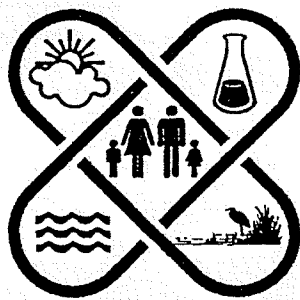




Risk Assessment News

Four Squares Community

PCB Summary

Anniston, Alabama

Alabama Department of Public Health

July 1996

What are PCBs?

Polychlorinated biphenyls (PCBs) are man made substances no longer produced in the United States. PCBs are a family of compounds used as insulation in electrical products. PCBs may be oily liquids or solids, and may vary from clear to light yellow. PCBs enter the environment through spills or landfill wastes. Once in the environment, PCBs stick to soil particles very strongly. They do not migrate very deep with rainwater, and usually do not leach into groundwater. Because PCBs strongly adsorb to soil particles, very little uptake into plants occurs.

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The purpose of this summary is to update the Four Squares community of the findings of the PCB Exposure Investigation. It contains information from the *Health Consultation for the Cobbtown/Sweet Valley Community PCB Exposure Investigation Report* and the *Health Consultation for the Monsanto Company Site, Anniston, Calhoun County, Alabama, CERCLIS No. ALD004019048*. The Alabama Department of Public Health (ADPH) wrote this summary under a cooperative agreement with the Agency for Toxic Substances and Disease Registry (ATSDR).

What is an Exposure Investigation?

An exposure investigation is a public health approach to find out if people have been exposed to hazardous chemicals. ADPH and ATSDR conducted an exposure investigation in the Cobbtown/Sweet Valley community east of the Monsanto plant. An exposure investigation was done because a review of existing soil data showed that residents may be exposed to PCBs. Since there were no soil data for the community west of the Monsanto facility, an environmental survey was conducted by ADPH, the Alabama Department of Environmental Management (ADEM), and the United States Environmental Protection (USEPA). We have designated this area as the Four Squares community. The Four Squares community is bound by State Hwy. 202, Legrande Street, Adams Street, and First Avenue (Figure 1).

Were PCBs found in my community?

Yes. Soil in a small area north of Jefferson Street and along First Avenue contained low levels of PCBs (Figure 1). The remainder of the community contained very low levels of PCBs (< 6 ppm) or did not have detectable PCBs (≤ 1.3 ppm). Table 1 shows the soil results for the Four Squares community.

▼ Please continue reading.

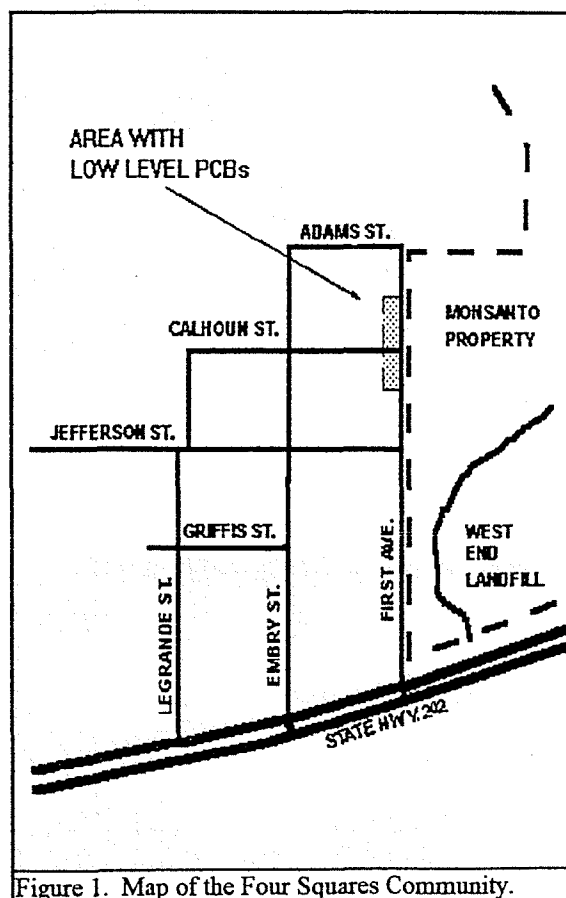


Figure 1. Map of the Four Squares Community.

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Table 1. PCB Soil Concentrations for the Four Squares Community, Anniston, Alabama.

Transport Media	Concentration Range	Background Level	Recommended Level	Federal Guideline
Soil	<1.3 to 28 ppm	0.18 ppm	1.0 ppm	USEPA Recommended Action Level

ppm - parts per million

USEPA collected additional soil samples to find out if other contaminants from the site were present. These samples were analyzed for various compounds including pesticides, semivolatiles, and metals. The sampling results show that PCBs are the only contaminants of concern.

ADPH and ADEM also sampled all municipal water supplies which were potentially affected by PCBs. The sampling results showed that the municipal water supplies are not contaminated with PCBs.

What is the source of the contamination?

A potential source for the PCB contamination is the West End Landfill. The West End Landfill is a six-acre plot found on the west side of the Monsanto facility. The landfill operated from the mid to late 1930's to 1961. Various wastes from the facility were deposited in the unlined landfill. In November 1961, Monsanto Company and Alabama Power Company (APCO) exchanged various properties, such that APCO received control of the West End Landfill. In the late 1970's, APCO removed/redistributed a section of the landfill so that they could build a substation and a regional switching station. APCO discovered very high levels of PCBs in the West End Landfill in April 1993. State and federal environmental officials were promptly notified by the power company of the problem. APCO placed a thin protective layer of soil over the landfill in late April 1993. Monsanto got the property back in December 1993, and began a thorough investigation of the West End Landfill.

In late 1995 and early 1996, the West End Landfill was capped with 5 protective layers. These are: 6 inches of clay, a liner, a woven geotextile for drainage, 12 inches of soil, and 6 inches of topsoil. Storm water was channeled to a settling pond to control run-off water. A final phase that is currently being added is a vegetative layer to prevent erosion. These measures prevent the West End Landfill from being a source for contamination.

If PCBs are in my community, am I being exposed?

Not necessarily. Most Four Square residents do not live in the

contaminated area, and are not likely to be exposed. In areas where PCBs were detected, four things determine exposure. These are: a source of PCBs; transport of the PCB contaminated soil into the community; a place of contact with the PCB contaminated soil; and ingestion or skin contact with the PCB contaminated soil. Since most residents do not live in the contaminated area, contact with PCB contaminated soil is not likely to occur. However, for Four Square residents who feel that they have been exposed to low levels of PCBs, we estimate that the increased risk for cancer or other adverse health effects is extremely small. Therefore, PCBs in the Four Squares community are not a public health threat.

How can exposure to PCBs be reduced?

Exposure can be reduced by breaking a link in the exposure pathway. An exposure pathway connects the PCBs to the exposed person. The links of an exposure pathway are the source of PCBs; transport of the PCB contaminated soil into the community; a point of contact with the PCB contaminated soil; a route for PCBs to enter the body (ingestion or skin



contact with PCB contaminated soil); and the exposed population. Residents probably cannot control the source or the transport media, but they can probably control the point of contact and the route that the contamination enters the body.

The following actions might help residents avoid a point of contact with PCB contaminated soil:

- Working and/or playing on cleaned concrete, asphalt or wooden surfaces
- Working and/or playing where grass covers the ground
- Keeping contaminated soil out the house by removing dirty shoes and clothing at the entrance.
- Closing doors and windows when the wind is blowing to prevent contaminated dust

from entering the home.

- Cleaning floors, furniture and drapes regularly to remove unwanted dust and dirt.
- Be aware that pets can bring contaminated soil into the home and be a point of contact.

The following actions might help residents avoid a route for PCBs to enter the body:

- Always wash your hands and face after being in contact with soil and before eating or sleeping.
- Never put things picked up off the ground into your mouth.
- Cover your mouth and nose while working or playing in the contaminated area.
- Carefully wash fruits and vegetables grown in the contaminated area, or
- Stop eating homegrown fruits and vegetables and begin buying them from the grocery.
- Do not eat fish or wild game from the Choccolocco Creek area.



What is a Consent Order and how does it affect me?

A Consent Order is a written legal agreement between ADEM and the responsible party. The Consent order is issued by ADEM and describes specific corrective actions, who must do the actions, and the deadlines for completing the actions. On March 8, 1996, ADEM and Monsanto Company signed a Consent Order to protect human health and the environment. The Consent Order affects the Four Squares community by requiring Monsanto to collect more soil samples along First Avenue and north of Jefferson Street. The Consent Order also required Monsanto to propose a plan to reduce potential exposures in the community. To date, Monsanto has collected the samples and reported the results to ADEM and ADPH. A plan to reduce potential exposures in the community is currently being developed.

What are the roles and responsibilities of ADEM, ADPH, ATSDR, USEPA, and the Monsanto Company?

The Alabama Department of Environmental Management

(ADEM) regulates the Monsanto facility according to state and federal law. ADEM holds Monsanto responsible for all actions that the company does under the Consent Order. ADEM is also responsible for ensuring that proper sampling and clean up occurs in contaminated areas.

The Alabama Department of Public Health (ADPH) assesses the human health hazards associated with the Monsanto site and was the lead agency for the PCB Exposure Investigation. ADPH is responsible for providing physicians and community members with information about PCBs and their health effects. ADPH also provides technical support to ADEM.

The Agency for Toxic Substances and Disease Registry and the United States Environmental Protection Agency provide scientific support and funding to ADPH and ADEM. Scientific support may be toxicological advice, health assessment advice, and graphical support.

Under current state and federal guidelines, the Monsanto Company must control and dispose of any waste produced at the plant. They must also report any spills that occur at the facility. All disposal that occurred before 1980 was not regulated because state and federal guidelines had not been established. Under the Consent Order, Monsanto must propose a plan to reduce or end potential PCB exposures in the community and characterize other areas for PCB contamination.

What are my personal responsibilities?

You should express your health and environmental concerns to the appropriate agency so that they can be properly answered. You can contact ADPH, ADEM, or Monsanto to get information about the site or PCBs. Then, you should decide how this information affects you and use it to protect your health.



Who do I contact for more information?

This summary contains information from the *Health Consultation for the Cobbtown/Sweet Valley PCB Exposure Investigation* and the *Health Consultation for the Monsanto Company Site, Anniston, Calhoun County, Alabama, CERCLIS NO. ALD004019048*. To find out how to get copies of these documents or to get information on site-related

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health issues, you may contact the following persons:

For information on the health consultations and site-related health concerns:

Brian J. Hughes, Ph.D.
Environmental Toxicologist
Alabama Department of Public Health
Division of Epidemiology
434 Monroe Street
Montgomery, Alabama 36130-3017
1-800-338-8374

For environmental issues:

Catherine Lamar
Alabama Department of Environmental Management
P.O. Box 301463
Montgomery, Alabama 36130-1463
1-800-533-2336



Definitions and Acronyms:

ADEM- Alabama Department of Environmental Management.

ADPH- Alabama Department of Public Health.

ATSDR- Agency for Toxic Substances and Disease Registry.

APCO- Alabama Power Company.

Background Level- The average presence of a substance as it occurs naturally in the environment.

Exposed population- Any group of persons who have been in contact with chemical contaminants.

Woven Geotextile- Braided fabric used for drainage and holding soil and sediment in place.

Maximum Contaminant Level- The maximum amount of a substance delivered to any person using a public water system. Maximum contaminant levels are enforceable by law.

PCBs- Polychlorinated biphenyls.

Point of contact- Any place or medium where persons may come into physical contact with chemical contaminants.

Recommended Level- A nonenforceable health goal.

Route of exposure- Any method that allows chemicals to touch or enter the body. Examples are ingestion of soil by swallowing, inhalation of dust through your nose or mouth, and dermal contact with skin.

Semivolatile Compound- A broad description of an organic compound that does not rapidly evaporate but will vaporize over time. Semivolatile compounds are generally classified as compounds with saturation vapor pressures that are between 10^{-1} and 10^{-7} millimeters of mercury at 25 degrees Centigrade.

Source- Any place or medium where contaminants originate. An example is the West End Landfill where PCBs were dumped in the past.

Transport Media- A substance that carries contaminants from the source to a point of contact. An example is surface water carrying PCB from a landfill. Other examples are soil, air, groundwater, and sediment.

USEPA- United States Environmental Protection Agency