

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LAHONTAN REGION**

**MEETING OF JULY 16-17, 2014
SOUTH LAKE TAHOE**

ITEM: 7

SUBJECT: LEVIATHAN MINE PROJECT UPDATE

DISCUSSION: The Leviathan Mine, located in Alpine County, is a former sulfur mine that included underground and open pit extraction of sulfur-rich ore. These activities resulted in the exposure of naturally occurring sulfide minerals to air and water. This exposure triggered a series of chemical reactions that caused local groundwater to become acidic and metal-rich. The acidic groundwater discharges from an old mine tunnel as well as seeps at several locations within the Leviathan Mine site. When this acid mine drainage (AMD) and acid-generating mine waste enters local surface water bodies, it adversely affects water quality, which, in turn, affects algae, insect, and fish growth, and damages the in-stream habitat through deposition of metal-rich precipitates. Enclosure 1 is a satellite view of the mine site.

The State of California acquired the Leviathan Mine property in the early 1980s as a good Samaritan to address water quality problems caused by historical mining, including fish kills for miles below the mine. The State Water Resources Control Board (State Water Board) now owns the site, and the Lahontan Water Board manages the site for the State. In 1983, the Lahontan Water Board reached an agreement with Atlantic Richfield Company (ARCO) that included ARCO's payment of \$2.337 million to partially fund construction of a pollution abatement project at the site. ARCO had purchased the assets and liabilities of Anaconda Mining Company, which had conducted open-pit mining at the site in the 1950s and 1960s.

The Lahontan Water Board has implemented several projects to abate AMD from entering local surface water bodies. In 1985, the Lahontan Water Board completed construction of a pollution abatement project at Leviathan Mine to address certain specific problem areas. This project included the construction of AMD storage and evaporation ponds, which are a major component of the Lahontan Water Board's pond water collection and treatment activities. Enclosure 2 shows the major features of the pollution abatement project. Since 1999, the Lahontan Water Board has been treating AMD stored in the upper ponds at the mine site. Since 2001, ARCO has also been treating AMD at two other locations at the site. Due to continuing drought

conditions, the volume of AMD needing treatment this year is expected to be the lowest since treatment began.

On May 11, 2000, the United States Environmental Protection Agency (USEPA) placed Leviathan Mine on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List, thus making Leviathan Mine a federal Superfund site. USEPA has ordered the Lahontan Water Board (since 2000) and ARCO (since 2001) to conduct certain treatment activities (termed Removal Actions) at the site. Treatment operations are mostly conducted during the summer, when access to the remote site is readily available.

Since 2000, the USEPA has ordered ARCO to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the site to determine the nature and extent of contamination, to determine the risk to human health and the environment, and to assess feasible alternatives to reduce risk to acceptable levels. That work is currently underway and is expected to take a few more years.

In 2007, ARCO brought suit against the Lahontan Water Board, State Water Board and State of California claiming breach of the 1983 agreement between the Lahontan Water Board and ARCO regarding the Leviathan Mine. In October 2012, the parties in the litigation agreed to a framework that would settle the suit. This settlement in principle identifies work and cost allocation between ARCO and State parties. Since 2012, the parties have been working to finalize a formal settlement agreement that would terminate the litigation. As of the date of drafting this item description, the settlement has not been completed, though completion is expected shortly.

The settlement framework and expected settlement include completion of the RI/FS by ARCO, while ARCO's other site activities will move to the Lahontan Water Board through time. Following completion of the RI/FS, the Lahontan Water Board will assume primary responsibility for the Remedial Design, Remedy Construction, and Operation and Maintenance of the final remedy. Some or all of the current AMD treatment activities are expected to be combined, with the Lahontan Water Board taking over that interim treatment until the final remedy is constructed. ARCO will pay the majority of the Lahontan Water Board's costs for conducting these activities, with the percentage depending on the activity. Generally, ARCO will pay for 75 percent of combined treatment, remedy design and construction, and 70 percent of operation and maintenance.

The settlement agreement will increase the Lahontan Water Board's activities and responsibilities on the Leviathan Mine Project. We are

planning to hire additional personnel to manage these activities, and we will be seeking additional contract funding, as needed, to implement the various elements of the settlement.

ARCO has recently started consulting with Lahontan Water Board staff on its investigation and cleanup activities, and we expect more cooperation as the project moves forward. This cooperation is expected to reduce the time to a Record of Decision by the USEPA, reduce the time to implement the final remedy, and potentially reduce the cost of the project.

Once finalized, the settlement agreement will be posted on the Water Board's website at http://www.waterboards.ca.gov/rwqcb6/water_issues/projects/leviathan_project/index.shtml.

ENCLOSURE	ITEM	Bates Number
1	Leviathan Mine, Alpine County	7-7
2	1984 Pollution Abatement Project Features	7-11

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ENCLOSURE 1

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Leviathan Mine, Alpine County



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ENCLOSURE 2

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1984 Pollution Abatement Project Features