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SOIL SAMPLE RESULTS FROM THE AREA AROUND H. KRAMER & CO. SMELTER AND REFINER

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Soil samples were collected by Pilsen Environmental Rights & Reform Org. from the area surrounding the H. Kramer & Co. facility on March 6 (6 samples) and March 14, 2005 (6 samples). The soil samples were analyzed for heavy metals content by STAT Analysis Corp.

The U. S. Environmental Protection Agency (EPA) established Residential Soil Screening Levels for Heavy Metals. The soils from **nine of the 12 sampled locations exceeded** one or more of the EPA Residential Screening Levels for toxic heavy metals. Eight of the sampled locations exceeded the Lead Residential Screening Level of 400 mg/kg (Samples 1, 3, 5-10), four exceeded the Iron Residential Screening Level of 23,000 mg/kg (Samples 2, 5, 7, 8), three exceeded the Copper Residential Screening Level of 2,900 mg/kg (Samples 1, 7, 8), two exceeded the Zinc Residential Screening Level of 23,000 mg/kg (Samples 7 and 8) and one exceeded the Cadmium Residential Screening Level of 39 mg/kg (Sample 7).

CHEMICALS

LEAD

The soil levels exceeded the EPA Residential Screening Level for Lead (400 mg/kg) at the following locations:

Sample # 7	37,000 mg/kg	92.5 time over the Screening Level
Sample # 8	4,500 mg/kg	11 times over the Screening Level
Sample #5	1,800 mg/kg	4.5 times over the Screening Level
Sample #1	1,700 mg/kg	4.2 times over the Screening Level
Sample #9	1,000 mg/kg	2.5 times over the Screening Level
Sample #10	590 mg/kg	1.5 times over the Screening Level
Sample #3	490 mg/kg	1.2 times over the Screening Level
Sample #6	440 mg/kg	1.1 times over the Screening Level

The H. Kramer & Co. Smelter and Refiner releases 1.75 to 2.25 tons (3,440 to 4,500 pounds) of Lead into the air on a yearly basis from 2 Rotary Furnaces, 4 Industrial Furnaces, 1 Brick Crusher and other onsite industrial activities. The Lead air releases consist of 60% from Fugitive sources and 40 % from Stack sources from the H. Kramer facility. The Lead levels in the soil in the area sampled were the result of air deposition of Lead from the air emissions released by the H. Kramer facility.

IRON

The soil Iron levels exceeded the EPA Residential Screening Limits for Iron (23,000 mg/kg) at the following locations:

Sample #8	77,000 mg/kg	3.3 times over Screening Level
Sample #7	46,000 mg/kg	2 times over Screening Level
Sample #2	26,000 mg/kg	1.1 times over Screening Level
Sample #5	24,000 mg/kg	1.04 times over Screening Level

COPPER

The soil Copper levels exceeded the EPA Residential Screening Limits for copper (2,900 mg/kg) at the following locations:

Sample #7	14,000 mg/kg	4.8 times over Screening Level
Sample #8	7,900 mg/kg	2.7 times over Screening Level
Sample #1	3,800 mg/kg	1.3 times over Screening Level

The H. Kramer & Co. facility releases 92 pounds of Copper into the air on an annual basis. The Fugitive air emissions consist of 60 pounds and the Stack emissions consist of 32 pounds per year of Copper.

ZINC

The soil Zinc levels exceeded the EPA Residential Screening Limits for Zinc (23,000 mg/kg) at the following locations:

Sample #7	100,000 mg/kg	4.3 times over Screening Level
Sample #8	33,000 mg/kg	1.4 times over Screening Level

The H. Kramer & Co. facility releases 29,700 pounds of Zinc from Fugitive air sources and 16,700 pounds from Stack air sources on an annual basis. The total annual air releases of Zinc 46,400 pounds.

CADMIUM

The soil Cadmium levels exceeded the EPA Residential Screening Limits for Cadmium (39 mg/kg) at the following location:

Sample #7	130 mg/kg	3.3 times over Screening Level

SAMPLE LOCATIONS

Sample Location #7

The sample location with the highest concentration of toxic heavy metals was Sample #7 - 2145 S. Loomis along the side of the building on the west side of Loomis. This sample location was the one closest to the H. Kramer & Co. Smelter and Refiner and was on the west side of the facility. The soil at this location contained **20% Toxic Heavy Metals:**

1.4 % Copper
3.7% Lead
4.6% Iron
10% Zinc

The heavy metals in the soil of Sample Location #7 exceeded five of the EPA Residential Soil Screening Levels. The soil Lead level in Sample #7 contained 37,000 mg/kg which was 92.5 times greater than the EPA Residential Soil Screening Level (400 mg/kg). The Zinc soil level was 100,000 mg/kg which was 4.3 times greater than the EPA Residential Soil Screening Level (23,000 mg/kg). The Copper soil level was 14,000 mg/kg and exceeded the EPA Residential Screening Level (2,900 mg/kg) by 4.8 times. The Iron soil value was 46,000 mg/kg and was twice the EPA Residential Screening Level (23,000 mg/kg). The Cadmium soil level was 130 mg/kg and was 3.3 times the EPA Residential Screening Level (39 mg/kg).

The soil at Sample location #7 was also analyzed for Volatile Organic Compounds and Polynuclear Aromatic Hydrocarbons. No Volatile Organic Compounds were detected in the soil. All of the Polynuclear Aromatic Hydrocarbons tested for with the exception

of one were detected in the soil sample. The Poylnuclear Aromatic Hydrocarbon Benzo(a)pyrene was detected at 0.066 mg/kg and exceeded the EPA Residential Screening Level (0.062 mg/kg).

Sample Location #8

The sample location with the second highest concentrations of toxic heavy metals in the soil was Sample Location #8 - 2144 S. Loomis near sidewalk. The sample location was near the H. Kramer facility on the west side of the facility. The heavy metals in the soil of Sample Location #8 exceeded four of the EPA Soil Screening Levels. The Sample #8 soil Lead level was 4,500 mg/kg which was 11.25 times higher than the EPA Residential Screening Level of 400 mg/kg. The soil Zinc concentration was 33,000 mg/kg and was 1.4 times higher than the EPA Residential Screening Level of 23,000 mg/kg. The soil Copper level was 7,900 mg/kg and was 2.7 times the EPA Residential Screening Level of 2,900 mg/kg. The soil Iron level was 77,000 mg/kg and was 3.3 times higher than the EPA Residential Screening Level of 23,000 mg/kg.

Sample Location #1

Sample Location #1 was on the east side of the H. Kramer industrial facility at 2150 S. Throop. The soil Lead level was 1,700 mg/kg which was 4.25 times greater than the EPA Residential Screening Level of 400 mg/kg. The soil Copper level was 3,800 mg/kg and was 1.3 times the EPA Residential Screening Level of 2,900 mg/kg.

Sample Location #5

Sample Location #5 was north west of the H. Kramer facility at 1404 West 21st. Street. The soil Lead level was 1,800 mg/kg which was 4.5 times higher than the EPA Residential Screening Level of 400 mg/kg. The soil Iron level of 24,000 mg/kg was 1.04 times the EPA Residential Screening Level of 23,000 mg/kg.

Sample Locations #3, 6, 9, and 10

Sample Locations 3, 6, 9, and 10 had soil concentrations of Lead which exceeded the EPA Residential Screening Level of 400 mg/kg. Sample Location #3 contained a soil Lead level of 490 which was 1.2 times the standard. Sample Location #6 contained 440 mg/kg soil Lead which was 1.1 times the standard. Sample Location #9 contained 1,000 mg/kg soil Lead which was 2.5 times the standard. Sample Location #10 contained Lead soil of 590 mg/kg which was 1.5 times the standard.

Sample Location #2

Sample Location #2 was located along the railroad tracks at 1281 W. Cermak Rd. south east of the H. Kramer facility. The soil contained 26,000 mg/kg of Iron which exceeded the EPA Residential Screening Level of 23,000 mg/kg by 1.1 times.

CONTAMINATED SOIL REMEDIATION

The heavy metal levels in the soil surrounding the H. Kramer facility that were over the EPA Residential Soil Screening Level would be targeted for remediation at sites undergoing site cleanup. At locations, such as the nine sample locations that were sampled by Pilsen Environmental Rights & Reform Org. and exceeded the EPA Residential Soil Screening Levels, the remedial activities of the contaminated soils would usually be excavation of contaminated soil in excess of the EPA Screening Levels and removal of the contaminated soil to an off site location.

RECOMMENDATIONS

The soil sampling data indicates that 9 of the 12 locations sampled off-site around the H. Kramer & Co. Smelter and Refiner contained toxic heavy metals in concentrations which exceeded the EPA Residential Soil Screening Levels. This data indicates that the people living in the area are being exposed to heavy metal contaminated soil that poses an unacceptable health risk.

Based on an evaluation of the sampling data the following are recommended:

-The Illinois Environmental Protection Agency should further delineate the surface and subsurface extent of soil contamination in the area surrounding the H. Kramer facility.

-The Illinois Environmental Protection Agency should determine the extent of contamination of other media such as surface water, vegetation, and aquatic and terrestrial organisms.

-In conjunction with the Pilsen Environmental Rights & Reform Org., the Illinois Environmental Protection Agency should develop and implement a soil and other contaminated media remedial plan to address the community exposure situation.

-The Illinois Environmental Protection Agency should require the H. Kramer & Co. facility reduce the fugitive and stack emissions of heavy metals in order the reduce community exposure.

-The Illinois Department of Health and the Agency for Toxic Substances and Disease Registry (ATSDR) should perform a survey of heavy metal body burdens in the people living, working, recreating and attending school in the area of the contaminated soil.