

## **Guidelines for Reducing Potential Exposure Everett Smelter Site**

The highly contaminated soil over the original smelter has been covered, fenced or removed and **there is no immediate danger to human health**. However, it is uncertain what minimum level of long-term exposure to soil contaminated with arsenic, lead or cadmium poses a significant health risk. Therefore, **it is prudent to follow the precautionary health guidelines** outlined below.

Note that this advisory is not specific to any property. Concentrations of arsenic, lead, and cadmium in soil vary from location to location. Generally, higher levels of metals are found in the soil near the original smelter site and lower levels are found in outlying areas. Arsenic is the metal of most concern. Also note that large chunks of smelter slag found in the area are less hazardous than dust particles because dust can enter into the body more readily.

### **1. Children are more likely than adults to be exposed to arsenic, lead, and cadmium in soils and dust. Their exposure should be limited as much as practical.**

- Children should not play in dirt. Play areas covered with grass or some other material will reduce a child's exposure.
- Encourage your children to wash their hands and faces after playing outdoors.
- Damp mop and dust your house frequently to reduce your child's contact with dust.

### **2. Avoid eating vegetables and fruit grown within the affected area.**

- Lead and cadmium are known to accumulate in leafy vegetables such as lettuce, spinach, carrots, endive, cress, and beet greens. Onions, mustard, potatoes, and radishes have a moderate ability to uptake heavy metals from the soil.
- It is not known if these metals accumulate in blackberries or other fruit, so avoid eating them until more information is available. Metals were not found above the laboratory detection limits in apples tested from the site.
- If vegetables or fruit are consumed from local gardens, wash thoroughly before eating.

### **3. Use caution while working in the soil.**

- Avoid all unnecessary exposure to soil or dust in the affected area.
- Spray the soil with water before and during the project to minimize dust. Do not saturate the soil or allow water to run off the site.
- Wear clean, full body protective clothing (coveralls or long sleeve shirt and pants), shoes and gloves (see page 9). For maximum protection wear a dust mask or other respiratory protection. Wash work clothes separately from other clothing.
- Don't eat, drink, smoke, or chew any material while in the work area.
- Clean surfaces by wet mopping, spraying with water, or vacuuming with a HEPA filter. Don't sweep or blow the surface.

### **4. Avoid other sources of metal exposure.**

- Minimize children's exposure to hobbies that use lead (e.g., hobbies that involve the use of lead solder or paint).
- Make sure your child eats a well-balanced diet. Children who have acceptable iron and calcium intake, and low fat intake are less likely to absorb lead from their environment.
- Homes built before 1980 could have lead-based paint. Maintain the painted surfaces in your home to avoid exposure to lead paint chips and dust.
- If your job involves lead or lead compounds, shower and change clothes before returning home.

### **5. Construction activity.**

- Employees of companies who are required to work in soil within the study area should refer to Good Practice Guidelines on page 9, and WAC 296-62 (the General Occupational Health Standard), or consult the Department of Labor and Industries for assistance on how to reduce work-related exposure to contaminated soil.
- Use heavy equipment that have enclosed cabs whenever possible.
- Soil removal from any site in the study area must be carried out in consultation with the Snohomish Health District. Soils in the area may have the potential to be designated as Dangerous Waste due to high metals content.

### **6. Pet precautions.**

- Pets can come in contact with contaminated soil, which may then be carried into the home. If possible, keep pets out of areas of exposed soil. Inspect your yard and look for exposed soil your pet may have access to. Fill any holes where dogs may be digging as soon as it is noticed. If possible, restrict pet access from your house. Bathe your pets frequently. Wash your hands after handling your pet, and before preparing or eating food.

## Good Practice Guidelines for Employers and Employees

The Good Practice Guidelines for Employers and Employees Working within the Everett Smelter Study Area was developed by Washington State Department of Labor for the Everett Smelter Study Area.

These guidelines address the hazards of arsenic, lead, cadmium and other metals as related to the hazardous waste site. They do not address other safety and health hazards or programs that are required by Washington Industrial Safety and Health Administration.



These guidelines were not developed to protect young children or residents who live on the site. See the Public Health Advisory (page 11) for the residential guidelines and other recommendations for reducing residents' personal exposure.

### How to use the Good Practice Guideline Decision Boxes For workers in the Smelter Area.

1. Determine whether the task is above or below ground level. Ground level is the plane of the earth. If the task is both above and below ground level, use the below ground decision box.
2. Determine the soil arsenic concentration (see map on page 8 or sources for additional information on page 21). Use the highest soil level if there are different values.
3. Evaluate whether dust is going to be generated. Dust generation is interpreted to be dust suspended in the air. If you can see it, you are generating dust.
4. Determine which box and quadrant fits your task. Use the letter guidelines in the selected quadrant.
5. Compare your activities/conditions with the exception items. Follow the exceptions where they apply.

ppm = parts per million (mg/kg or ug/g)

#### Above Ground Tasks

Arsenic in soil  $\geq$  200 ppm?

		No		Yes	
Dust Generating?	No	AB	AB	AB	AB
	Yes	AB	ABC	ABC	ABC

#### Below Ground Tasks

Soil will be disturbed

Arsenic in soil  $\geq$  200 ppm?

		No		Yes	
Dust Generating?	No	AB	ABC	ABC	ABC
	Yes	ABC	ABCD	ABCD	ABCD

## Letter guidelines used by employees

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A

**Hazard communication:** Know the arsenic levels in the soil. Know arsenic and other metals in the soil cause health problems. Know appropriate methods to minimize dust exposure. Know that arsenic and other metals can be taken home if precautions are not taken.

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B

**Personal hygiene:** No eating or smoking while doing tasks on location. Wash hands and face before eating or smoking. Wash hands and face before breaks, at the end of the day or task, and when leaving location.

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C

**Work clothing:** Wear coveralls and hat while doing task. When leaving site, remove coveralls and clean hat and shoes. Prevent transfer of hazardous materials by placing removed clothing in a bag for transporting. Launder coveralls separately and carefully.

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D

**A work site-specific safety plan:** A plan is recommended and may be required. See WAC 296-62-3010 for details. **Workers may need additional training,** at least 24 or up to 80 hours, before entering the work site.

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## Exceptions

Crawling under houses or in similar circumstances is a special situation. The space is enclosed and airborne concentrations of dust can climb rapidly. Add the next letter guideline to the selected decision box.

A site-specific safety plan is recommended and may be required when undertaking large scale site development, or building activities that involve excavation soils. See WAC 296-62-300 (Part P).

All work activity in the current fenced area requires following WAC 296-62-300 (Part P).