
Lahontan Regional Water Quality Control Board

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Annual Leviathan Mine Treatment Completed New Methods Saved Money and Reduced Greenhouse Gas Emissions

SOUTH LAKE TAHOE - Contractors for the Lahontan Regional Water Quality Control Board (Water Board) have completed the annual treatment to neutralize the acid mine drainage stored in ponds at Leviathan Mine. Leviathan Mine is an abandoned sulfur mine five miles east of Markleeville, California, and six miles west of Topaz Lake, Nevada. The State of California acquired the mine in 1984 to clean up water quality problems caused by historic mining. The Water Board completed a pollution abatement project at the mine in 1985, and since 1999 has continued to treat acidic waters discharged from the mine site.

The Water Board has captured and treated more than 65 million gallons of acid mine drainage since 1999. The United States Environmental Protection Agency (USEPA) regulates the cleanup operations at this Superfund Site.

Contractors were onsite operating and maintaining the treatment system from July 21 until September 17, 2008, and treated 3 million gallons of contaminated water. Water Board staff provided oversight and laboratory analysis daily during the treatment operation. Following treatment, the water was discharged to Leviathan Creek. The contractors achieved the goal of emptying the storage ponds at the mine site so that the maximum storage capacity is available during winter 2008-09.

One significant change of this year's treatment operation was the use of a dry lime system. In the past, lime and water slurry was hauled up to the mine site every two to three days from suppliers in the Central Valley. By using dry lime and mixing it with water on site, only two dry lime deliveries were needed the entire summer. This significantly reduced costs of lime delivery and the potential for a mishap during lime delivery on the narrow mountain roads to the mine. The reduced number of trips for lime delivery to the remote mine site also reduced greenhouse gas emissions and the project's ecological footprint.

Acid mine drainage is low pH (high acid) water containing dissolved toxic metals such as aluminum, arsenic, copper, nickel and zinc. Acid mine drainage is collected and stored in five lined evaporation ponds at the site. Treating the acidic water helps prevent the ponds from overflowing into Leviathan Creek, a tributary to the East Fork of the Carson River, by increasing the storage capacity in the ponds. Acid mine drainage flows into the ponds constantly, and rain or snowfall into the ponds will add to this stored acid mine drainage volume.

The Lahontan Water Board protects and restores water quality east of the Cascade and Sierra Nevada crests from the Oregon border through the Mojave Desert.

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