Lava Cap Superfund Site

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The United States Environmental Protection Agency Begins First Five-Year Review of Cleanup at the Lava Cap Mine Superfund Site

The United States Environmental Protection Agency (EPA) has begun the first five-year review of its cleanup actions at the Mine Area portion of the Lava Cap Mine Superfund Site located in Nevada County, California (the Site). The review will evaluate whether the cleanup actions in the Mine Area, also known as Operable Unit 1 (OU-1), remain protective of human health and the environment.

The Review Process

When EPA's cleanup leaves waste in place, the Superfund law requires it to evaluate the protectiveness of that remedy every five years. The remedy at Lava Cap includes leaving mine wastes on site beneath a protective cover.

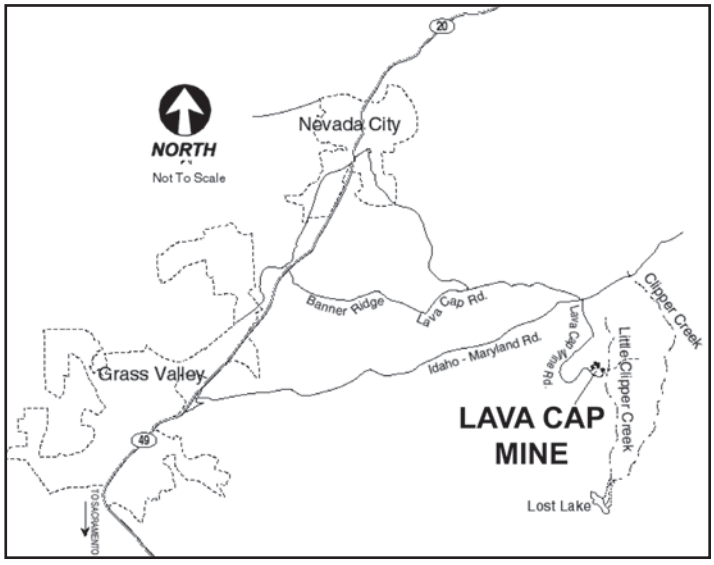
The purpose of the five-year review is to understand how the constructed remedy is operating and to measure the progress towards achieving the site's cleanup objectives. This first five-year review will evaluate the Mine Area OU-1 remedy's short- and long-term protectiveness of human health and the environment.

EPA's remedy for OU-1 soils included consolidating and capping the mine tailings onsite; covering and revegetating the waste rock area; replacing the failed log dam with a rock buttress; diverting surface water flows around the tailings and waste rock disposal areas; removing contaminated soil from around some mine area residences and demolishing other residences; excavating the tailings and arsenic-contaminated sediment that has accumulated along Little Clipper Creek.

The OU1 groundwater remedy has not yet been implemented, and will address contaminated groundwater that surfaces at the mine adit or seeps into surface waters at downstream locations. The groundwater component of the OU1 remedy will be addressed in future five year reviews.

Specifically, EPA will look at the movement and/or breakdown of the Site's remaining contaminants, the integrity of the multi-layered vegetated cap over the mine tailings, changes in scientific knowledge about Site contaminants and exposure pathways, and changes in regulatory standards.

In preparing the review, the EPA remedial project manager will talk with state and local regulatory authorities, EPA's scientific experts, and interested members of the public. Upon completion of the review, a copy of the final report will be placed in the local information repository (see Page 3) and a notice will appear in the local paper announcing the completion of the Five-Year Review Report. Thereafter, EPA will continue to monitor OU-1 and conduct additional five-year reviews to ensure the cleanup remains protective.



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Site History

The Mine Area OU-1, which is approximately 30-acres and located in the northern foothills of the Sierra Nevada Mountains, comprises the portion of the Site where gold and silver operations took place intermittently from 1861 until 1943. The mine operations produced finely ground tailings containing naturally occurring arsenic and other trace metals.

The tailings were disposed in the Little Clipper Creek drainage adjacent to the mine's ore processing buildings. Some of the tailings were held in place by a log dam constructed across Little Clipper Creek. During a major storm in January 1997, the log dam partially collapsed and the flood waters spread arsenic-laden tailings downstream.

EPA determined that the high arsenic concentrations and the mobility of the extremely fine-grained tailings warranted a time-critical removal action, as these hazardous substances posed a risk to human health and the environment. In January 1999, EPA placed the Lava Cap Mine Site on its National Priorities List, or NPL (commonly called the Superfund List), and has been working to cleanup the Site ever since.

Cleanup Objectives

The cleanup goals established for OU-1 are to:

- protect against exposures to contaminants in soil, sediment, and surface water via ingestion, inhalation, or direct contact that present an unacceptable risk to human health
- remediate contaminants that exceed cleanup goals in soils, sediments, and surface water to the extent technically and economically feasible
- collect and treat contaminated water from the mine drainage and seeps, and restore Little Clipper Creek to its beneficial use as a potential drinking water supply.
- protect ecological receptors from exposure to contaminants in soils, sediments, and surface water, that pose a significant risk
- minimize the potential for migration of contaminants in soil and sediment that pose a threat to the beneficial uses of groundwater and surface water
- minimize the potential for release of contaminated tailings during a seismic event
- minimize the potential for release of contaminated soils and sediments during surface water flow resulting from a 100-year storm event

To achieve these cleanup goals, the OU-1 cleanup requirements include:

- **Mine Buildings and Surrounding Area** – Remove tanks, vats, sumps, and contaminated soil from in and around the main mine buildings (Mill, Assay and Cyanide Buildings), and ship the highly-contaminated materials off-site for disposal; restrict unauthorized access to the buildings through the installation of fencing; cover areas around the mine storage buildings with a vegetative cap.
- **Waste Rock** – Contour, cover and revegetate the entire waste rock disposal area to promote runoff and reduce surface infiltration.
- **Mine Tailings and Rock Buttress –** Consolidate all tailings and adjacent contaminated soil from around the site and from Little Clipper Creek in the Tensy Lane area into the tailings pile; regrade and cap the tailings with a low-permeability engineered cover system, including a vegetative layer; replace the failed log dam with a rock buttress at the downstream end of the tailings pile.
- **Little Clipper Creek (LCC) and Smaller Mine Area Drainage Channels –** Construct engineered channels to divert LCC and all other clean surface water flows around the mine buildings, tailings pile and waste rock pile.
- **Mine Area Residences** – Demolish one residence that was located on the waste rock pile. After demolition, this area was contoured and a vegetative cover was installed. Later a second residence was also demolished.

- **Institutional Controls –** Implement land use restrictions to protect the remedy from physical disturbance and prohibit residential use of land parcels.

- **LCC from the Mine to Greenhorn Road** – Excavate the tailings and arsenic-contaminated sediment that have accumulated along the LCC drainage and surrounding floodplain as far south as Greenhorn Road. Consolidate these materials under the tailings pile cap on the mine property, and regrade the excavated areas.

Community Involvement

EPA is always interested in hearing from the public. If you have any issues or concerns about the Lava Cap Mine Site cleanup, and particularly if you have direct knowledge regarding the operation or implementation of the as-built remedy, EPA would like to hear from you. Please contact Brunilda Dávila or David Cooper at the numbers below.

If you would like to be included on EPA's mailing list for this Site and receive future fact sheets, fill out the form below and mail to David Cooper (see Contact Information at right).

For More Information

If you would like to learn more about the Lava Cap Mine Site, EPA has several resources. You may visit the information repositories listed below or contact EPA's site team members listed below.

You can also view Site documents at EPA's Lava Cap website at: **www.epa.gov/region09/lavacap**

Information Repository:

Nevada County Library
980 Helling Way
Nevada City, CA 95959
(530) 265-7050

Superfund Records Center
95 Hawthorne Street
San Francisco, CA 94105
(415) 536-2000

Grass Valley Public Library
206 Mill Street
Grass Valley, CA 95945
(530) 273-4117

Contact Information:

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Mailing List Coupon

If you are not already on the Lava Cap Superfund Site mailing list and would like to be, please fill out the coupon below and return it to: David Cooper, Community Involvement Coordinator, U.S. EPA, 75 Hawthorne St. (SFD-6-3), San Francisco, CA 94105 or e-mail the information to: *cooper.david@epa.gov*

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