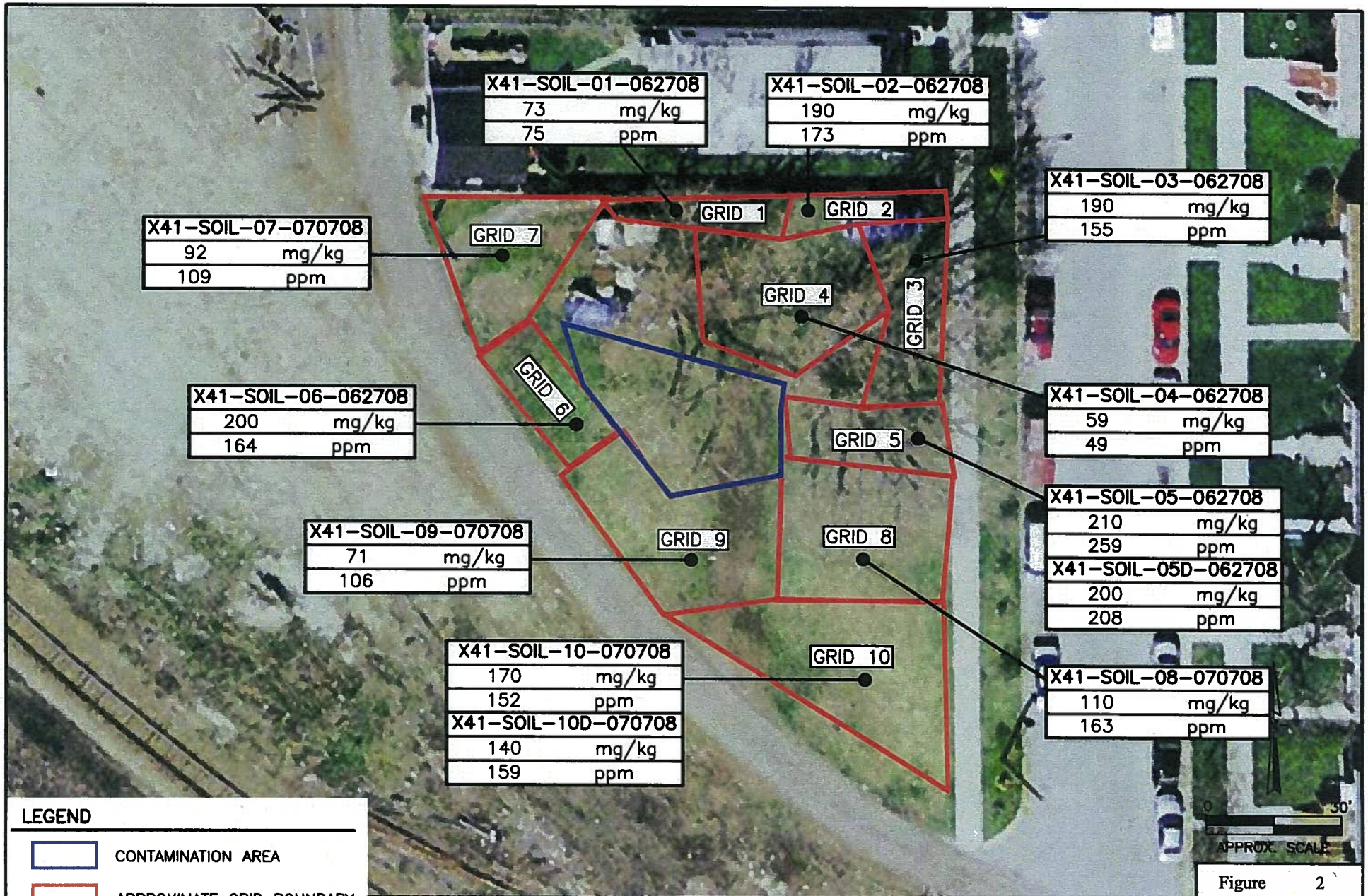

LEGEND

CONTAMINATION AREA

APPROXIMATE GRID BOUNDARY

SAMPLE ID
LAB RESULT
INNOV-X RESULT

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Figure 2

Excavation Plan - 4932 & 4934 Grasselli Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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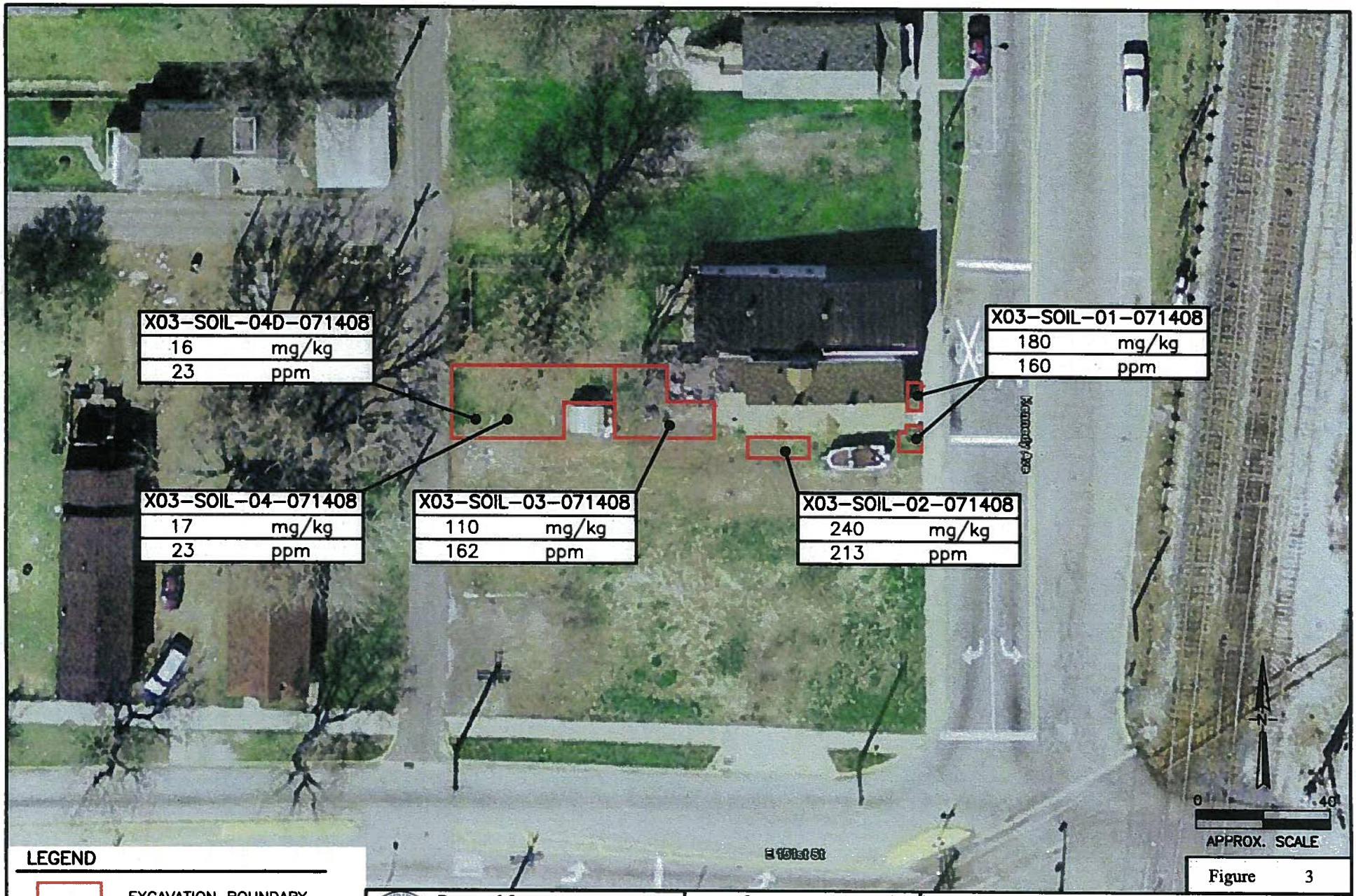

LEGEND

EXCAVATION BOUNDARY

SAMPLE ID
LAB RESULT
INNOV-X RESULT

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Figure 3

Excavation Plan - 5040 Kennedy Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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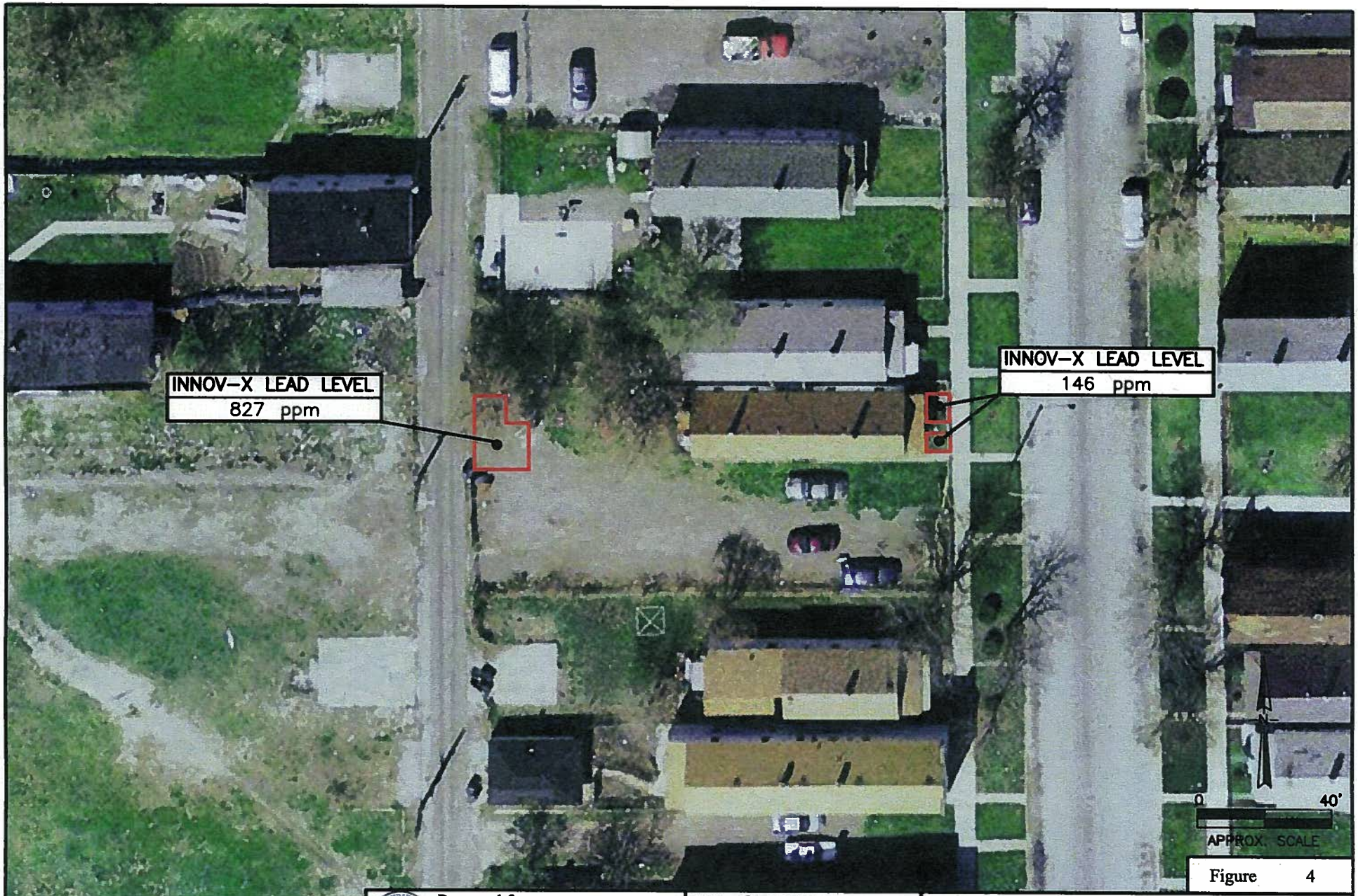

Figure 4

LEGEND

EXCAVATION BOUNDARY

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Excavation Boundary and Confirmation Sample Results - 4936 Melville Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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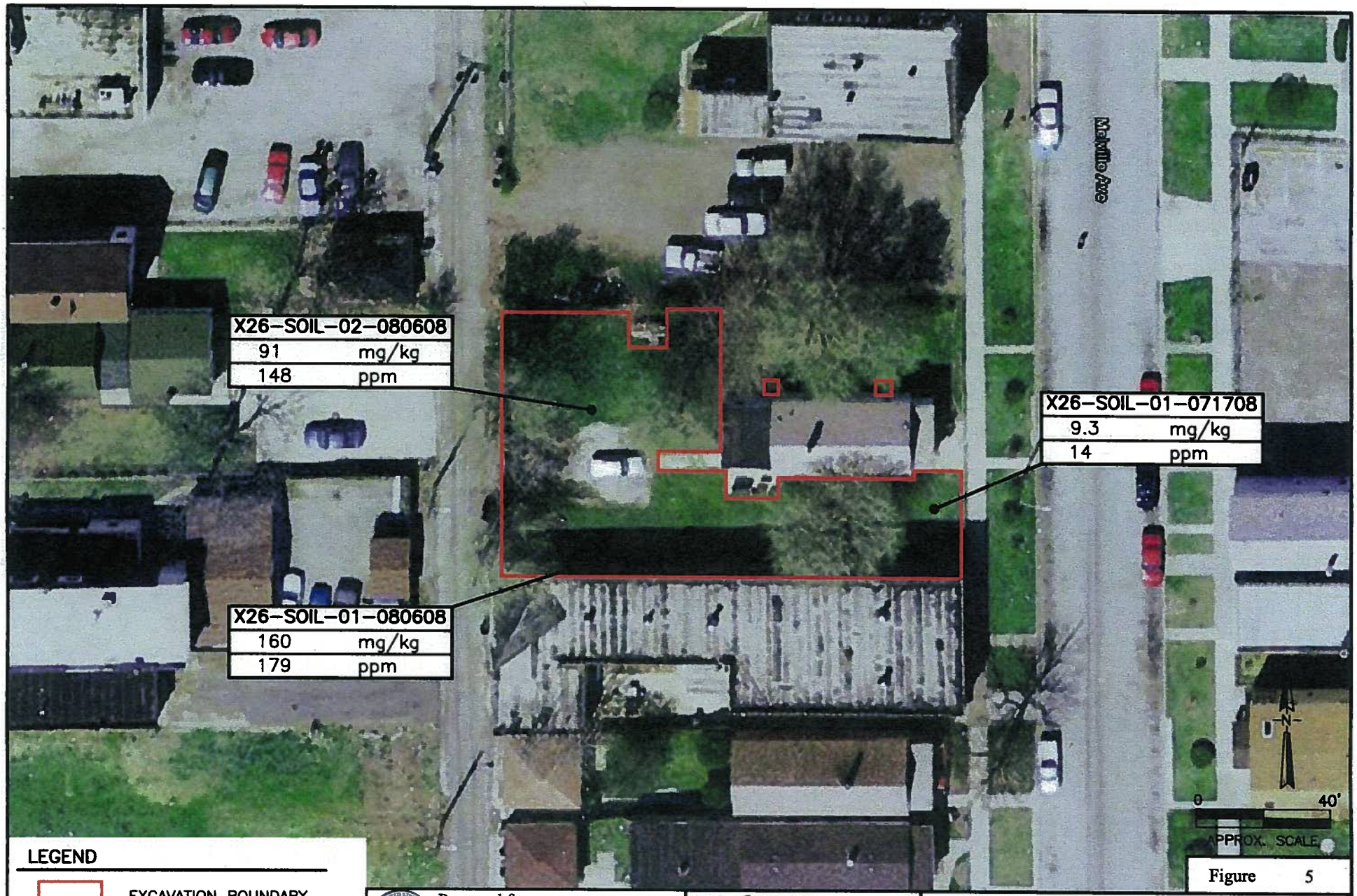

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EXCAVATION BOUNDARY

SAMPLE ID
LAB RESULT
INNOV-X RESULT

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Figure 5

Excavation Plan - 4912 Melville Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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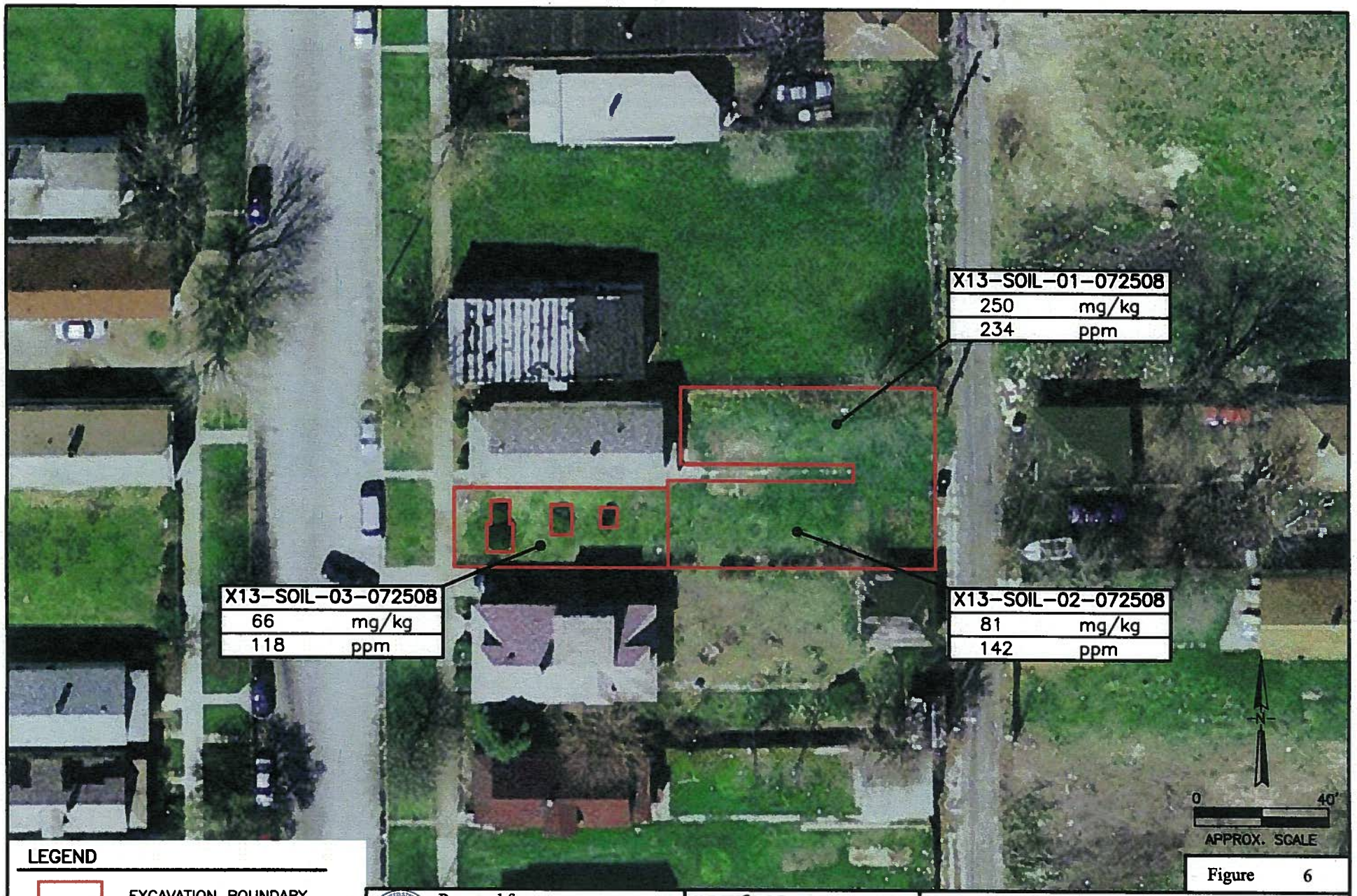

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EXCAVATION BOUNDARY

SAMPLE ID
LAB RESULT
INNOV-X RESULT

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Figure 6

Excavation Plan - 5011 Melville Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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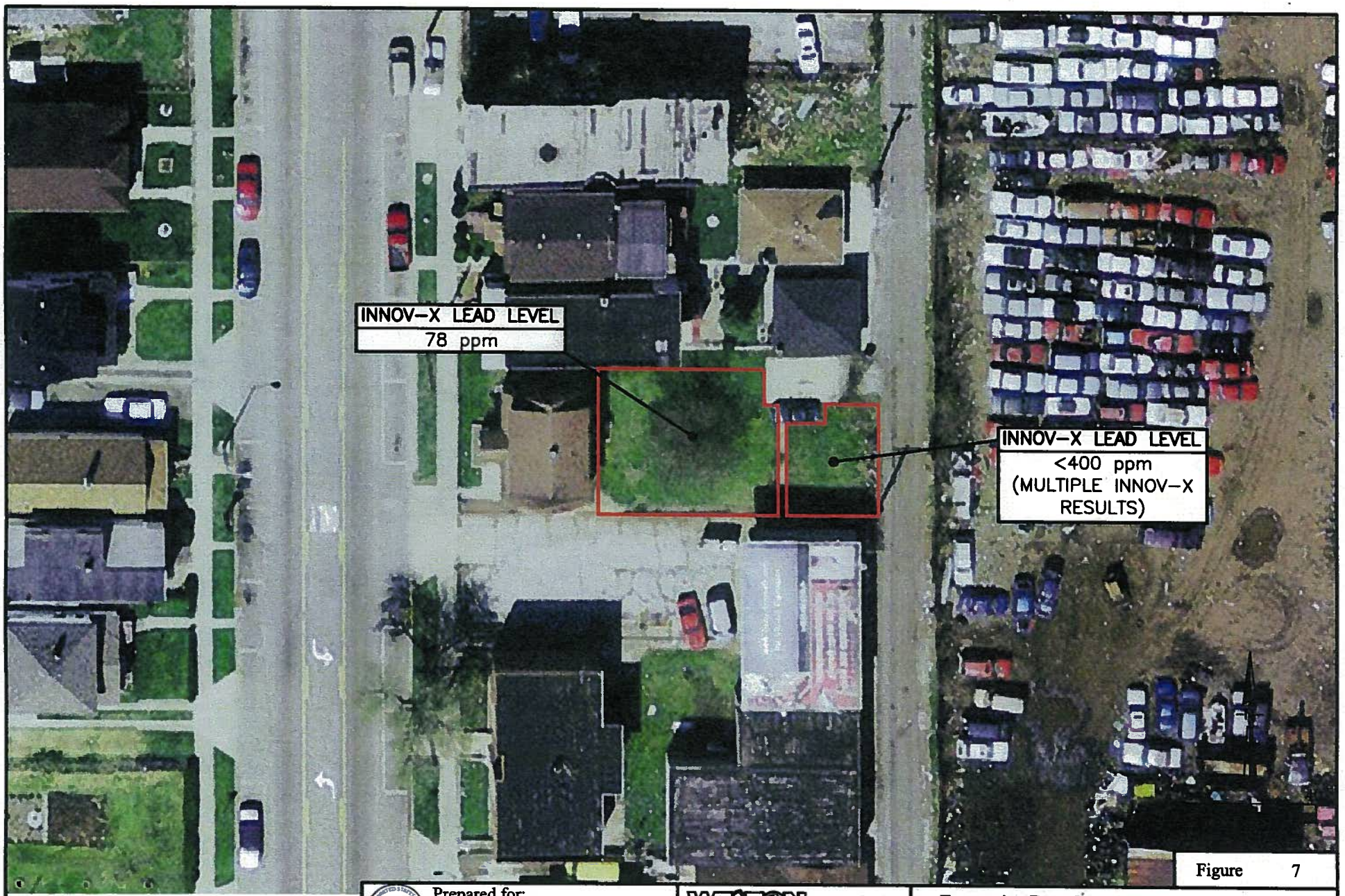

Figure 7

LEGEND

EXCAVATION BOUNDARY

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Excavation Boundary and Confirmation Sample Results - 4729 Kennedy Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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Figure 8

LEGEND

EXCAVATION BOUNDARY

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Excavation Boundary and Confirmation Sample Results - 716 East 151st Street

USS Lead Removal Site

East Chicago, Lake County, Indiana

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Figure 9

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EXCAVATION BOUNDARY

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Excavation Boundary and Confirmation Sample Results - 506 East 151st Street

USS Lead Removal Site

East Chicago, Lake County, Indiana

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EXCAVATION BOUNDARY

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DCN: 467-2A-AEFW

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Figure 10

Excavation Boundary and Confirmation Sample Results - 4807 McCook Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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EXCAVATION BOUNDARY

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Figure 11

Excavation Boundary and Confirmation Sample Results - 4830 McCook Ave.

USS Lead Removal Site

East Chicago, Lake County, Indiana

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Figure 12

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EXCAVATION BOUNDARY

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Excavation Boundary and Confirmation Sample Results - 5016 Kennedy Ave

USS Lead Removal Site

East Chicago, Lake County, Indiana

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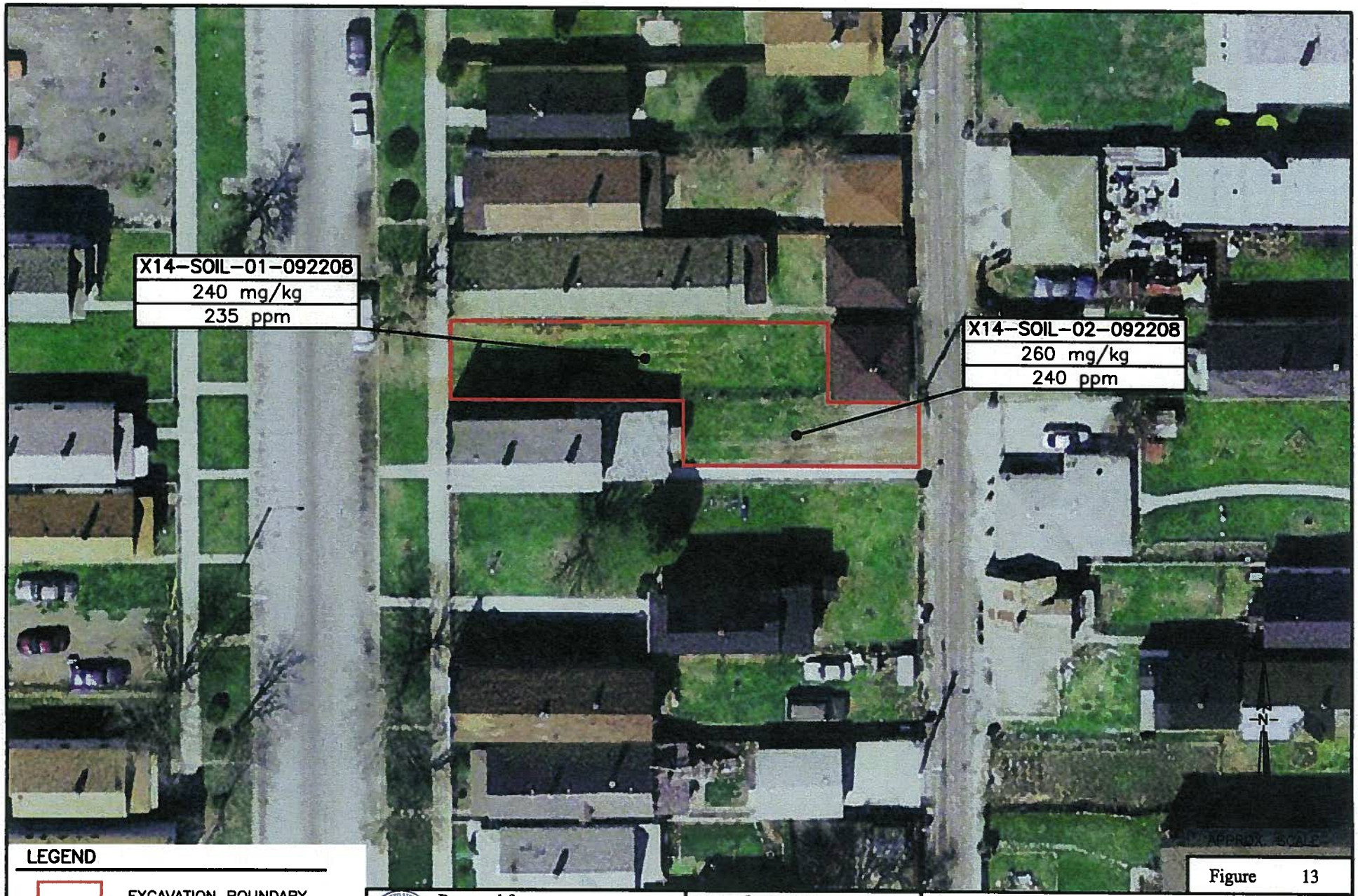

LEGEND

EXCAVATION BOUNDARY

SAMPLE ID
LEAD LAB RESULT
LEAD INNOV-X RESULT

Prepared for:
U.S. EPA. REGION V
Contract No: EP-S5-06-04
TDD NO: S05-0001-0806-008
DCN: 467-2A-AEFW

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Figure 13

Excavation Boundary and Confirmation Sample Results - 4929 Melville Ave

USS Lead Removal Site

East Chicago, Lake County, Indiana

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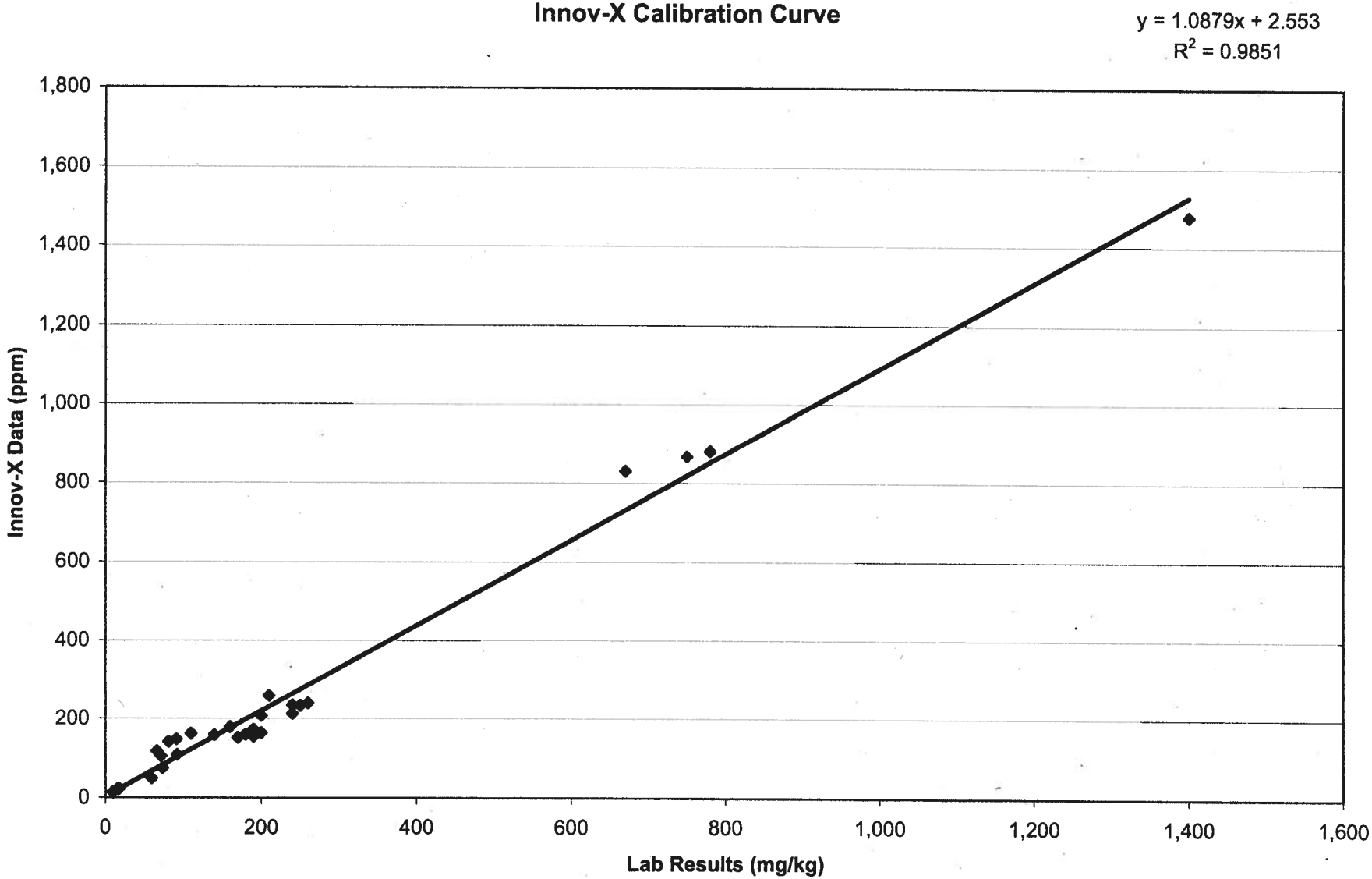
Figure 14
Innov-X Calibration Curve



TABLES

Table 1
Organization of the Response
USS Lead Site
East Chicago, Lake County, Indiana

Agencies or Parties Involved	Contact	Description of Participation
U.S. EPA – Region V Division of Superfund Emergency Response Branch 77 West Jackson Blvd. Chicago, IL 60604 Telephone No.: (312) 886-7182	Fredrick A. Micke	Federal OSC responsible for overall project oversight and success
Weston Solutions, Inc. 20 North Wacker Dr. Suite 1210 Chicago, IL 60606 Telephone No.: (312) 424-3312	Richard H. Mehl, Jr.	WESTON START project manager responsible for removal oversight support, documentation, air monitoring, sampling, and START-related cost-tracking
Environmental Quality Management, Inc. 1800 Carillon Blvd. Cincinnati, OH Telephone No.: (800) 500-0575	Scott Staehling Mark Douglas	Response manager responsible for directing daily ERRS activity, providing personnel and equipment necessary for removal, coordinated transportation and disposal of waste streams, and tracked ERRS-related costs

Notes:
ERRS – Emergency and Rapid Response Services
OSC – On-Scene Coordinator
START – Superfund Technical Assessment and Response Team
U.S. EPA – United States Environmental Protection Agency
WESTON – Weston Solutions, Inc.

Table 2
Waste Soil Disposal and Backfill Summary
USS Lead Site
East Chicago, IN

Address	U.S. EPA Site ID	Utilities Cleared	Area for removal	Exc. Begin	Exc. End	Backfill Begin	Backfill End	Seeded[1]	Soil Disposed[2]		Backfill Soil[3,4]	
									Loads	Tons	Loads	yd^3
4932 Grasselli Ave.	X41	06/12/08	entire lot	06/12/08	07/11/08	07/14/08	07/15/08	09/10/08	44	600	46	920
4934 Grasselli Ave.	X41	06/12/08	entire lot	06/12/08	07/09/08	07/15/08	07/16/08	09/10/08	(included in above)			
5040 Kennedy Ave.	X03	06/03/08	entire yard	07/08/08	07/11/08	07/14/08	07/17/08	09/10/08	7	56	8	160
4936 Melville Ave.	SS19	06/13/08	front yard	07/14/08	07/14/08	07/16/08	07/17/08	09/25/08	16	124	10	200
4912 Melville Ave.	X26	06/03/08	entire yard	07/15/08	08/06/08	08/12/08	08/14/08	09/10/08	21	175	14	280
5011 Melville Ave.	X13	06/12/08	entire yard	07/21/08	07/28/08	07/28/08	08/12/08	09/10/08	11	180	11	220
4729 Kennedy Ave.	X30	06/03/08	back yard	08/07/08	08/12/08	08/14/08	08/18/08	09/10/08	13	154	10	200
716 E. 151st St.	X04	06/13/08	entire yard	08/12/08	08/14/08	08/18/08	08/18.08	09/10/08	4	48	3	60
506 E. 151st St.	X19	06/03/08	entire yard	08/14/08	08/18/08	08/18/08	08/19/08	09/10/08	8	83	9	180
4807 McCook Ave.	X49	06/03/08	enitre lot	08/19/08	08/22/08	08/27/08	08/28/08	09/10/08	8	89	9	180
4830 McCook Ave.	X50	06/03/08	entire lot	08/21/08	08/27/08	08/29/08	09/11/08	09/24/08	3	50	6	120
5016 Kennedy Ave.	X10	06/03/08	entire yard	08/25/08	09/10/08	09/10/08	09/19/08	09/25/08	12	105	9	180
4929 Melville Ave.	X14	06/03/08	entire yard	09/11/08	09/22/08	09/22/08	09/24/08	09/25/08	20	174	21	420
Totals									167	1838	156	3120

N otes:

Exc. = Excavation
ID = Identification
U.S. EPA = U.S. Environmental Protection Agency
yd^3 = Cubic yard

[1] Star Landscaping located at 14509 109th Ave. in Dyer, Indiana, performed hydro-seeding.
[2] Landfilled soil was disposed of at the Forest Lawn Landfill located at 8230 W. Forestlawn Road in Three Oaks, Michigan.
[3] Note that the backfill values presented in yd^3 are prior to compaction.
[4] D&R Disposal located at 4135 Lombardy St. in East Chicago, Indiana, delivered the backfill soil.

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Table 3
Soil Sampling Results
USS Lead Site
East Chicago, IN

Date	Site	Address	Sample ID	Analyte	Test Name	Test No.	Laboratory Result (mg/kg)	Innov-X Result (ppm)	Difference between Results
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-01-062708	Lead	Total Metals by ICP	SW6010B	73	75	2
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-02-062708	Lead	Total Metals by ICP	SW6010B	190	173	17
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-03-062708	Lead	Total Metals by ICP	SW6010B	190	155	35
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-04-062708	Lead	Total Metals by ICP	SW6010B	59	49	10
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-05-062708	Lead	Total Metals by ICP	SW6010B	210	259	49
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-05D-062708	Lead	Total Metals by ICP	SW6010B	200	208	8
6/27/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-06-062708	Lead	Total Metals by ICP	SW6010B	200	164	36
7/7/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-07-070808	Lead	Total Metals by ICP	SW6010B	92	109	17
7/7/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-08-070808	Lead	Total Metals by ICP	SW6010B	110	163	53
7/7/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-09-070808	Lead	Total Metals by ICP	SW6010B	71	106	35
7/7/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-10-070808	Lead	Total Metals by ICP	SW6010B	170	152	18
7/7/2008	X41	4932 & 4934 Grasselli Ave.	X41-Soil-10D-070808	Lead	Total Metals by ICP	SW6010B	140	159	19
7/14/2008	X03	5040 Kennedy Ave.	X03-Soil-01-071408	Lead	Total Metals by ICP	SW6010B	180	160	20
7/14/2008	X03	5040 Kennedy Ave.	X03-Soil-02-071408	Lead	Total Metals by ICP	SW6010B	240	213	27
7/14/2008	X03	5040 Kennedy Ave.	X03-Soil-03-071408	Lead	Total Metals by ICP	SW6010B	110	162	52
7/14/2008	X03	5040 Kennedy Ave.	X03-Soil-04-071408	Lead	Total Metals by ICP	SW6010B	17	23	6
7/14/2008	X03	5040 Kennedy Ave.	X03-Soil-04D-071408	Lead	Total Metals by ICP	SW6010B	16	23	7
7/17/2008	X26	4912 Melville Ave.	X26-Soil-01-071708	Lead	Total Metals by ICP	SW6010B	9.3	14	4.7
8/6/2008	X26	4912 Melville Ave.	X26-Soil-01-080608	Lead	Total Metals by ICP	SW6010B	160	179	19
8/6/2008	X26	4912 Melville Ave.	X26-Soil-02-080608	Lead	Total Metals by ICP	SW6010B	91	148	57
7/17/2008	X13	5011 Melville Ave.	X5011-Soil-02-071708[1]	Lead	Total Metals by ICP	SW6010B	670	830	160
7/17/2008	X13	5011 Melville Ave.	X5011-Soil-03-071708[1]	Lead	Total Metals by ICP	SW6010B	1,400	1,477	77
7/17/2008	X13	5011 Melville Ave.	X5011-Soil-04-071708[1]	Lead	Total Metals by ICP	SW6010B	780	880	100
7/17/2008	X13	5011 Melville Ave.	X5011-Soil-04D-071708[1]	Lead	Total Metals by ICP	SW6010B	750	867	117
7/22/2008	X14	4929 Melville Ave.	NA	Lead	--	--	NA	234	--
7/25/2008	X13	5011 Melville Ave.	X13-Soil-01-072508	Lead	Total Metals by ICP	SW6010B	250	234	16
7/25/2008	X13	5011 Melville Ave.	X13-Soil-02-072508	Lead	Total Metals by ICP	SW6010B	81	142	61
7/25/2008	X13	5011 Melville Ave.	X13-Soil-03-072508	Lead	Total Metals by ICP	SW6010B	66	118	52
8/10/2008	X30	4729 Kennedy Ave.	NA	Lead	--	--	NA	78	--
8/12/2008	X04	716 East 151st St.	NA	Lead	--	--	NA	271	--
8/14/2008	X19	506 East 151st St.	NA	Lead	--	--	NA	148	--
8/19/2008	X49	4807 McCook Ave.	NA	Lead	--	--	NA	95	--
8/19/2008	X49	4807 McCook Ave.	NA	Lead	--	--	NA	120	--
8/21/2008	X49	4807 McCook Ave.	NA	Lead	--	--	NA	340	--
8/21/2008	X50	4830 McCook Ave.	NA	Lead	--	--	NA	67	--
8/21/2008	X50	4830 McCook Ave.	NA	Lead	--	--	NA	132	--
8/25/2008	X10	5016 Kennedy Ave.	NA	Lead	--	--	NA	163	--
8/25/2008	X10	5016 Kennedy Ave.	NA	Lead	--	--	NA	173	--
8/27/2008	X10	5016 Kennedy Ave.	NA	Lead	--	--	NA	120	--
8/27/2008	X10	5016 Kennedy Ave.	NA	Lead	--	--	NA	200	--
9/22/2008	X14	4929 Melville Ave.	X14-Soil-01-092208	Lead	Total Metals by ICP	SW6010B	240	235	5
9/22/2008	X14	4929 Melville Ave.	X14-Soil-02-092208	Lead	Total Metals by ICP	SW6010B	260	240	20

Notes:
[1] Not used as a confirmation sample
ICP = Inductively coupled plasma
ID = Identification
mg/kg = Milligrams per kilogram
NA = Not Analyzed
ppm = Part per million

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