

## Environmental Health Assessment Program (EHAP)

## FAST FACTS

**Lower Bridge Mine:****Background**

The Lower Bridge Mine (LBM) is a 550+ acre diatomaceous earth (DE) strip mine located six miles west of Terrebonne, Oregon. The Oregon Public Health Division Environmental Health Assessment Program (EHAP) conducted a health consultation to assess the potential health risks of living near the Lower Bridge DE Mine.

DE is a type of rock composed of the silica-containing skeletons of fossilized diatoms (very small marine and freshwater organisms). DE is mined and processed to manufacture industrial filtration systems. In its natural state, it is a very mild abrasive used in metal polishes and toothpaste. It is also used as an anti-caking additive in various food items. It absorbs up to 300 percent of its weight in moisture, making it useful in products such as kitty litter. Large deposits occur in California, Nevada, Washington and Oregon.

**Past activities at the LBM site include:**

- Mining and processing DE to form a type of crystalline silica (cristobalite), which involved exposing DE to extremely high temperatures;
- Sand and gravel mining operations;
- Asphalt mixing;
- Hazardous waste storage.

There is a possibility that future residential development may occur at this site.

**Findings**

This consultation, which focuses solely on current land-use conditions, determined there is a low overall health risk to nearby residents. EHAP visited the site in July 2008 and reviewed the available soil and groundwater data.

**EHAP concludes the following:**

- Soil and groundwater at LBM pose **no apparent public health hazard** under current land-use conditions.
  - Soil and groundwater were tested for an extensive list of chemicals, which were either not detected or were found in amounts that are too low to cause health effects.
  - Radiation levels were no different than the surrounding area, which are low.

- The most pressing health risks are physical safety hazards for potential trespassers.
  - Dilapidated buildings and scrap metal and wood piles pose a physical public **health hazard** to trespassers.
- Airborne dust from any source can cause short-term respiratory irritation, but more information is needed to evaluate possible long-term effects at this site. EHAP considers inhalation of airborne dust emanating from this site to be an **indeterminate health hazard**.
  - EHAP's early data review indicates there is not enough silica in the airborne dust to cause silicosis or an increased risk for lung cancer, but more data is needed to rule out the possibility.
  - EHAP needs more information on particle size and concentration to determine whether nearby residents are at higher risk for other, long-term respiratory problems.

### Recommendations

- Dilapidated buildings and piles of scrap wood and metal should be removed. In the meantime, the public should stay off the property and children and teens should be prevented from accessing the area.
- Soil sampling and air monitoring should be conducted in order to analyze them for cristobalite (crystalline silica) content and particulate matter size (PM<sub>2.5</sub>).
- Continue efforts to control dust, and include dust suppression plans for any future activities.
- If future zoning of the site changes to residential, site owners should:
  - Consult with EHAP to develop a comprehensive site sampling plan that would address issues raised in the report.

#### *Steps residents can take to minimize exposures*

- ▶ Stay off the mine property and away from dilapidated structures and scrap metal and wood piles, and keep children and teenagers away from the area.
- ▶ To reduce the amount of dust brought into a residence, remove shoes and outerwear/work clothes before entering the home.
- ▶ Clean with wet methods or vacuum with a high-efficiency particulate air (HEPA) filter unit.
- ▶ Take care to close doors and windows when visible dust clouds approach homes.

For more information e-mail EHAP at [ehap.info@state.or.us](mailto:ehap.info@state.or.us), or call 971-673-0977.