

Tacoma Smelter Plume Soil Sampling and Cleanup

Soil Sampling



1. The sampler pounds a metal sampling tool into the ground.



2. The tool pulls out a soil sample. Small rocks need to be removed.



3. Next the sampler spoons the soil into a jar.



4. They mark the jar and send it to the lab for analysis. A yard may need 10 or more samples.

Sampling Results

Arsenic and lead levels are in **parts per million (ppm)**. One part per million is the same as a half of a drop of water in a full bathtub.

We usually look at the **average** arsenic and lead levels in an area sampled. We also look at the **highest** arsenic or lead level in a single sample.

We propose cleaning up yards when:

- Average arsenic is over 100 ppm
- Maximum arsenic is over 200 ppm
- Average lead is over 500 ppm
- Maximum lead is over 1,000 ppm

We recommend taking action when school, childcare, and park play areas have average arsenic over 20 ppm (max over 40 ppm) or average lead over 250 ppm (max over 500 ppm).

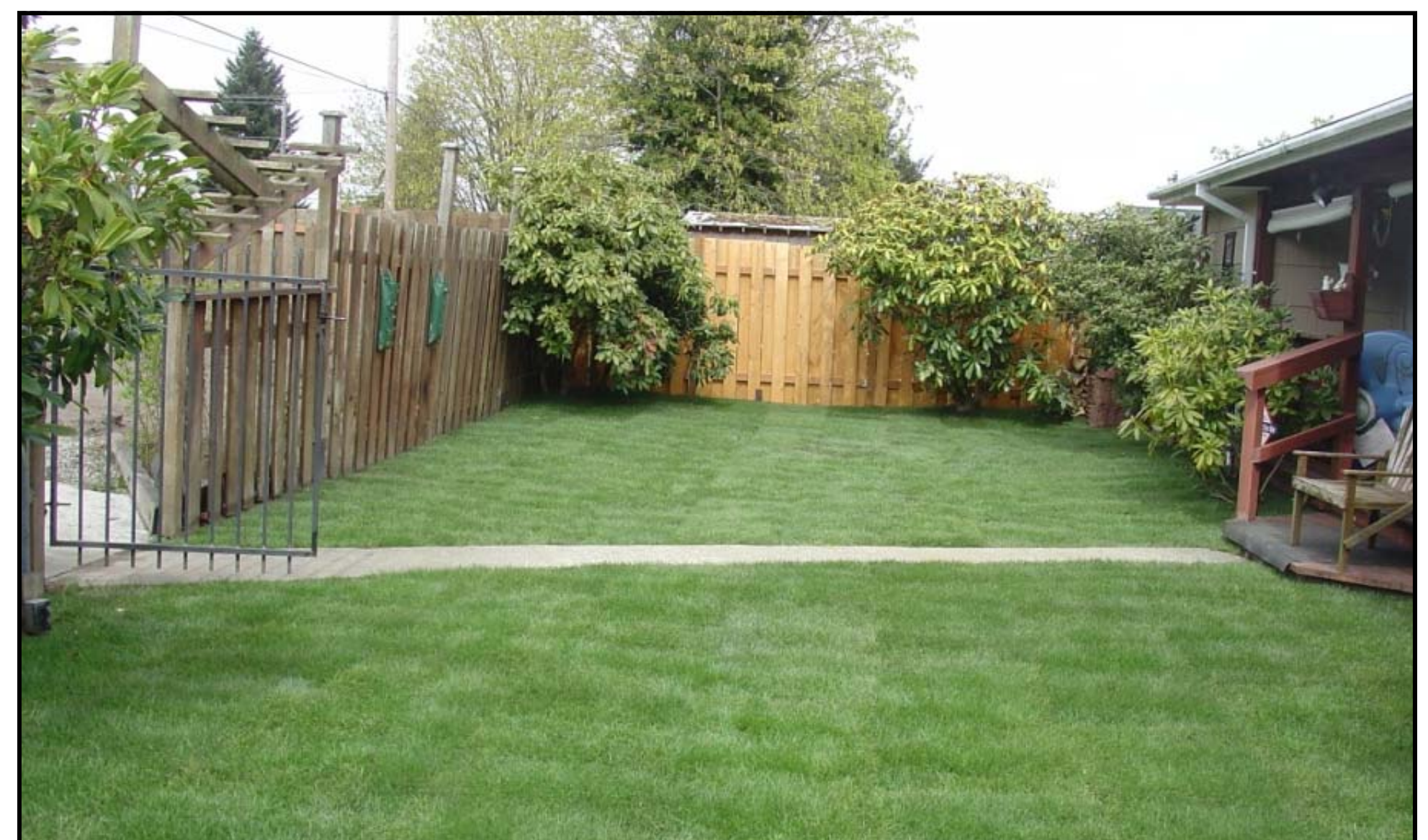
Cleanup

We make sure that soils meet state cleanup levels when we are done with a cleanup. That means arsenic is under 20 ppm and lead is under 250 ppm.

For home yards, **excavation and removal** is best because it permanently removes contamination.



Ecology's contractor digs out contaminated soil, which goes to a landfill.



New soil and sod restore the yard.

For playgrounds, or areas with large trees, **capping** is another option.



A fabric (like a thick weed barrier) covers contaminated soil. For yard cleanups, we will use a 24-inch soil cap.



We can then put wood chips, gravel, sod, or plants on top of the soil cap.