

GENERAL INFORMATION

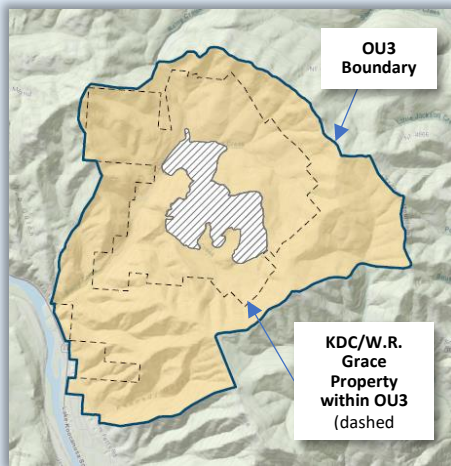
Operable Unit 3, Libby Asbestos Superfund Site

Lincoln County, Montana



The Mine

The vermiculite mine near Libby, Montana opened in the 1920s. W.R. Grace Company (Grace) bought the mine in 1963 and increased its production. The mine closed in 1990. Vermiculite from the mine had varying levels of naturally occurring asbestos, referred to as Libby amphibole asbestos (LA or LAA). Health concerns arose over time and studies showed that miners had an increased risk of asbestos-related lung disease. Lung disease was also seen in Libby residents who never worked at the mine.



Where Contamination is Found

In October 2002, the Libby Asbestos Superfund Site was added to the U.S. Environmental Protection Agency (EPA) National Priorities List. The site has eight separate areas or "operable units" (OUs). OU3 includes the former mine and surrounding forested land that is impacted by LA. There is LA in rock outcrops and waste rock piles in the mined area and in soil, duff, tree bark, wood ash, surface water, and sediment. LA on tree bark, soil/duff decreases with distance from the mine. The EPA OU3 boundary was established based on human health exposures, LA levels, air movement patterns, and topography.

LA around Libby comes from both mining-related activities and natural occurrences. Airborne dust was released by the milling of vermiculite ore. Waste products were used by Libby and Troy residents. Vermiculite products were used in numerous homes, businesses, and public buildings. LA is also present in Kootenai Valley soils but not thought to be a result of mining-related activities. These low levels of LA in soil likely came from normal geologic processes unrelated to vermiculite ore from Vermiculite Mountain and do not pose an unacceptable risk to human health.

Specialized Sampling

Asbestos fibers are hazardous when inhaled, so airborne LA is of the most concern. Because predicting the levels of LA in air based on what is found in sources is difficult, EPA performed activity-based sampling (ABS). During ABS, air samples are taken from the breathing zone of a person who is doing a task, such as digging or cutting wood. ABS air results are used to estimate potential risks. Dozens of these ABS studies have been done at the site.

OU3 Risk Results

The Site-wide Human Health Risk Assessment (HHRA) estimated cancer and non-cancer risks from inhaling LA. Cancer risk estimates were within EPA's acceptable range for all exposure scenarios. Non-cancer effects were acceptable for many exposure scenarios, including recreational activities (hiking, camping, ATV riding, and driving in forested areas); forest management activities (road maintenance, tree thinning, surveying); and some commercial logging activities (hand-felling trees, slabbing,



and milling). However, exposures for workers that intensively disturb soil and/or duff were potentially unacceptable.

Activities with potentially unacceptable risk include hooking/skidding while logging and firefighter mop-up. Mine trespassers could also have unacceptable exposures, especially if they repeatedly disturb outcrops and waste rock areas (such as local rockhounds searching for rock specimens). Except for a limited area near the mine, exposures from use of firewood are not a concern.



Next Steps?

The feasibility study is a step in the Superfund process that evaluates ways to clean up a site. EPA, U.S. Forest Service, and the State of Montana are working with W.R. Grace to determine what cleanup actions will be taken at OU3 to reduce LA exposures. The best cleanup action, called the preferred alternative, will be presented to the public for comment in a proposed plan. Public comment on the plan will be evaluated before a final decision is made and documented in the record of decision. Until the remedy is complete, precautions should be taken to limit long-term airborne exposures to LA.

For More Information, Visit:

www.epa.gov/superfund/libby-asbestos