

Health Consultation

**MERRITT ISLAND
BREVARD COUNTY, FLORIDA**

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**U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Public Health Service
Agency for Toxic Substances and Disease Registry
Division of Health Assessment and Consultation
Atlanta, Georgia 30333**

HEALTH CONSULTATION

MERRITT ISLAND
BREVARD COUNTY, FLORIDA

Prepared by:

Exposure Investigation and Consultation Branch
Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry

BACKGROUND AND STATEMENT OF ISSUES

A private citizen requested the Agency for Toxic Substances and Disease Registry (ATSDR) to review the results of soil samples obtained from a canal on Merritt Island and provide a public health opinion regarding these results.

Merritt Island is located in Brevard County which is off the east coast of central Florida. The Brevard County Board of Commissioners has proposed to dredge soils from a canal on Merritt Island and temporarily store it on another part of the island adjacent to an elementary school. The soil will be stored in 12 foot high berms about 120 feet away from the school. According to Mr. Rich Cohen from the Brevard County Board of Commissioners, the dredged soils will eventually be stored in a retention pond [1]. Residents who live in the vicinity are using municipal water supplies, and the wells that are in the vicinity are used for agriculture.

On January 21, 1998, Brevard County collected soil samples at a depth of 1 foot to 1.5 feet below the surface (unspecified number of samples). The samples were analyzed for various volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. The analytical results indicate that none of the VOCs and SVOCs were detected in these samples, however, low concentrations of metals were detected. The concentrations of metals ranged from 0.059 milligrams/kilogram (mg/kg) for mercury to 32 mg/kg for lead (see Attachment 1 for results).

DISCUSSION

At this site, the analytical results indicated that VOCs, and SVOCs were not present. However, metals were detected in soil are well below their respective background levels. The natural soil concentrations for arsenic, lead, chromium, and nickel across the country range from 1 - 40 mg/kg, 2 - 200 mg/kg, 1 - 1,000 mg/kg and 5 - 500 mg/kg, respectively [2]. Arsenic was detected in these samples at a maximum level of 3.2 mg/kg, lead at 32 mg/kg, chromium at 22 mg/kg and nickel was detected at 7.1 mg/kg. It is unlikely that the contaminants detected in these soil samples pose a health threat to the general public.

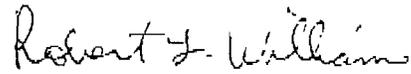
Eventually, the soils will be placed in a retention pond, and the area where the soils will be temporarily retained will be fenced to restrict access. Although the contaminants in the soil were below the levels of health concern, the soil berms may be nuisances that may be attractive to the children who may climb on the soil berms to play.

CONCLUSIONS

The concentrations of contaminants detected in soil samples at this site do not pose a health threat. However, 12 foot berms of soil may pose a physical hazard if children gain access.

RECOMMENDATIONS

Restrict site access where the dredged soils will be stored to prevent children from playing on the berms.



Robert L. Williams, Ph.D
Toxicologist



Concurrence: Richard A. Canady, Ph.D., DABT
Toxicologist

REFERENCES

1. AROA, telephone conversation between Mr. Rich Cohen and Robert Williams, regarding Merritt Island dredging project on March 12, 1998.
2. U.S. Environmental Protection Agency Office of Solid Waste and Emergency Response, Hazardous Waste Land Treatment, SW-874 (April 1983), page 273, Table 6.46.