



EPA

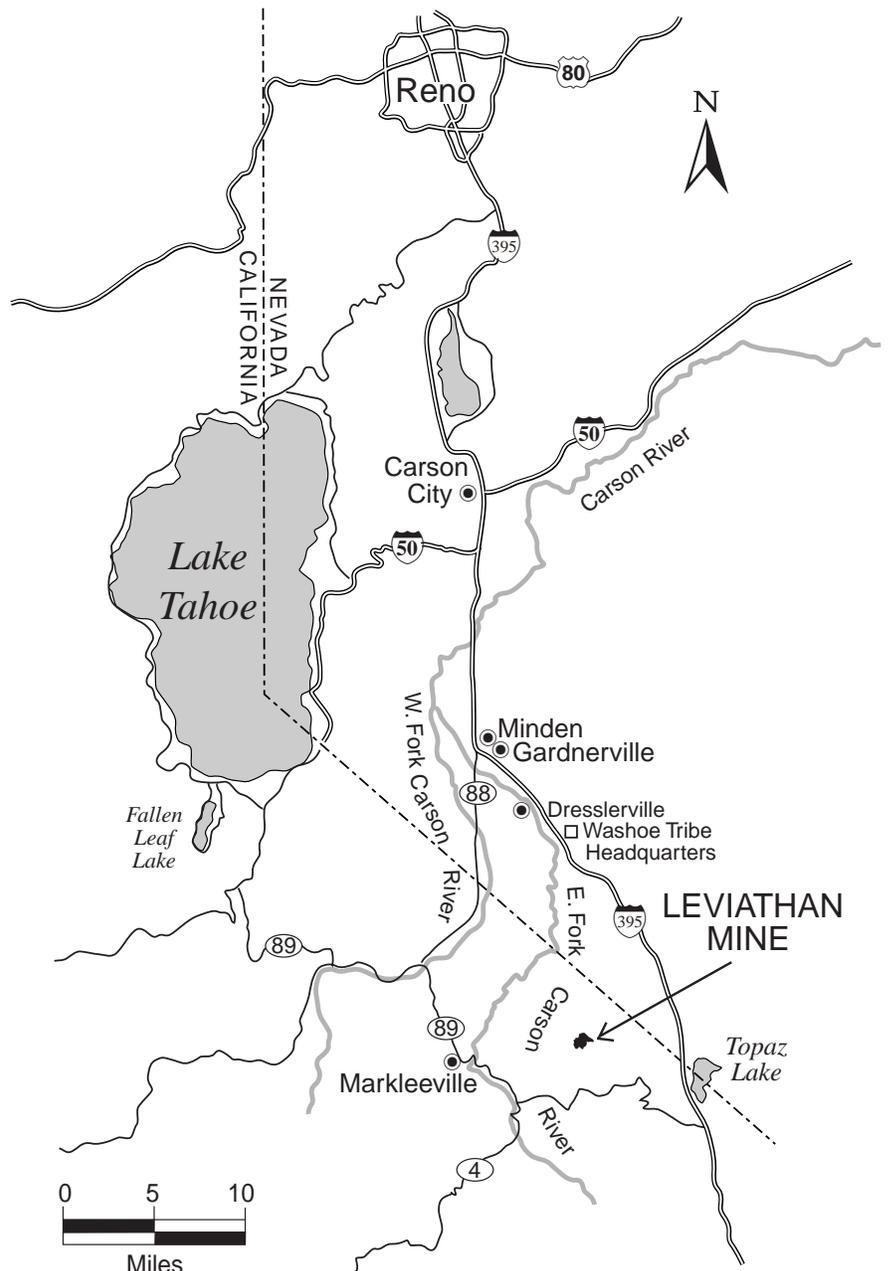
LEVIATHAN MINE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX • SAN FRANCISCO, CA • NOVEMBER 1999

EPA PROPOSES LEVIATHAN MINE FOR SUPERFUND LIST

ALPINE COUNTY, CALIFORNIA

The U.S. Environmental Protection Agency (EPA) has proposed the Leviathan Mine near Markleeville, CA for the federal Superfund list of the Nation's most environmentally critical hazardous waste sites. This proposal that the site be listed on the National Priorities List (NPL) was made because of the environmental impacts caused by acid mine drainage coming from the mine site. Inclusion on the NPL would give the site and all releases coming from the site priority status for federal cleanup under the Superfund program and ensure the availability of adequate resources to address all contamination associated with Leviathan Mine.



Site map of Leviathan Mine and surrounding areas

Comments Welcome

A public comment period on the proposed listing ends on December 21, 1999.

All comments must be received by that date.

Comments may be sent to:

Carolyn Douglas
U.S. Environmental Protection Agency
75 Hawthorne St. (SFD-5)
San Francisco, CA 94105

Site History

The Leviathan Mine property includes approximately 250 acres of disturbed land located in a remote part of Alpine County, California, approximately six miles east of Markleville near the California-Nevada border (see map, page 1). Developed in 1863, the mine was originally a source of copper sulfate for processing silver ore at the Comstock Mines in Virginia City. From 1872 to 1935 the mine was inactive, but then it was reopened for development of the sulfur body until it was closed again in 1941. When the Anaconda Company purchased the property in 1951, it was decided that the sulfur should be extracted by open-pit methods, resulting in millions of cubic yards of mine waste being generated.

It was during this period that the first indication of serious pollution problems surfaced. In 1952, a fish kill occurred in the Carson River and Bryant Creek when a holding pond was breached, discharging a large quantity of highly acidic and toxic water into Leviathan Creek. Anaconda did not take effective measures to stop the pollution before the company discontinued operations in 1962, and pollution problems from the mine increased over the years.

By the 1970s, the California Regional Water Quality Control Board (Regional Board) became involved in the Leviathan Mine problem and, in the early 1980s, negotiated a settlement with Anaconda, now a subsidiary of ARCO. (The State of California now owns the Leviathan property.) Following this settlement, the Regional Board began working on actions to minimize the effects of pollution from the mine site including filling and regrading the mine pit and waste rock piles, channelizing Leviathan Creek, attempting to revegetate portions of the site and constructing evaporation ponds to catch the acid mine drainage.

The Problem

Acid mine drainage from Leviathan Mine is formed by rainfall, surface water and groundwater coming in contact with sulfide in the mine tailings. Sulfuric acid is formed from this contact, leaching heavy metals from the mine tailings. These metals—copper, arsenic, iron and nickel—are present in amounts that are harmful to public health and the environment, especially fish and other aquatic life. One obvious problem with acid mine drainage from this site occurs primarily when the evaporation ponds (with a capacity for 14 million gallons) overflow during the spring snowmelt and during heavy rains, releasing acid solution directly into Leviathan Creek and the Carson River watershed. The Carson River, a major water source, is used for agriculture and is a habitat for the endangered Lahontan Cutthroat Trout (as are the affected Leviathan and Bryant creeks). Besides the pond overflow, contamination enters the area from other parts of the site, including underground channels.

Why EPA Got Involved

In 1997, the Washoe Tribe of Nevada and California requested help from EPA because of particular concern over the effects from the overflow of the evaporation ponds. (Washoe tribal lands include areas directly downstream from the mine.) Besides concern over potential human health impacts from mine contamination, the Washoe Tribe's desire to protect their cultural and natural resources prompted them to pursue federal assistance. EPA's Region IX office in San

Francisco responded by attempting to treat enough pond water during the summer and fall so the ponds would not overflow the following spring. This treatment, based on raising the pH and reducing the dissolved concentrations of metals through lime neutralization, was not successful due to technical difficulties and time constraints. A berm, however, was constructed around the lowermost pond to increase its holding capacity.

Additional Recent Actions

Two additional attempts to control pond overflow have been made in the past two years. In 1998, ARCO agreed to create more storage capacity for the ponds, but could provide only three million gallons more before the winter began. During Spring 1999, approximately eight million gallons of acid mine drainage overflowed from the ponds. Following that, the Regional Board received funding to treat the pond water with an innovative method that would reduce the volume of waste solids needing special handling. From August through October of this year, the Regional Board successfully treated 4.5 million gallons. With evaporation, more than eight million gallons of capacity are ready for this winter.

Next Steps

Pollution from Leviathan Mine needs to be controlled and downstream areas affected by mine contamination made healthy again. As noted above, attempts have been made to lessen the impacts from the mine without much success. Sufficient resources need to be made

available so we can better understand what is going on at the mine site, how the contamination is affecting other areas and what the options are for dealing with it.

It is for these reasons that EPA has proposed Leviathan Mine for the NPL, where listing has definite advantages. If the site is finalized as a Superfund site, EPA will have the resources and ability to:

- Thoroughly investigate how and where acid mine drainage is generated;
- Evaluate the best options for controlling and treating it;
- Focus on stopping the contamination at its source;
- Thoroughly investigate environmental impacts both at the mine and downstream, including the East Fork Carson River;
- Develop a risk assessment of the effects to humans and the environment;

- Identify Responsible Parties liable for cleanup costs; and
- Include affected communities in cleanup decisions.

Any work that EPA may do to control and eventually clean up the Leviathan Mine site and its downstream impacts will be done in cooperation with the other entities that have worked together to try to solve the problems associated with the site. These Natural Resources Trustees include the Washoe Tribe, the states of California and Nevada, the Forest Service, the U.S. Fish and Wildlife Service and the Bureau of Indian Affairs. In addition to working with the above Trustees, EPA places a high value on public involvement in the Superfund process. Input from all affected parties, including local governments and community members, will be welcome throughout the investigation and cleanup process.



MAILING LIST COUPON

If you would like to continue receiving information on the Leviathan Mine site or know of others who would be interested in being on our mailing list, please return the coupon to: Vicki Rosen, Community Involvement Coordinator, U.S. EPA, 75 Hawthorne St. (SFD-3), San Francisco, CA 94105.

Name: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____



FOR MORE INFORMATION

If you have questions or concerns about the Leviathan Mine site, please do not hesitate to contact any of the people listed below:

Kevin Mayer
Remedial Project Manager
(SFD-7-2)
(415) 744-2248
mayer.kevin@epa.gov

Vicki Rosen
Community Involvement Coordinator
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rosen.vicki@epa.gov

U.S. EPA
75 Hawthorne St.
San Francisco, CA 94105

You may also contact the above EPA staff **toll-free** at **(800) 231-3075**. Please leave a message, and your call will be returned.

Washoe Tribal Contact:
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Washoe Tribe of Nevada and California
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