# NPL Site Narrative for Jacobsville Neighborhood Soil Contamination

## JACOBSVILLE NEIGHBORHOOD SOIL CONTAMINATION
## Evansville, Indiana

**Current Conditions (May 25, 2004)**: The Jacobsville Neighborhood Soil Contamination (JNSC) site, in Evansville, Indiana, is in a predominantly residential area including a hospital, a school, and several small businesses. The contamination was discovered during an analysis of residential soils collected as part of a reassessment of the Evansville Plating Works (EPW), which revealed elevated levels of lead. The EPW site is an abandoned electroplating and metal refinishing facility. In 1990, the U.S. EPA conducted a removal activity at the facility to remove plating wastes. EPA's contractor conducted a Screening Site Inspection (SSI) under CERCLA after the removal activity. The SSI concluded that no further action was needed and the site was assigned a No Further Remedial Action Planned (NFRAP) status.

In summer and fall of 2000, IDEM (Indiana Department of Environmental Management) staff conducted a reassessment of the EPW site because no offsite samples were collected as part of the SSI. The NFRAP status was based upon the on-site samples collected as part of the SSI and the on-site removal activities. Residential soil samples were collected as part of the reassessment. Analysis of the soil samples collected in 2000 revealed elevated levels of lead. Lead levels in the residential soils were found to be as high as 6,150 mg/kg.

In the winter and spring of 2001, IDEM staff conducted a research project in Evansville, Indiana, at the State Archive Library in Indianapolis, Indiana, and IDEM's air records. The research was conducted to determine if other facilities in the vicinity of the EPW could have contributed to the elevated levels of lead found in residential soils. A review of all of the records identified four former facilities that may have contributed to the lead problem. The four facilities are as follows: Blount Plow Works, Advance Stove Works, Newton-Kelsay, and Sharpes Shot Works.

Blount Plow Works operated from the 1880s to the 1940s as a manufacturer of horse-driven plows. The facility operated a foundry. A Buehler's IGA now occupies the site. Advance Stove Works, which operated from the turn of the century to about the 1950s, was a manufacturer of stoves. This site also operated a foundry. The site is now operated by the Benthall Brothers. Newton-Kelsay, which operated from the turn of the century to the 1950s, was a manufacturer of hames. The site is now occupied by a McDonald's Restaurant. Sharpes Shot Works operated from 1878 to an unknown date, and manufactured lead shot for guns. The site is now owned by Deaconess Hospital. It is believed that soil from the residential properties became contaminated through airborne emissions during regular operations of these facilities.

From June 4, 2001, through June 8, 2001, IDEM staff conducted an Integrated Preliminary Assessment and Site Inspection (PA/SI) at the JNSC site. The JNSC site encompasses a study area that includes residential properties, the four former facilities listed above and the EPW site. The 250 acre area includes approximately 45 city blocks and is bounded by Edgar Street to the west, Lloyd Expressway to the south, Heidelbach Street to the east and Iowa Street to the north.

A total of 189 soil samples were collected from residential properties. The samples were collected within the top 6 inches of soil. The samples were first screened for lead by utilizing a field portable X-Ray Fluorescence (XRF) instrument. The XRF was used to determine which samples had lead concentrations that exceeded 400 mg/kg and were also three times background. This information was needed to determine which samples would be sent for analysis under the CLP (contract laboratory program) for lead concentration verification. Fifty-seven soil samples were sent to the CLP laboratory. The lead concentrations generated by the CLP lab matched well with the XRF screening results.

The lead concentrations and location of each soil sample were plotted on an aerial photograph. Two major areas of contamination were observed. They are named contaminated soil Area A and contaminated soil Area B. The two areas of contamination depict those areas where soil sample results indicate lead concentrations are at least three times the background soil sample concentration. The elevated levels of lead were determined as a potential risk to approximately 500 residents by the soil exposure pathway. The full extent of the contamination has not been fully delineated and the source of the lead-contaminated soils is undetermined. Thus, the source is considered to be the contaminated residential soils. Areas A and B were identified as sources because the lead concentration in soil was at least three times the background concentration.

**Status (July 2004)**: EPA is considering various alternatives for this site. This site will be finalized on the NPL.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.