HEALTH CONSULTATION

AGRICO CHEMICAL COMPANY/EPA GRID SAMPLES

PENSACOLA, ESCAMBIA COUNTY, FLORIDA

CERCLIS NO. FLD980221857

March 20, 1996

Prepared by

Florida Department of Health and Rehabilitative Services
Under Cooperative Agreement with the
Agency for Toxic Substances and Disease Registry

Background and Statement of Issues

The Florida Department of Health and Rehabilitative Services (Florida HRS), through a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR) in Atlanta, Georgia, evaluates the public health significance of Superfund hazardous waste sites in Florida. In December, 1995, the U.S. Environmental Protection Agency (EPA) requested Florida HRS to evaluate the health effects of exposure to contaminants detected in soil samples collected in the neighborhood near the Agrico Chemical Company Superfund site in Pensacola. These samples were collected based on a grid pattern established in the neighborhood across the railroad tracks west of the Agrico site. Florida HRS evaluated the soil data and issued a health consultation on February 6, 1996 (1). Since then, EPA has clarified that one soil sample was from a commercial facility rather than a residential property (2). This health consultation evaluates this additional information. The interpretation, advice, and recommendations in this report are situation-specific and should not be considered applicable to any other situations.

The Agrico Chemical Co. Superfund site (Agrico) occupies about 35 acres at the intersection of Fairfield Dr. and Interstate 110, in Pensacola, Escambia County, Florida (Figures 1-3). The site is bounded by Interstate 110 to the east, Fairfield Dr. to the south, the CSX railroad yard to the west, and CSX property containing two baseball fields to the north. Additional details about the site may be found in the February 1996 health consultation (1).

In July, 1995, EPA contractors collected and analyzed 37 surface soil (0 - 1 foot) and 5 subsurface soil (2 - 3 feet) samples (3). The samples were collected based on a grid established in the Hermann and Pearl Avenue neighborhood across the railroad tracks west of the Agrico Chemical Company site (Fig. 4). Samples were analyzed for polycyclic aromatic hydrocarbons (PAHs), pesticides, metals, cyanide, and fluoride.

In February, 1996, EPA provided us with additional information about the soil samples (2). EPA has clarified that the soil sample containing the maximum level of lead (see Table 1, below) was collected from the property of an automobile repair shop. It is likely that the lead on this property is related to the automobile repair business and is not the result of contamination from the Agrico site. After reviewing the soil sampling data, we found that the maximum level of lead in surface soil in the residential portion of the neighborhood is 780 milligrams per kilogram (mg/kg). For this addendum, we evaluated the likely health effects of exposure to lead at a level of 780 mg/kg.

Table 1. Maximum Concentrations in Surface Soil Samples

Contaminants of Concern	Maximum Concentration (mg/kg)/ Auto Repair	Maximum Concentration (mg/kg)/ Neighborhood
Lead	8700.0	780.0

mg/kg - milligrams per kilogram
Source: (3)

Discussion

To evaluate health effects, ATSDR has developed Minimal Risk Levels (MRLs) for contaminants commonly found at hazardous waste sites. The MRL is an estimate of daily human exposure to a contaminant below which non-cancer, adverse health effects are unlikely to occur. ATSDR developed MRLs for each route of exposure, such as ingestion, inhalation, and dermal contact, and for the length of exposure, such as acute (less than 14 days), intermediate (15 to 364 days), and chronic (greater than 365 days). ATSDR presents these MRLs in Toxicological Profiles. These chemical-specific profiles provide information on health effects, environmental transport, human exposure, and regulatory status.

We used a standard incidental soil ingestion rate of 200 mg/day for children and 100 mg/day for adults, and a standard body weight of 15 kg for children and 70 kg for adults.

There is no ATSDR MRL or EPA oral Reference Dose (RfD) for lead (4). The estimated likely maximum daily dose of lead is in the same range as the daily dose at which decreases in blood-forming enzymes have been observed in humans. Soil lead levels similar to those around the Agrico site have been found in a number of residential urban settings (4) indicating that the soil lead levels found in the neighborhood west of the Agrico site are not unusual. However, the maximum concentration of lead in surface soil in the residential portion of the neighborhood is at a level that may not be safe for humans.

Conclusions

Based upon the information reviewed, Florida HRS concludes that incidental ingestion of lead in the surface soil at the automobile repair shop remains a potential health threat to workers there. Adverse health effects from exposure to lead in other soils throughout the neighborhood are possible, although less likely. If additional information becomes available indicating exposure at levels of concern, Florida HRS will evaluate that information to determine what actions, if any, are necessary.

Recommendations

Although lead in the soil at the automobile repair shop is not likely to be related to contamination at the Agrico site, Florida HRS recommends that workers there limit exposure to lead in surface soil. We recommend that Florida HRS provide educational materials to these workers to assist them in understanding the hazards of lead exposure and in determining their potential for exposure and steps they may take to reduce this exposure. Because lead in residential surface soils throughout the neighborhood near the Agrico site may also represent a potential health threat, we recommend that EPA limit exposure to lead in these soils. Finally, we recommend that ATSDR develop guidance for assessing the risk to humans from exposure to lead.

Florida HRS will provide educational materials to workers at the Agrico site to assist them in understanding the hazards of lead exposure and in determining their potential for exposure and steps they may take to reduce this exposure.

References

1. Florida Department of Health and Rehabilitative Services. Health Consultation: Agrico Chemical Company/EPA Grid Samples, Pensacola, Escambia County, Florida. February 6, 1996.

2. U.S. Environmental Protection Agency. Letter to Bruce J. Tuovila, Florida HRS, from Kenneth A. Lucas, USEPA, concerning the location and nature of a soil sample containing elevated lead levels near the Agrico Chemical Company site. February 15, 1996.

3. Black & Veatch Waste Science, Inc. Draft Field Sampling Investigation, Agrico Facility Neighborhood, Goulding Community, Escambia County, Florida. November 20, 1995.

4. Agency for Toxic Substances and Disease Registry. Toxicological Profile for Lead. ATSDR: Atlanta. April 1993.

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CERTIFICATION

This Agrico Chemical Company/EPA Grid Samples Health Consultation was prepared by the Florida Department of Health and Rehabilitative Services under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR). It is in accordance with approved methodology and procedures existing at the time the addendum was begun.

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The Division of Health Assessment and Consultation, ATSDR, has reviewed this addendum, and concurs with its findings.

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Figure 1. State Map Showing Location of Escambia County

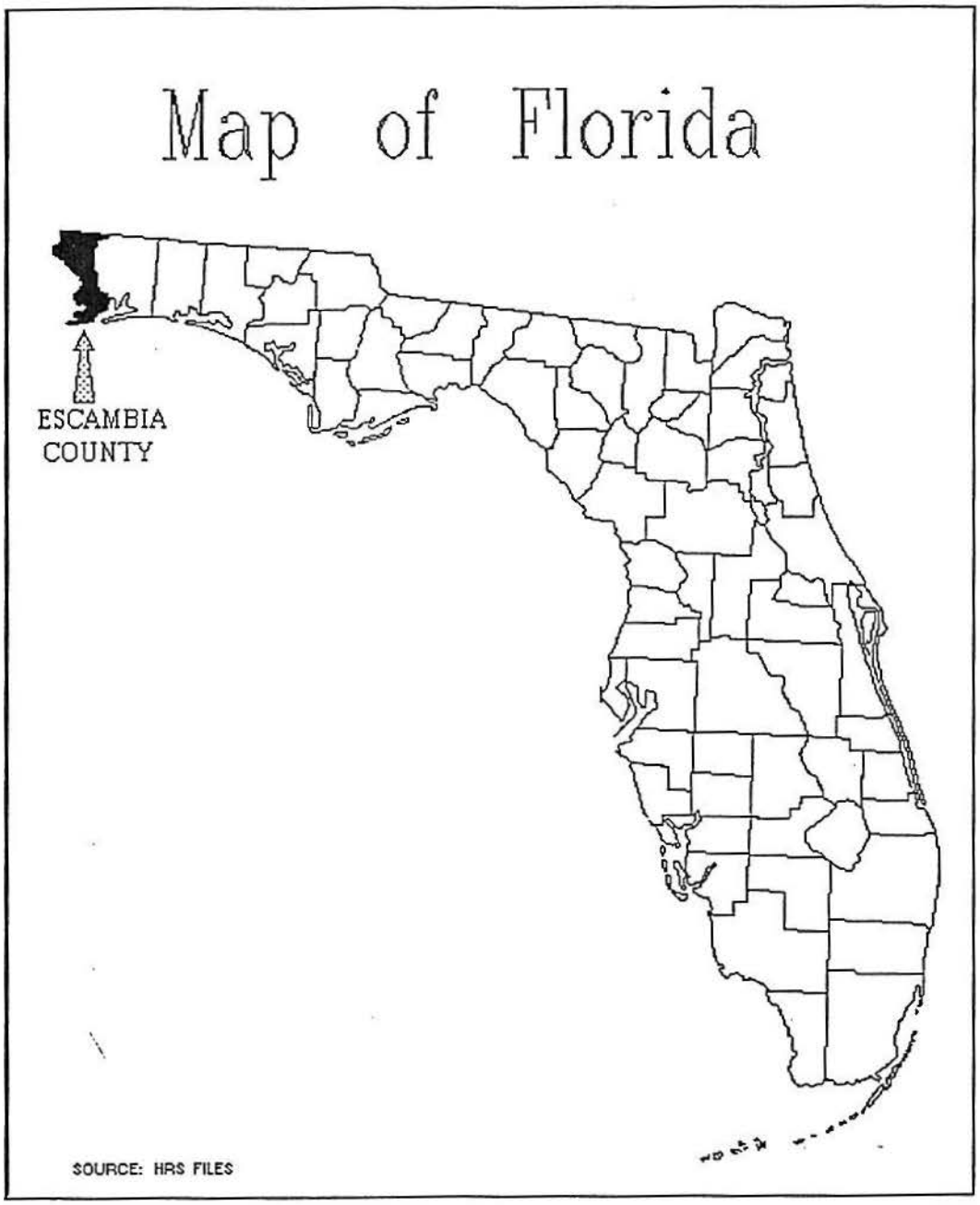

Figure 2. Location of Pensacola in Escambia County

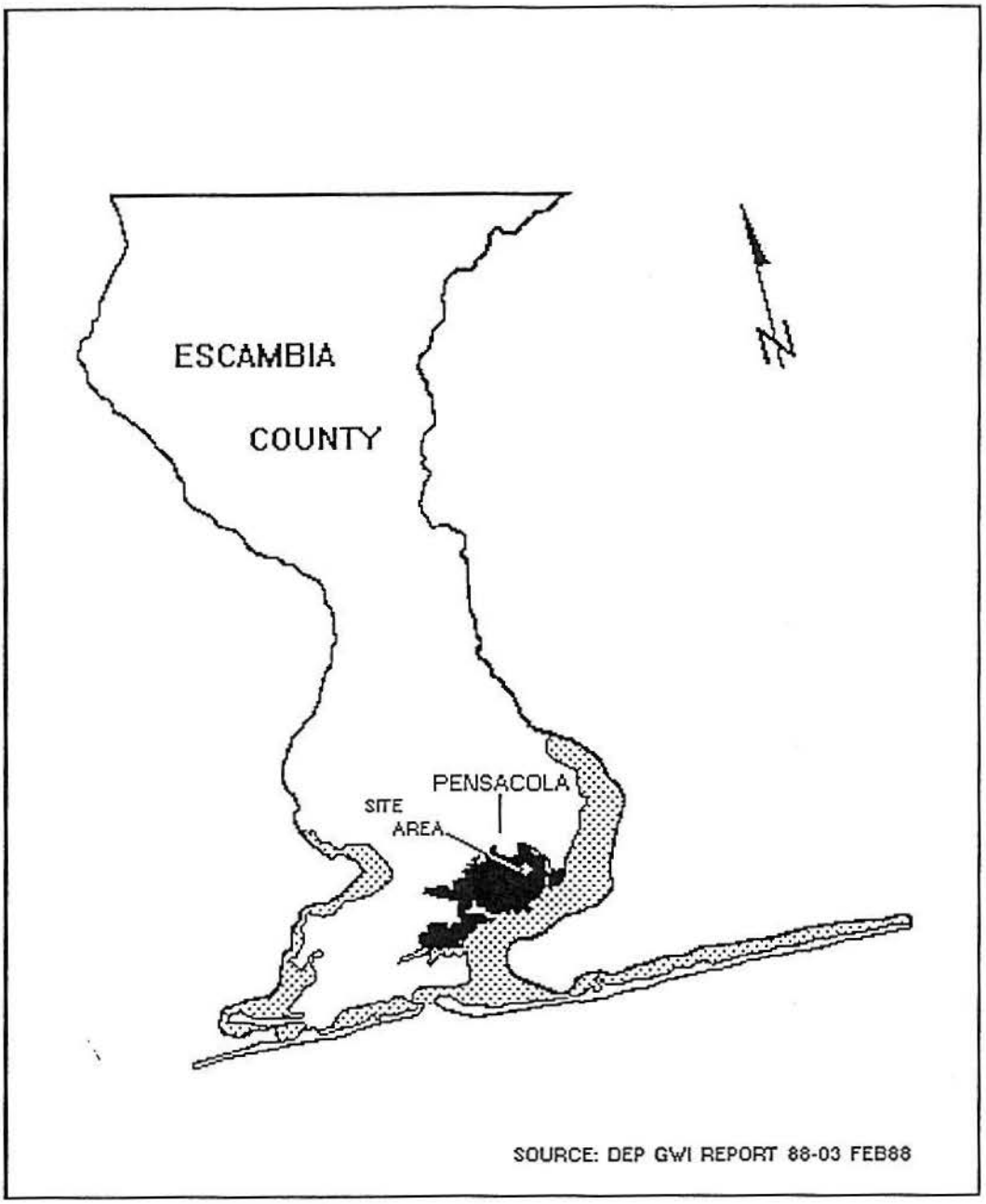

Figure 3. Location of Agrico Chemical Company in Pensacola

Figure 4.Detail of Grid Sampling Area