Tacoma Smelter Plume (Dirt Alert) Soil Safety Program Update

School and Childcare Soil Sampling and Soil Safety Actions

What is the Soil Safety Program?

In 2005, the Washington State legislature passed a law to keep children safe from polluted soil. The Washington State Department of Ecology (Ecology) created the Soil Safety Program in response to this law.

The program provides:

- Outreach and education about how to protect children from being exposed to polluted soil within the Tacoma Smelter Plume.
- Free arsenic and lead soil testing for schools and childcares.
- Protective actions for play areas with **elevated** arsenic or lead (see box below), such as removing or covering polluted soil.

What is "elevated" arsenic or lead?

A property has elevated arsenic or lead if the average soil concentration is:

- Arsenic over 20 parts per million* (ppm).
- Lead over 250 ppm.

Or if any one soil sample has:

- Arsenic over 40 ppm.
- Lead over 500 ppm.

**One part per million = one milligram of a pollutant in one kilogram of soil.*

Ecology has partnered with **Public Health—Seattle & King County** and **Tacoma Pierce County Health Department** to provide the soil testing and outreach to schools and childcares.

The program serves parts of King, Pierce, and Thurston counties. See page 3 for a map of the Service Area.

The Tacoma Smelter Plume Site

The Tacoma Smelter Plume is a 1,000 square mile area polluted by arsenic and lead from the former Asarco Smelter in North Tacoma. The smelter released these toxic metals into the air during nearly 100 years of operation. Parts of King, Pierce, Thurston, and Kitsap counties are affected.

Please visit Ecology's Web site (see box to the right) for more information, including maps.

Project Updates

1. Evaluation and soil sampling at all 214 public and private schools in the Service Area is complete.
2. Ecology has covered or removed and replaced contaminated soil at 11 schools and 1 childcare.
3. Soil sampling is complete for 194 of the 686 childcares in the Service Area.

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4. Fifty-two of the childcares tested will need action to remove or cover polluted soils.

Making Play Areas Safer and Healthier

Ecology develops a site-specific plan for each school or childcare with elevated arsenic or lead. The plan often includes a combination of soil safety actions.

For example, polluted soils can be removed and replaced with clean fill. The surface is then covered with a safe play surface such as sod or wood chips (see Figures 1 and 2).

Figure 1. Skyline Montessori, Tacoma:
Sod being laid over clean soil.

Figure 2. Heritage Christian School, University Place:
A new wood chip play surface covers an area where polluted soils were removed.

Areas that are hard to excavate can be covered with geotextile fabric, then covered with wood chips or pea gravel.

Schools and childcares can also teach children about soil safety actions such as hand washing and taking off or wiping shoes before coming inside.

Educational materials are available through your local health department (see the gray box on page 1 for contact information).

Soil Safety Actions

Soil safety actions can include:

- Removing polluted soil and replacing it with clean soil.
- Covering soil with thick fabric and wood chips or other protective barriers.
- Hand-washing after playing outside and using a doormat to keep dirt outside.
- Vacuuming and damp dusting to keep children's indoor environments clean.

What Happens Next?

The local health departments in King and Pierce counties continue to test soils at childcares. The testing is being scheduled according to location. Childcares in areas with the highest measured arsenic and lead are tested first.

- In Pierce County, testing began in North Tacoma and has been moving south towards Steilacoom and Lakewood.
- In King County, testing began in Federal Way and on Vashon Island, and will move north toward Seattle.

Ecology will continue to work with schools and childcares to take the appropriate soil safety actions. Soil removal and covering is planned for a group of Tacoma childcares this fall.

Ecology will provide more updates as the work progresses.

Soil Safety Program (SSP) Service Area

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