



SUMMARY OF EPA SEDIMENT TESTING RESULTS New Orleans, October 15, 2005

The U.S. Environmental Protection Agency (EPA) has been collecting samples of sediment (mud or soil) from various parts of New Orleans since shortly after hurricane Katrina. Some of the sampling results have been reported on the EPA website (www.epa.gov/katrina/testresults). New sediment sampling results were taken on September 25-30, and released on October 7, 2005, including testing for about 150 chemicals at numerous sites in New Orleans and nearby areas.

Overview

- **Based on test results, EPA and CDC recommend that people avoid all contact with sediment from the flood due to potential health concerns.** If you touch sediment, EPA and CDC recommend washing with soap and water, rinsing your eyes, and removing contaminated clothes.
- Bacteria (*E. coli*) were still found in the sediment, indicating persistent problems with sewage contamination. There is no standard for what amount of bacterial contamination is hazardous, but the continuing presence of bacteria shows a need to take safety precautions.
- Toxic metals - lead, arsenic, mercury, cadmium, manganese, and chromium – were found in most samples. The amount of arsenic in many areas was higher than the “minimum risk level” established by the federal government and was above the level established by EPA for soil clean-up in residential neighborhoods.
- Petroleum contamination was discovered in most sediment samples, especially from diesel fuel. Many samples from flooded areas were over the levels at which EPA or the Louisiana Department of Environmental Quality may require soil clean-up in residential areas. According to EPA, skin contact with sediment contaminated by fuel oil can cause itchy, red, sore, and peeling skin, even after brief contact. Breathing dust contaminated with these chemicals, especially if you breathe them for many days, can cause illness too.
- Other contaminants in the sediment included pesticides, phthalates (chemicals in plastics), several industrial solvents, and PAHs (cancer-causing chemicals in soot).

Bywater Neighborhood (Agricultural Street Landfill Area)

- Nine sediment samples were taken near the Agricultural Street Landfill Superfund site.
- Cancer-causing PAHs were notably high compared to many other areas sampled and were above the level at which Region 6 EPA may require soil clean-up. In fact, the level of one of the most hazardous PAHs was more than 200-times higher than the EPA clean-up level at three locations in this area.

- Arsenic levels also were above EPA safety levels, in some cases by up to 70-fold. Arsenic is known to cause cancer in humans, and also has many other serious health effects.
- Diesel fuel contamination exceeded Louisiana State levels for possible clean-up of soil in residential areas. In a couple of samples, soil contamination exceeded clean-up levels by up to ten-fold.¹
- The levels of DEHP (a chemical found in some plastics) were also higher in this area. DEHP is considered an endocrine disruptor and is toxic to the male reproductive system in babies.

St. Bernard Parish: Chalmette & Meraux

- A total of 13 sediment samples were taken in St. Bernard Parish in the areas near the oil refineries, hazardous waste sites, and other industrial facilities. This number of samples is not enough to adequately assess the potential for environmental contamination in this area. In addition, only two samples were reported from the area near the Murphy Oil Refinery where there was a major oil spill during the flooding.
- All of the samples contained arsenic at levels above Region 6 EPA soil clean-up levels for residential areas. One sample in a residential neighborhood had an arsenic level more than 300-fold higher than the EPA soil clean-up level. Arsenic is known to cause cancer in humans and has many other adverse health effects depending on the level of exposure.
- Almost all of the samples contained chemicals from diesel fuel above the Louisiana standard for potential soil clean-up. In one residential location the level was more than six-fold higher than state soil clean-up levels.
- Three samples taken in the western area of Chalmette contained PAHs in the sediment above levels that would trigger potential soil remediation according to Region 6 EPA. PAHs are cancer-causing chemicals in soot.

New Orleans East

- 15 sediment samples were taken near industrial sites in New Orleans East.
- All of the samples contained arsenic at levels above Region 6 EPA soil clean-up levels for residential areas. One sample had an arsenic level more than 50-fold higher than the level that can trigger soil clean-up. Arsenic is known to cause cancer in humans and has many other adverse health effects depending on the level of exposure.
- Almost all of the samples contained chemicals from diesel fuel above the level that can trigger soil clean-up in Louisiana. Soil samples were up to 20-fold higher than the Louisiana soil clean-up level for diesel fuel.
- Seven of the 15 sites contained one or more PAHs in the sediment above levels that could trigger soil clean-up according to Region 6 EPA. One site contained the most hazardous form of PAH at a level over 500-fold higher than the clean-up level. PAHs are cancer-causing chemicals in soot.
- One sample had a notably high mercury level, about 1,000-times higher than the samples taken in other areas. If this result is correct, it requires further investigation to locate the possible source of the mercury.

¹ The Louisiana Department of Environmental Quality non-industrial soil screening standard for aliphatics >C10-12 was used for comparison, because there was no specific state standard for diesel-range organics as defined by US EPA (aliphatics >C9). The standard is 210,000 ug/kg.