



# LEVIATHAN MINE SUPERFUND SITE

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION 9 • SAN FRANCISCO, CA  
ALPINE COUNTY, CALIFORNIA JUNE 2005

## YEAR-ROUND TREATMENT SYSTEM CHOSEN FOR ACID MINE DRAINAGE

This fact sheet announces the U.S. Environmental Protection Agency's (EPA's) decision on how best to develop year-round treatment for acid mine drainage (AMD) from the Leviathan Mine Superfund Site. Although this is not the final remedy, it represents a major step toward cleaning up the 10-mile stream system and will provide essential experience for choosing and designing a long-term cleanup project. EPA is directing the responsible parties to construct and operate a new on-site winterized treatment system for the remaining two sources of AMD (the Channel Underdrain

and the Delta Seep) while continuing current treatment of the Aspen Seep, Adit and Pit Underdrain sources. If this system proves effective, EPA plans to expand it so it can also treat AMD from the Adit and Pit Underdrain which are currently captured in ponds and treated during the summer. The winter treatment is expected to be operating in 2006-07 and will continue until the long-term remedy is determined. The innovative biological treatment of the Aspen Seep already operates successfully throughout the winter.



*Ponds at Leviathan Mine full of acid mine drainage during winter (with overflow pipes)*

# On-Site Winterized Treatment System

Designing, constructing and operating a year-round on-site treatment system at Leviathan Mine is an ambitious project. Actively treating AMD at such an elevation (approximately 7,000 feet), under harsh winter conditions and without day-to-day access, has not been implemented anywhere else in the nation. Although there are always uncertainties in trying something new, EPA is confident that the best immediate action is to expand the current summer treatment for the entire year. In this way, we will be able to keep the AMD from contaminating Bryant Creek and Leviathan Creek all year round. The decision to go with a phased on-site treatment system came after extensive input from the public on the alternatives considered in the 2004 Engineering Evaluation/Cost Analysis. Comments from stakeholders during the public comment period were instrumental in forming EPA's selection and very effective in helping us understand and resolve various issues.

This winterized treatment system will first test the effectiveness and reliability of year-round treatment of the Channel Underdrain and Delta Seep AMD. (During this phase, we will continue to store AMD from the Adit and Pit Underdrain for separate treatment in the summer.) The system will neutralize the AMD by raising the pH, reducing concentrations of dissolved metals in the AMD, and separating the resulting solids from the water. The treated water will be discharged to Leviathan Creek. The method of treatment and disposal of sludge generated from the treatment will be addressed in the work plans.

Based on the success of winter treatment, EPA may go to the next phase—reconfiguring the system to test the effectiveness and reliability of combining four of the known sources of AMD into one year-round treatment system. The ponds have not overflowed in five years since the Lahontan Regional Water Quality Control Board (Regional Board) began treating the collected AMD during the sum-

mer. Our experience this winter shows that a high snowfall year could exceed the ponds' capacity, making year-round treatment of the Adit and Pit Underdrain AMD needed. The Atlantic Richfield Company and the Regional Board will design, construct and operate the system under EPA oversight.

## Objectives in Building Year-Round On-Site Treatment System

EPA remains committed to selecting a protective long-term remedy based on a complete Remedial Investigation and Feasibility Study. This winterized system is not meant to be a final remedy for controlling AMD at the Leviathan Mine site. However, the treatment system will:

- \* Temporarily improve protection of human health and the environment from the known discharges;
- \* Give us critical information for selecting a long-term remedy; and
- \* Eliminate gross discharge to allow a more thorough Risk Assessment for the long-term risks from both past and current contamination from the mine.

## Time Table for Implementation

It will probably take about two years before the winterized treatment system is fully operational. AMD will be treated during this summer and next summer as it has for the past several years, using either biological or lime treatment for the various seeps and collection ponds. At the same time, we will start building the new system to test during the 2005/2006 winter season. Although it will not be finished, we hope to gain valuable information that will help in refining the design (how much water we can pump, how well we can work the system remotely during the winter months, how well we can control water quality and flow rate). After the snow melts in 2006, we will continue to fully build the system and plan to have it up and running for the 2006/2007 winter season.

# INFORMATION REPOSITORIES

Documents related to the Leviathan Mine Superfund Site, including the memo approving the above actions and subsequent work plans, will be available at the following locations:

## **Alpine County Library**

270 Laramie St.  
Markleeville, CA 96120  
(530) 694-2121

### Hours:

Tues, Wed, Thurs, 10:00 a.m. to 6:00 p.m.  
Fri and Sat, 10:00 a.m. to 5:00 p.m.

## **Douglas County Public Library**

1625 Library Lane  
Minden, NV 89423  
(775) 782-9841

### Hours:

Mon, Tues, Wed, 9:00 a.m. to 8:00 p.m.  
Thurs, Fri, Sat, 9:00 a.m. to 6:00 p.m.

## **Nevada State Library and Archives**

100 N. Stewart St.  
Carson City, NV 89701  
(775) 684-3360

Hours: Monday through Friday  
8:00 a.m. to 5:00 p.m.

## **Superfund Records Center**

95 Hawthorne St., Suite 403S  
San Francisco, CA 94105  
(415) 536-2000

Hours: Monday through Friday  
8:00 a.m. to 5:00 p.m.



## Mailing List Coupon

If you are not already on the Leviathan Mine mailing list and would like to be, please fill out the coupon below and return to:

**Vicki Rosen, Community Involvement Coordinator**

**U.S. Environmental Protection Agency Region 9**

**75 Hawthorne Street (SFD-3)**

**San Francisco, CA 94105**

**Please PRINT ALL INFORMATION**

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE/ZIP: \_\_\_\_\_

\*PHONE: \_\_\_\_\_

\*FAX: \_\_\_\_\_

\*E-MAIL: \_\_\_\_\_

\*ORGANIZATIONAL AFFILIATION: \_\_\_\_\_

(\*Optional items)

You may also provide the above information via e-mail to: [rosen.vicki@epa.gov](mailto:rosen.vicki@epa.gov)

## FOR MORE INFORMATION

If you have questions or concerns about the Leviathan Mine site, or would like to be added to the site mailing list, please contact:

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EPA Web site: [www.epa.gov/region09/waste/sfund](http://www.epa.gov/region09/waste/sfund)

