

SUPERFUND

Fact Sheet

KAABA-TEXAS MINE REMOVAL *Nighthawk, Washington*



U.S. ENVIRONMENTAL PROTECTION AGENCY REGION

January 2000

In December 1999, the U. S. Environmental Protection Agency (EPA) finished removing and disposing of approximately 81,000 cubic yards of contaminated mine tailings from the Kaaba-Texas Mine in north central Washington. The tailings were hauled from two tailings piles located alongside the Similkameen River, and moved to a secure repository.

Why did we do this cleanup?

In April 1999, EPA did a "removal site assessment," meaning site conditions were observed and samples collected to determine whether a removal action was needed. The two tailings piles alongside the river are called the "Riverbed tailings pile" and the "Lower Bench tailings pile." Samples were collected from soils around both tailings piles, revealing high levels of heavy metals. If these were not removed, they could pose a risk to human health and the environment. Contaminants in the river threatened water quality, which could harm sensitive steelhead and salmon populations, as well as impact human health through the food chain. In addition, local residents and people traveling through the area could inhale wind-blown dust from the contaminated tailings piles. Contaminated dust also posed a potential threat to the nearby bat caves and woodpeckers living in trees along the river bank. EPA determined that a removal action was necessary.

In consultation with the Washington Department of Ecology and the Bureau of Land Management, EPA began removing contaminated mine tailings along the Similkameen River in early September 1999. These tailings were carried to a deep hole dug on site (the "repository") which was built to safely hold the tailings. The repository was capped with two feet of clean soil and rock to form a protective barrier.



Kaaba-Texas Mine Cleanup

Afterwards, the repository cap was seeded with native vegetation, and trenches ("berms") were dug around it to divert surface water from any possible tailings contamination. Coconut shell matting was placed on top of the repository to help stabilize the slope and help vegetation grow. The site of the former tailings piles was also regraded and revegetated to match local topography, then seeded. The steep slopes were covered with matting. This work will greatly reduce the chances of the contaminants eroding into the river or being inhaled, and help protect human health, wildlife, and the surrounding environment. A barbed wire fence was placed around the repository to prevent people or animals from disturbing it. In spring 2000, EPA will visit the Kaaba-Texas site to check on the vegetation growth and possibly seed more bare areas, as well as inspect the drainage system to make sure it is working properly.



Site History and Previous Studies

The Kaaba-Texas Mine site is one half mile south of Nighthawk, a community in north central Washington, in Okanogan County. It sits along the Alamandi Road, a sparsely-populated area on the west bank of the Similkameen River, amid mountains and grazing lands. Both residential and commercial properties exist in this area. The site property is owned both privately and by the federal Bureau of Land Management. The mine is believed to have been established in the late 1890s, with ownership and operation changing hands several times before and after World War I. During World War II, the mine was sold to the Kaaba-Texas Mining Company. At this time the mine was producing more than 100 tons of lead, silver, gold, copper and zinc ore per day. Tailings were discharged directly into the river until 1946, when the Okanogan County Health Department ordered the use of settling basins. Although basins were constructed, operational problems often caused overflows and direct discharge of tailings into the river.

Mining at the site stopped in 1951. In 1952 the land and mineral rights were sold to the Silver Star Mining Company. Silver Star continues to own the major portion of the property. In 1983 mineral rights were leased to Eastern Lights LTD, who conducted mineral exploration activities and constructed new settling basins. Eastern Lights, however, apparently did not conduct any mining activities. Silver Star states that it has never conducted any mining activities at the site and there appears to be no evidence of mining since Silver Star acquired the property.

The two tailings piles on site are referred to as the "Lower Bench tailings pile" and the "Riverbed tailings pile." In 1984 EPA collected samples from the Lower Bench tailings pile. Testing showed that lead, cadmium, silver, copper and zinc concentrations were approximately two times (for zinc) to nearly 6,000 times (for lead) greater than background level concentrations. Workers collected additional samples to study

whether various metals could leach from the tailings into the river water. They also used these samples to assess how tailings could impact water quality if a dam was constructed eight miles downstream. Sampling results showed concentrations above levels acceptable to EPA.

In 1991 EPA collected soil and sediment samples from the site. Sampling results showed that elevated concentrations of arsenic, cadmium, copper, lead, silver, cyanide and zinc remained in the Lower Bench tailings pile. This study concluded that the Lower Bench tailings pile could be considered entirely contaminated, and the Riverbed tailings pile contained high levels of inorganics (non-metals which are byproducts of the mining process). Also, heavy metals were gradually migrating to the wetland sediments along the river's western bank.

About the Contaminants

Arsenic exposure has been proven to increase a person's risk of developing cancer. Arsenic can also cause other problems such as dark or light spots on the skin; small "corns" on the palms, soles and trunk of the body; and blood and nerve disorders.

High **cadmium** levels severely damage the lungs and can cause death. Lower levels over a period of several years leads to buildup of cadmium in the kidneys which may cause kidney disease.

Cyanide is a very poisonous chemical. Exposure to high levels harms the brain and heart, and may cause coma and death. Exposure to lower levels may cause breathing difficulties, heart pains, vomiting, blood changes, headaches, and enlargement of the thyroid gland.

Lead can cause severe health impacts, particularly in small children and fetuses. The nervous system is the most sensitive target for lead poisoning. In children, neurological effects have been found at exposure levels once thought to cause no harmful effects.

Zinc is an essential element in our diet. Too little zinc can cause health problems, but too much zinc is also harmful. Eating large amounts, even for a short time, can cause stomach cramps, nausea, and vomiting. Taken longer, it can cause anemia, pancreas damage, and lower levels of high density lipoprotein cholesterol (the good form of cholesterol). Breathing large amounts of zinc (as dust or fumes) can cause a specific short-term disease called "metal fume fever." This is believed to be an immune response affecting the lungs and body temperature.

Where can I find more information?

Documents with additional information about the Kaaba-Texas Mine Superfund Site are available at:

Oroville Public Library
P.O. Box 550
Oroville, Washington 98844
(509) 476-2662

and

EPA Region 10
Seventh Floor Records Center
1200 Sixth Avenue, ECL-076
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Nighthawk, Washington