

South Park site, South Seattle, King County, Washington

Evaluation of Eontaminants in Tesimal Uoils



The Washington State Department of Health conducted a health consultation that looked at contaminants found in soils from the South Park site, King County, Washington, to see if they create a potential health threat to the community.

Overview

Terminal 117 (T117) is on the west end of the Lower Duwamish Waterway within the boundaries of the waterway Superfund site. It has been selected for early cleanup because of contaminant levels. T117 and some residential streets and yards near the terminal make up the South Park site.

The City of Seattle and the Washington State Department of Ecology have done surface and subsurface soil studies in the streets and residential yards around the South Park site since 2004. They found polychlorinated biphenyls (PCBs) and dioxin/furans at levels that may be a health concern. The Washington State Department of Health was asked by the Department of Ecology and the U.S. Environmental Protection Agency (EPA) to look at the results from the soil studies to determine if there are potential human health hazards posed by soil contaminants.

Health assessment

The Department of Health reviewed the information to determine the potential for health effects from exposure to contaminants in the surface soil. For the South Park site, results of soil samples collected in 2008 and 2009 were evaluated. The state health department also considered:

- The **type** of contaminant (PCBs, dioxin/furans).
- **Length of time** a person may be exposed to the contaminant.
- **How much** of the contaminant a person may be exposed to.
- **How a person can be exposed** to the contaminant (breathing in, eating, or touching/skin contact).
- **Site conditions** where the contaminant is found and how people use that site (example: surface soil at a recreational area or residential yard that people come in contact with while gardening, compared to soils underwater or covered by pavement).

Report conclusions and recommendations

The Department of Health concludes that the level of dioxin and PCBs in soil from streets and residential yards at the South Park site is not expected to harm people's health.

As a good public health practice, the Department of Health recommends people follow the general advice on how to reduce exposure to soil contaminants. *The advice is provided on the other side of this fact sheet.*

The health consultation report is posted on the Department of Health website at www.doh.wa.gov/consults.

For more information

Washington State Department of Health, Toll Free 1-877-485-7316
For people with disabilities, this document is available in other formats. To make a request, call 1-800-525-0127 (TTY/TDD call 711).

Dioxin/furans are a group of similar chemicals. They can be formed during industrial processes like burning wood for fuel and certain types of chemical manufacturing. They can also be from local sources like burning wood in fireplaces, wood stoves, and burn barrels, as well as natural burning events like forest and brush fires. Dioxin/furans don't break down easily and can be found in soil, sediment, and animals.

People may be exposed to dioxin/furans by eating meat, dairy products, or fish containing these chemicals. People may also be exposed by breathing in, eating, or touching contaminated soil. People exposed to dioxins may have increased risk of cancer, liver damage, reproductive problems, birth defects, and weakened immune systems.

PCBs are a mixture of man-made organic chemicals. PCBs were banned in the U.S. in 1977, because evidence showed that they could build up in the environment and make people sick. PCBs were used for many things, including electrical transformers, paint additives, adhesives, lubricants, and hydraulic fluids. Burning waste oil containing PCBs may be a source associated with historic T117 operations.

Small amounts of PCBs can be found in almost all air, soil, sediments, surface water, and animals. They build up in the food chain and are stored in fat tissue. People may be exposed to PCBs by eating fish, meats, and dairy products that have these chemicals. People may also be exposed by breathing in, eating, or touching contaminated soil. People exposed to PCBs may have increased risk of cancer, liver damage, reproductive problems, birth defects, and weakened immune systems.

General advice for reducing exposures to contaminants in soils

Exposure to contaminants in surface soil can be reduced if people follow these simple steps:

- Wash your hands and face after playing or working outside, especially before eating.
- Use a scrub brush to clean dirt from under your nails.
- Use plenty of soap and water.
- Wash heavily-soiled clothing separately.
- Wash children's toys, bedding, and pacifiers frequently.
- Prevent your children from eating dirt.

Mop, dust, and vacuum

- Wash anything that has come in contact with soils before entering your home.
- Regularly damp-mop to avoid breathing indoor house dust.
- Vacuum carpets and rugs frequently and dust all other surfaces in your home with a wet rag.
- Remove your shoes before entering your home to avoid tracking soil into your house.

Keep pets clean

- Wipe down pets before you let them inside.
- Keep your pets clean. Brush and bathe them regularly.
- Restrict your pets to areas of your home that are free from carpeting and upholstery. Give pets their own sleeping spots.

Eat a healthy diet

- Eat healthy. Foods that contain the daily recommended amounts of nutrients (e.g., calcium, iron, non-fat protein, etc.) can help protect you against disease.

Fruits and vegetables from home gardens

In general, fruits and berries that grow higher from the ground will not be a major source of exposure to metals or other contaminants in the soil. These plants cannot accumulate contaminants from the soil because of processes that prevent metals and some other contaminants from reaching the tops of plants. However, fruits and vegetables may be contaminated by airborne particles landing on the plant surface, or from being in direct contact with contaminated soil. The best way to prevent exposure to soil contaminants sticking to root crops like tubers, or chemicals landing on the above ground portion of plants is to:

- Wash fruits, vegetables, and any portion of the plant that will be eaten.
- Wash and peel the underground portion of vegetables.
- Use raised gardening beds or containers filled with clean soil for growing fruits and vegetables.

