WASHINGTON STATE DEPARTMENT OF ECOLOGY

QUESTIONS AND ANSWERS: SAMPLING RESULTS FOR THE EVERETT SMELTER SITE

In October 2001, the Washington State Department of Ecology's (Ecology) contractor, Science Applications International Corporation (SAIC), collected soil samples from 19 properties in the Bridgeway-Skyline Drive neighborhood.

Why did Ecology collect samples?

The samples were taken for the purpose of determining whether your property is contaminated with arsenic, lead and other toxic metals related to smelter emissions. The results will be used by Ecology to determine where and how much soil might have to be removed to meet the requirements established in the *Final Cleanup Action Plan for the Upland Area of the Everett Smelter Site*.

What were they tested for?

The samples were only analyzed for arsenic. You should be aware that there is likely to be as much lead in the soil as there is arsenic. In some areas there may be more lead than arsenic. There are two reasons Ecology only analyzes samples for arsenic. First, previous evaluations show that if the arsenic is removed to the cleanup standard of 20 parts per million (ppm), all of the other metals that are present, such as lead, cadmium, and antimony, will also be reduced to levels below state cleanup standards. Second, analyzing hundreds of samples is very expensive. Testing only for arsenic allows Ecology to sample more properties to determine whether they are contaminated and require cleanup.

What are "Decision Unit" samples?

Each property was divided into two or more "Decision Units" (DUs). DUs are areas that will be cleaned up as a unit. The large DUs covered by grass, gravel, exposed dirt as well as planting beds or garden areas the owner or tenant might want to have excavated are identified by the

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letters "A", "B", "C" etc. (such as "A-1" or "B-8"). Samples were taken to a depth of 36 inches from between 5 and 12 locations in each large DU, depending on the size of the area. Results from these samples are used to decide if the soil within a decision unit must be excavated and, if so, to what depth.

Why don't I have any test results for the top 12 inches on part of my property?

Soils collected from between 12 and 36 inches below the surface were tested first. The reason is that if the soils below 12 inches need to be removed to meet the cleanup requirements, the soils in the top 12 inches will have to be removed as well. If the testing shows the soils below 12 inches did not need to be removed, then the soils in the top 12 inches were tested.

The average concentration of arsenic was determined for each 6-inch layer of soil that was tested (0-6", 6-12", 12-18", etc.). If the average concentration of arsenic in a layer is above a pre-determined amount, then the soil in that layer, and everything above it, should be removed and there is only one test result listed for that layer. If the average concentration of arsenic in a layer was less than a pre-determined amount, additional testing was performed to ensure that no single soil sample exceeded the maximum concentration allowed for that depth. If a sample is above the maximum concentration, the layer and all soil above it should be removed. If a sample is below the maximum allowed, that layer can be left in place. In these cases, the test result will show an average value, a statement as to whether the layer can remain or should be removed, and the maximum arsenic concentration found in that layer. In some cases the average value is so low there is no possibility of a single sample exceeding the maximum concentration; then there is only one test result, the average value.

There are samples listed as DU "L" "M" "N" and "O." What are these?

The results identified with the letters "L", "M", "N" and "O" are for landscape samples collected in areas where the owner or tenant identified a planting bed or garden that they wished to keep. Most properties only have one or two landscape units, others have as many as four. Samples were collected from several locations in each planting bed to a depth of 24 inches. Each 6-inch layer of these samples was tested to determine the arsenic concentration at that level. The results for each of the sampling locations are provided on a separate table so that the arsenic concentrations in the landscape areas are known.

What are the "X" samples in my house?

Crawl spaces are identified as Decision Unit "X" (DU X). Soil was generally taken from four locations in the crawl space. If there is plastic covering the soil, it was pulled back and then replaced. Soil from each of the locations was combined into one sample and tested to provide an average concentration of arsenic in the crawlspace.

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So how does my property compare to uncontaminated land?

In 1994, the Department of Ecology published the results of a study of the natural or "background" levels of metals in Washington State. The amount of arsenic normally present in soils ranges from 1 to 10 ppm, with most of the values being 7 ppm or less. The amount of lead ranges from 4 to 29 ppm, with most of the values below 16 ppm.

What are the cleanup standards for arsenic and lead?

The cleanup standard for arsenic in the State of Washington is 20 ppm. The cleanup standard for lead for the Everett Smelter site is 353 ppm. The concentration of arsenic above which soil is removed increases with depth.

For the 0-6 and 6-12 inch depths, soil is removed if the average arsenic concentration exceeds 20 ppm or any single sample exceeds 40 ppm.

For the 12-18 and 18-24 inch depths, soil is removed if the average arsenic concentration exceeds 60 ppm or any single sample exceeds 150 ppm.

For depths below 24 inches, soil is removed if the average arsenic concentration exceeds 150 ppm or any single sample exceeds 500 ppm.

FOR MORE INFORMATION, CONTACT:

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