



Evaluation on Public Health Implications of Surface Soil Exposures at Ute Ulay Townsite

March 2013

The purpose of this health consultation was to evaluate the future public health implications of exposure to mining related surface soil contamination at the "Townsite of the Ute-Ulay Mine and Mill" in southwestern Colorado

Site Background

The Townsite of the Ute-Ulay Mine and Mill is a historic mining camp located approximately 4 miles west of Lake City, Hinsdale County, Colorado. The site is the former location of a hard rock mining and milling operation that dates back to 1874. The Ute-Ulay Townsite is one of the most intact mining camps remaining in Colorado and consists of the original boarding house, cabins, storage buildings, mine headframe, and redwood water tank.

In the summer of 2011, work began on planning the future uses of the Ute-Ulay mine and mill complex if the current owner of the site were to donate the land to Hinsdale County for restoration and preservation. A Phase II ESA was also completed in the summer of 2011 by the CDPHE for the Targeted Brownfields Assessment of the site. The area under consideration in this evaluation ("Townsite") is a 4-acre parcel of the total 285-acre Ute-Ulay Mine and Mill complex. In January 2012, LKA International, Incorporated announced a potential donation of the Townsite area to Hinsdale County for preservation and public display purposes.

What did CCPEHA find in the Health Consultation?

CCPEHA and ATSDR have reached four conclusions regarding current and future exposures to soil at the Ute-Ulay Townsite:

Exposure to lead in soil during recreational use of the Ute-Ulay Townsite could harm the health of children (age 0-7 years). This conclusion was reached because the results of the IEUBK model predicted blood lead levels in young children that are well above CDC's reference blood lead level in all exposure units (EU).

Recreational exposure to lead in EU1 and EU3 could harm the health of the fetus of pregnant women (Please see the health consultation document for further explanation of the EUs identified in this evaluation). This conclusion was reached because the ALM predicted elevated blood lead levels in the fetus of pregnant recreational users following exposure to lead in EU1 and EU3. In EU1, the ALM predicted a geometric mean blood lead concentration in the fetus of 5.6 µg/dL and that 44.2% of all pregnant recreational users would have fetal blood lead concentrations equal to or greater than 5 µg/dL. In EU3, the ALM predicted a geometric mean blood lead concentration in the fetus of 2.8 µg/dL and that 14.0% of all pregnant female recreational users would have fetal blood lead concentrations equal to or greater than 5 µg/dL. Both of these outputs are above CDC's target for lead, which is fetal blood lead concentrations equal to or greater than 5 µg/dL. It should also be noted that exposure to lead in EU2 and EU4 did not indicate the probability of elevated fetal blood lead levels for ≥5% developing fetuses of the exposed recreational users in this evaluation.

Exposure to lead in all EUs at the Ute-Ulay Townsite could harm the health of the fetus of pregnant hostel workers. This conclusion was reached because the ALM predicted >5% probability of fetal blood lead levels for pregnant hostel workers that are well above CDC's reference blood lead level in all exposure units. Specifically, exposure to lead in EU1 and EU3 presents the greatest concern for elevated fetal blood lead levels.

Exposure to metal contaminants other than lead at the Ute-Ulay site is not expected to harm the health of young children and adults during recreational activities or while working at the hostel. This conclusion was reached because the estimated non-cancer health hazards and estimated cancer risks for both receptor populations

considered in this evaluation are associated with a low increased risk of developing cancer and non-cancer health effects.

The following recommendations have been made for recreational users and hostel workers at the Ute-Ulay Townsite to reduce their risk of elevated blood lead levels:

- While onsite, refrain from hand-to-mouth activities such as eating, smoking, drinking, etc. Particularly, keep young children from eating soil onsite.
- Wash hands, and remove and wash potentially contaminated clothing (boots, pants, etc.).
- Examine other potential sources of lead in the home, particularly in homes built prior to 1978.

What's next?

- CCPEHA will provide additional health education by distributing health education material such as fact sheets and responding to any questions via phone, meetings, or emails, etc. as requested or necessary; and
- CCPEHA will review any additional soil data collected and update the health consultation report on the Ute-Ulay site as requested. The action item is particularly relevant for recreational use and hostel worker exposures to lead.

FREQUENTLY ASKED QUESTIONS:

What is a health consultation? A health consultation provides advice on a specific public health issue related to real or possible human exposure to toxic material. A Health Consultation is a way for the Colorado Department of Public Health and Environment to respond quickly to a need for health information on toxic substances and to make recommendations for actions to protect the public's health. Health Consultations may consider:

1. The levels (or "concentrations") of hazardous substances;
2. If and how people might be exposed to contamination (through "exposure pathways" such as breathing air, drinking or contacting water, contacting or eating soil, or eating food);
3. The harm the substances might cause to people (or the contaminants' "toxicity");
4. If and how working or living nearby might affect people's health; and
5. Other dangers to people, such as unsafe buildings, explosive hazards, or other physical hazards.

Where can I find this health consultation?

An electronic copy of this health consultation can be found at:

<http://www.cdphe.state.co.us/dc/envtox/ccpehasites.html>

To request a free copy of this health consultation or for more information about the health consultation, please feel free to contact Thomas Simmons, Health Assessor, at 303-692-2961. For other site-related concerns, please call Mark Rudolph, Project Manager, at 303-692-3311