Van Stone Mine
Evaluation of Environmental Exposures

Fact Sheet

The Washington State Department of Health has completed a health consultation for the Van Stone Mine site. The Washington State Department of Ecology (Ecology) requested the consultation to see if exposure to contaminants from the site could cause harmful health effects for people in the surrounding community and visitors. Contaminants associated with lead-zinc mining operations were found in groundwater, surface water, soil, and sediment. After reviewing the available information, we do not expect harmful health effects from having contact with soil, sediment, or using private well water for drinking and bathing. Potential physical hazards were found at the site, such as old mine structures that may pose a risk to people. It is unknown whether surface water could harm people's health or if naturally-occurring asbestos is present at this site.

Assessments are completed under a cooperative agreement with the Agency for Toxic Substances and Disease Registry. A copy of the full report is available on the Department of Health website (doh.wa.gov/consults).

Overview

The Van Stone Mine was identified as a contaminated site by Ecology due to past lead and zinc mining operations. The mine operated occasionally between 1938 and 1993. A small residential community and school are located near the site. Area residents have raised health concerns about potential exposures to contaminants during recreational activities and drinking water from their private wells. They have also brought up the need for warning signs to be posted around the mine site.

To determine the impacts from past mining operations and ongoing contamination releases, Ecology completed an initial remedial investigation in 2013 that looked at several parts of the site. These areas include the mill area, open pits, and waste rock area, the upper and lower tailings pile, pipeline and access roads, and Onion Creek and tributaries. Samples of surface water, groundwater, soil, and sediment were collected and analyzed from these areas. The investigation also included sampling and analysis of groundwater from seven residential wells, which were located near the upper and lower tailings piles. Additional sampling scheduled for the fall of 2014 will provide supplemental information for the remedial investigation.

Health Assessment

Data from the 2013 remedial investigation were evaluated with a variety of factors to determine if there are potential health effects from exposures. Our assessment looked at area residents, trespassers, and visitors as people who could potentially be exposed to the chemicals found at the site. Our evaluation specifically looked at the following:

The type of chemical and the amount detected – The chemicals that were evaluated include antimony, arsenic, cadmium, copper, lead, mercury, and zinc. Our assessment used the highest level found for each chemical in each type of material sampled.

How long a person is exposed to the chemicals – We looked at seasonal recreational exposures as the amount of time people would be in contact with chemicals.

Ways a person is exposed to the chemicals – The assessment evaluated the amount of the chemicals people may be exposed to through touching, eating, or breathing them in during recreational activities.

The current site conditions and how people use that site – The assessment evaluated whether people are able to come in contact with the chemicals and also determined if physical hazards are present.

Conclusions

After looking at all the different chemicals found, site conditions, and the ways people could be exposed, our evaluation concludes:

- Touching, breathing, or accidentally ingesting chemical contaminants in soil or sediment at Van Stone Mine site is not expected to harm people's health.
- Using private well water for drinking and bathing is not expected to harm people's health.
- Physical hazards at this site could pose an injury risk to people. There is evidence that areas of Van Stone Mine are used for recreational purposes even though gates and "No Trespassing" signs are present. Examples of physical hazards where falls could occur include areas with unstable rocks such as pit walls, tailings piles, slopes, and ponds, as well as old mine structures.

A lack of information prevented reaching certain other conclusions:

- Whether swimming or wading in surface water could harm people's health.
- Whether tremolite asbestos is present at the site and could harm people's health.

Naturally-occurring Asbestos

Naturally-occurring asbestos is a fibrous mineral that may be found in certain types of rock or soil. It becomes a health concern if it becomes airborne. When asbestos is airborne, it can be breathed into the lungs, increasing the risk of developing asbestos-related diseases such as lung cancer, mesothelioma, and asbestosis. Asbestos may become airborne if disturbed through natural processes, or human activities like walking, digging, plowing, riding horses or bikes, or otherwise disturbing the ground.

There have been reports that tremolite, which comes in both a fibrous asbestos form and a non-fibrous form, is present at Van Stone Mine. Confirmation whether tremolite asbestos is present at the Van Stone Mine site is needed.

More information about naturally-occurring asbestos (www.atsdr.cdc.gov/noa/) is available online.

Recommendations

After reviewing all the available information, we recommend:

1) Install signs around Van Stone Mine to warn people about physical hazards and potential health effects from exposure to contaminants found on site.

2) Additional characterization of site materials should be completed to determine the potential presence and extent of tremolite asbestos.

For more information, contact the Department of Health

Toll free 1-877-485-7316.

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