

**Deep South Center for Environmental Justice  
& United Steelworkers**

**HEALTH HAZARD ALERT:  
Soil Contamination and Potential Health Hazards  
on Aberdeen Road, New Orleans**

In February 2006, the firm of Glenrose Engineering, Inc. of Austin Texas evaluated the contamination of sediment samples from two sites on Aberdeen Road in New Orleans, LA. This analysis was conducted for a project of the Deep South Center for Environmental Justice (DSCEJ) and United Steelworkers (USW) called *A Safe Way Back Home*. The sediment samples were taken by the US Environmental Protection Agency (EPA).

Analysis of the samples showed that all but one contained at least one chemical at a higher concentration than the Louisiana Risk Evaluation Corrective Action Program (RECAP) screening levels for residential soil.

Chemicals exceeding RECAP standards included:

- heavy metals (arsenic, zinc, barium, cadmium);
- diesel range organics; and
- polycyclic aromatic hydrocarbons (benzo[a]pyrene and benzo[b]fluoranthene).

These results, when compared to other US EPA data from across the city of New Orleans, appear typical of post-Katrina New Orleans. They also represent a health risk for long-term exposure.

<b>Sample Location</b>	<b>Arsenic (mg/kg)</b>	<b>Benzo[a]pyrene (ug/kg)</b>	<b>Diesel Range Organics (ug/kg)</b>	<b>Lead (mg/kg)</b>
8750 Aberdeen	13.90	ND *	1310	95
8130 Aberdeen	29.00	541	932	47

\* The testing methods used by EPA were unable to determine whether this sample exceeded the clean-up due to a very high detection limit.

Below you will find a summary of findings and a brief description of some of the potential health effects associated with exposure to three of these hazardous substances. (Note that samples for lead at both sites were well below the state and federal guidelines of 400 mg/kg for clean-up of residential areas.)

**Arsenic**

*Results:* At both sites the levels of Arsenic are greater than *40 times* the Region 6 EPA soil cleanup level for residential areas. This level is set at 0.39 milligrams/kilogram (mg/kg) to protect against cancer. The levels also exceed the state guidelines for clean-up used by Louisiana Department of Environmental Quality (LDEQ). This level is set at 12 mg/kg.

*Acute Health Effects include:*

- Skin contact can cause burning, itching and a rash;
- Eye contact can cause irritation and burns, and red and watery eyes;
- Breathing arsenic can irritate the nose and throat;
- High exposure can cause poor appetite, nausea, vomiting and muscle cramps.

*Chronic Health Effects of arsenic include:*

- Arsenic is a carcinogen in humans. It has been shown to cause skin and lung cancer.
- Repeated exposure can cause liver damage.
- Repeated skin contact can cause thickening and color changes.
- High or repeated exposure can damage the nerves, causing weakness of arms and legs.

Source: NJ Department of Health and Senior Services Right to Know Program Hazardous Substance Fact Sheets.

Also see the Agency for Toxic Substances and Disease Registry (ATSDR) Toxicological profile for more information about arsenic: <http://www.atsdr.cdc.gov/toxprofiles/tp2.html>

## **Polycyclic Aromatic Hydrocarbons (PAHs)**

### **Benzo[a]pyrene**

*Results:* At 8130 Aberdeen the level of the cancer-causing PAH Benzo[a]pyrene exceeds the state guidelines for clean-up in residential areas used by LDEQ and EPA of 330 (ug/kg).

*Acute Health Effects Include:*

- Skin irritation with rash and/burning sensations. Exposure to sunlight and the chemical together can increase these effects.
- Irritation and/or burning of the eyes on contact.

*Chronic Health Effects Include:*

- A probable human carcinogen. There is some evidence that it causes skin, lung, and bladder cancer in humans.
- May cause reproductive damage, including to the developing fetus, to sperm and testes (male reproductive glands) and it may be transferred to nursing infants through mother's milk.

Source: NJ Department of Health and Senior Services Right to Know Program Hazardous Substance Fact Sheets.

## **Diesel Range Organics**

### **Mid-range petroleum products, including diesel fuel, with petroleum hydrocarbon compounds**

*Results:* At both sites the levels greatly exceed the state guidelines for clean-up in residential areas used by LDEQ of 650 micrograms/kilogram (ug/kg). At 8750 Aberdeen the level was found to be more than twice the state clean-up level.

*Acute Health Effects Include:*

- Skin irritation problem if substance gets onto bare or broken skin.

*Chronic Health Effects Include:*

- Possible carcinogen, according to the International Agency for Research on Cancer (IARC). (IARC has also determined that occupational exposures to fuel oils during petroleum refining are probably carcinogenic in humans.)
- Some animal studies suggest that repeated contact with fuel oils may cause liver or skin cancer.

See the Agency for Toxic Substances and Disease Registry (ATSDR) Toxicological profile for more information about Petroleum Hydrocarbons: <http://www.atsdr.cdc.gov/tfacts123.html>