Pilsen Area Soils Site

Chicago, IL.

Lab Results Soil Sampling


Image Source: ESRI Bing Maps
W 16th St
S Blue Island Ave
S Ada St
W 17th St
S Carpenter St
W 18th St
Throop Park
S Laflin St
S Bishop St
W 18th Pl
S Loomis St
S Throop St
S Racine Ave
W 19th St
S Carpenter St
Perez Elementary School
W 19th Pl
S Blue Island Ave
W Cullerton St
W 20th Pl
Dvorak Park
W 21st St
Benito Juarez Community Academy
W 21st Pl
W Cermak Rd
Alley
S Throop St
S Laflin St
Legend
Estimated/Initial Site Boundary
Site Features
0
650
N
Prepared for:
U.S. EPA REGION V
Contract No.: EP-S5-06-04
Prepared By:
WESTON SOLUTIONS, INC
750 E. Bunker Court
Figure 2
Site Features Map
Pilsen Area Soil Site

Legend

- Proposed Railroad Area Sampling Location (20 Locations)
- December 2012 Sampling Location
- Railroad Sampling Section

0 80 Feet

N

Prepared for:
U.S. EPA REGION V

Contract No.: EP-S5-06-04
TDD: S05-0001-1211-002
DCN: 2038-4H-BEKM

Prepared By:
WESTON SOLUTIONS, INC
750 E. Bunker Court
Suite 500
Vernon Hills, Illinois 60061

Figure 6
Proposed Sampling Location Map - Alley
Pilsen Area Soil Site
Chicago, Cook County, Illinois

Alley Description

- Soil samples collected on Dec. 19, 2012 in the Alley (running East to West) connecting Loomis Street and Throop Street, south of West 21st Street and north of West Cermak Road, Chicago, Illinois.
- The Alley is about 600 feet long and 15 feet wide in length and is roughly paved over 1/3 of its length from the east side.

Alley Soil Sampling Method

- Borings were advanced using a Geoprobe to a depth up to four feet bgs at each proposed location.
- Field screening to the identify samples for lab analyses were conducted using a handheld XRF analyzer.
- 10 Grab samples and 10 composite samples plus duplicates were sent to the lab.

Surface and Subsurface Soils Analyses

- *Surface and Subsurface Soils*
- Total RCRA metals (silver, arsenic, barium, cadmium, chromium, mercury, lead, and selenium) plus antimony, copper, tin, and zinc
- Total lead
  - Coarse Fraction (grain size > 250 µm)
  - Fine Fraction (grain size < 250 µm)
- Lead bioavailability
- pH
- Moisture content
- TCLP lead
- EPA Method SW-846 6020

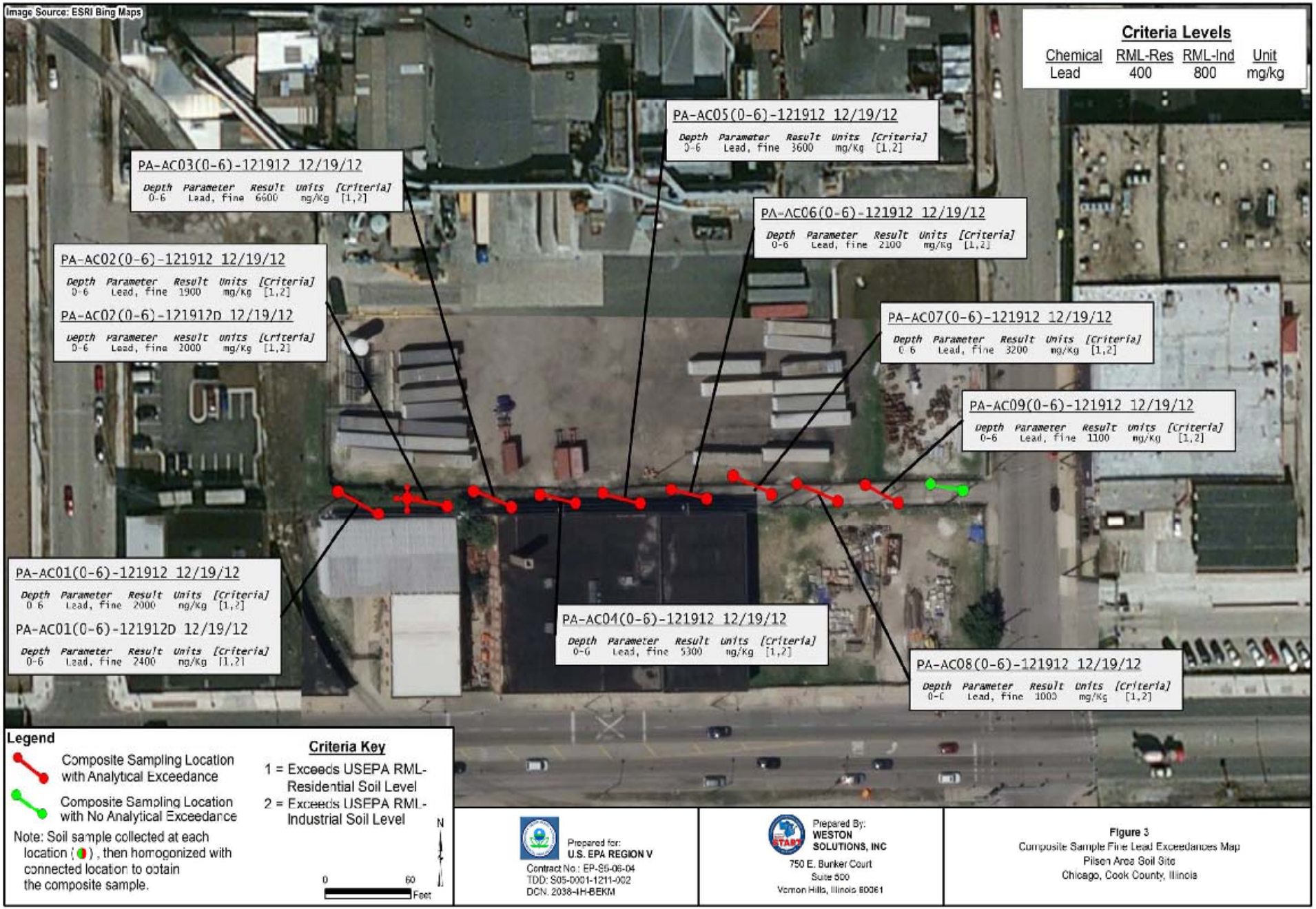
Image Source: ESRI Bing Maps
Criteria Levels
Chemical | RML-Res | RML-Ind | Unit
Lead | 400 | 800 | mg/kg
PA-AC05(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 3600 mg/Kg [1,2]
PA-AC03(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 6600 mg/Kg [1,2]
PA-AC06(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 2100 mg/Kg [1,2]
PA-AC02(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 1900 mg/Kg [1,2]
PA-AC02(0-6)-121912D 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 2000 mg/Kg [1,2]
PA-AC07(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 3200 mg/Kg [1,2]
PA-AC09(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 1100 mg/Kg [1,2]
PA-AC01(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 2000 mg/Kg [1,2]
PA-AC01(0-6)-121912D 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 2400 mg/Kg [1,2]
PA-AC04(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 5300 mg/Kg [1,2]
PA-AC08(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Lead, fine 1000 mg/Kg [1,2]
Legend
Composite Sampling Location with Analytical Exceedance
Composite Sampling Location with No Analytical Exceedance
Note: Soil sample collected at each location ( ), then homogenized with connected location to obtain the composite sample.
Criteria Key
1 = Exceeds USEPA RML-Residential Soil Level
2 = Exceeds USEPA RML-Industrial Soil Level
N
0 60
Feet
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Figure 3
Composite Sample Fine Lead Exceedances Map
Pilsen Area Soil Site
Chicago, Cook County, Illinois

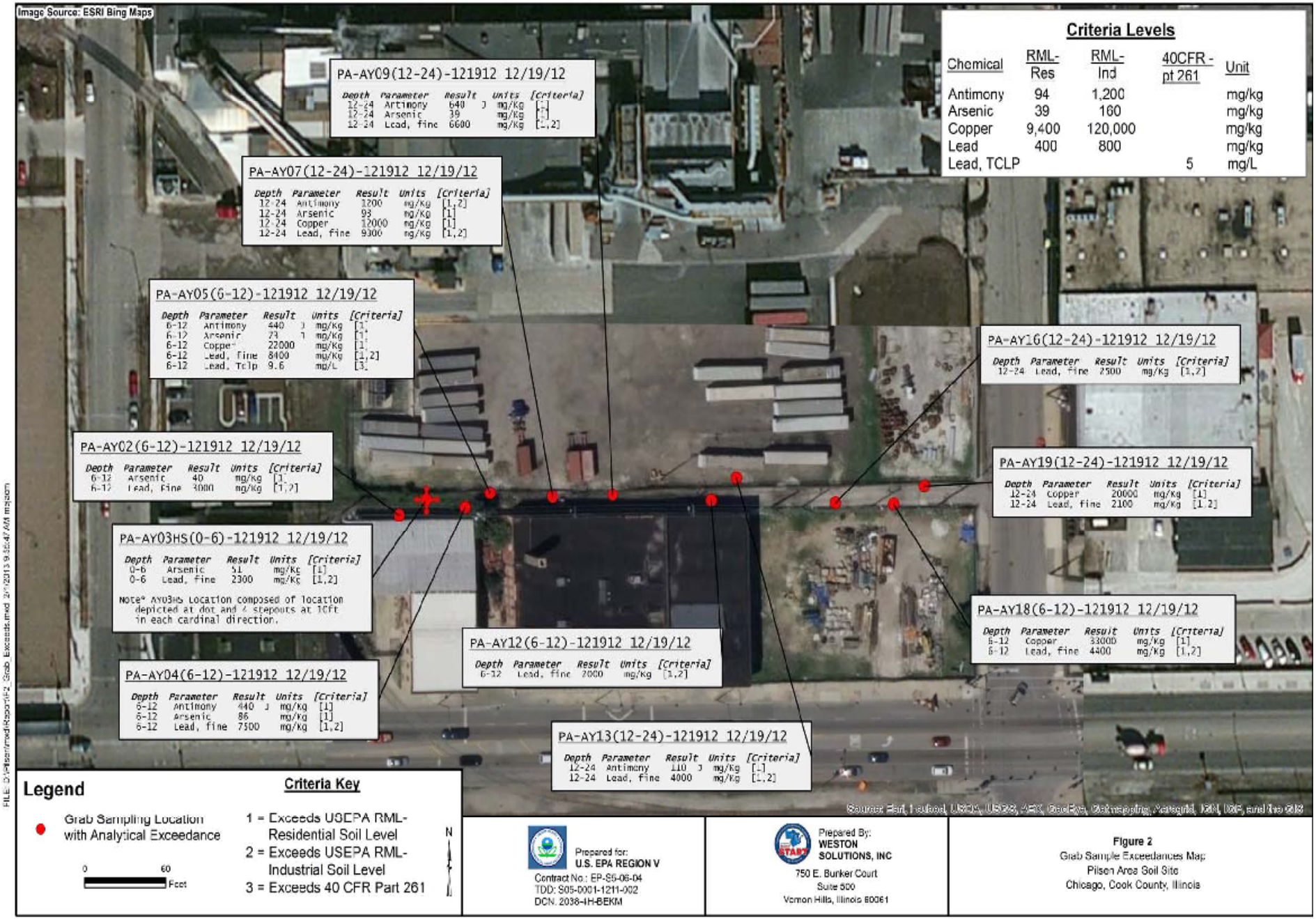
Image Source: ESRI Bing Maps
PA-AY09(12-24)-121912 12/19/12
Depth Parameter Result Units [Criteria]
12-24 Antimony 640 J mg/Kg [1]
12-24 Arsenic 39 mg/Kg [1]
12-24 Lead, fine 6600 mg/Kg [1,2]
PA-AY07(12-24)-121912 12/19/12
Depth Parameter Result Units [Criteria]
12-24 Antimony 1200 mg/Kg [1,2]
12-24 Arsenic 93 mg/Kg [1]
12-24 Copper 12000 mg/Kg [1]
12-24 Lead, fine 9300 mg/Kg [1,2]
PA-AY05(6-12)-121912 12/19/12
Depth Parameter Result Units [Criteria]
6-12 Antimony 440 J mg/Kg [1]
6-12 Arsenic 73 J mg/Kg [1]
6-12 Copper 22000 mg/Kg [1]
6-12 Lead, fine 8400 mg/Kg [1,2]
6-12 Lead, Tclp 9.6 mg/L [3]
PA-AY02(6-12)-121912 12/19/12
Depth Parameter Result Units [Criteria]
6-12 Arsenic 40 mg/Kg [1]
6-12 Lead, fine 3000 mg/Kg [1,2]
PA-AY03HS(0-6)-121912 12/19/12
Depth Parameter Result Units [Criteria]
0-6 Arsenic 51 mg/Kg [1]
0-6 Lead, fine 2300 mg/Kg [1,2]
Note: AY03HS Location composed of location depicted at dot and 4 stepouts at 10ft in each cardinal direction.
PA-AY04(6-12)-121912 12/19/12
Depth Parameter Result Units [Criteria]
6-12 Antimony 440 J mg/Kg [1]
6-12 Arsenic 86 mg/Kg [1]
6-12 Lead, fine 7500 mg/Kg [1,2]
PA-AY12(6-12)-121912 12/19/12
Depth Parameter Result Units [Criteria]
6-12 Lead, fine 2000 mg/Kg [1,2]
PA-AY13(12-24)-121912 12/19/12
Depth Parameter Result Units [Criteria]
12-24 Antimony 110 J mg/Kg [1]
12-24 Lead, fine 4000 mg/Kg [1,2]
PA-AY16(12-24)-121912 12/19/12
Depth Parameter Result Units [Criteria]
12-24 Lead, fine 2500 mg/Kg [1,2]
PA-AY19(12-24)-121912 12/19/12
Depth Parameter Result Units [Criteria]
12-24 Copper 20000 mg/Kg [1]
12-24 Lead, fine 2100 mg/Kg [1,2]
PA-AY18(6-12)-121912 12/19/12
Depth Parameter Result Units [Criteria]
6-12 Copper 33000 mg/Kg [1]
6-12 Lead, fine 4400 mg/Kg [1,2]
Criteria Levels
Chemical RML-Res RML-Ind 40CFR-pt 261 Unit
Antimony 94 1,200 mg/kg
Arsenic 39 160 mg/kg
Copper 9,400 120,000 mg/kg
Lead 400 800 mg/kg
Lead, TCLP 5 mg/L
Legend
Grab Sampling Location with Analytical Exceedance
0 60 Feet
Criteria Key
1 = Exceeds USEPA RML-Residential Soil Level
2 = Exceeds USEPA RML-Industrial Soil Level
3 = Exceeds 40 CFR Part 261
N
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Figure 2
Grab Sample Exceedances Map
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The results : Lead contamination in soil is present in the Alley above industrial EPA Removal Management Levels (RMLs) from 0 to 24 inches

- 0 to 6 inches below the surface the highest concentration of lead in soil was 6600 mg/kg with an average of 2748 mg/kg.
- 6 inches to 24 inches below the surface the highest concentration of lead was 9300 mg/kg with an average of 4736 mg/kg.
- Antimony, arsenic, and copper were detected below or at the industrial scenario EPA RMLs.
- Lead is the primary contaminant of concern in the soil in the Alley.

Next Steps Pilsen Soils Site Assessment

- U.S. EPA is offer to sample the soil of Pilsen neighborhood residential and commercial properties for metals including lead.
- Purpose: Determine if air emissions containing lead and other metals from industrial activity may have settled over the years that poses an unacceptable health risk to people who live in the area.

Questions

- Ramon Mendoza, Federal On-Scene Coordinator
  U.S. EPA Region 5
  77 West Jackson
  Chicago, Illinois 60604
  Mail Code SE-5J
  Office: 312-886-4314

Mendoza.ramon@epa.gov