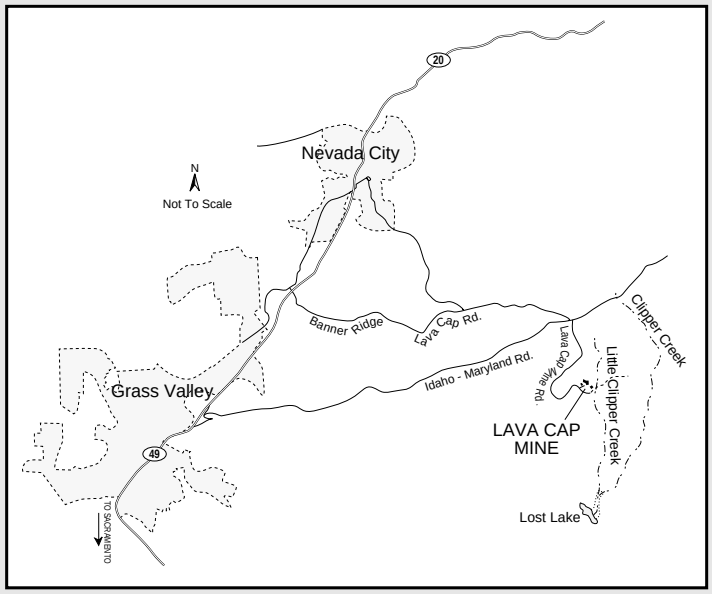
Lava Cap Mine Superfund Site

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY • REGION IX • NOVEMBER 2002

Arsenic in Well Water: What You Should Know

Over the last two to three years, as part of its study of the Lava Cap Mine Superfund site, EPA has been sampling drinking water wells near the Lava Cap Mine Site, analyzing the water, and sending letters detailing the results to the owners of the wells. Results from the May 2002 sampling show arsenic for the first time in four wells in which laboratory analysis had not previously detected it. The levels of arsenic detected in these wells are below the federal standard for arsenic in drinking water and are likely the result of laboratory error. EPA considers the water safe to drink. EPA plans to begin a comprehensive investigation to identify any link between arsenic from the mine site and arsenic concentrations in groundwater.



Levels of arsenic in drinking water near the Site

To monitor the quality of drinking water near the Lava Cap Mine site, EPA currently samples 26 private residential wells, some quarterly and some less frequently. Arsenic concentrations in most wells in EPA's sampling program do not exceed the federal drinking water standard for arsenic of 10 parts per billion. Of the 26 wells, eight show arsenic above the federal drinking water standard. Seven of these wells are located on or within one mile of the mine property north of Greenhorn Road; two of these are no longer in use. Of the 19 wells located a mile or more away from the mine property, only one has consistently

community workshop

Lost Lake soil and sediment cleanup options

Monday, December 9, 2002,
7:00 pm to 9:00 pm
Nevada County Board of Realtors,
336 Crown Point Circle, Grass Valley

Tuesday, December 10, 2002,
1:30 pm to 4:00 pm
Nevada County Library,
980 Helling Way, Nevada City

shown levels of arsenic above the federal drinking water standard. However, results of analysis of well water samples taken in May 2002 showed arsenic for the first time in four more wells over a mile away from the mine site, although at concentrations below the federal standard. EPA has provided sampling results to all the owners of the wells. EPA has also found naturally occurring arsenic in monitoring wells installed in the regional groundwater system.

Uncertainties in well water analysis

EPA used its own Region 9 laboratory to analyze the May 2002 samples, rather than the contract lab used for previous rounds of sampling. This raises the question of whether the results are due to the change in laboratories rather than a change in the water. To answer this question, EPA investigated whether the apparent results were caused by different techniques used in the different labs.

The results of this analysis are now in. EPA's Region 9 laboratory recently determined that high concentrations of calcium in some samples interfered with the analysis, adding several parts per billion to the sampling results. It therefore appears that the arsenic levels in the affected wells are *not* rising as the original results had indicated. The laboratory will re-analyze these samples to confirm this conclusion (standard operating procedure requires the laboratory to keep water samples on hand following the initial analysis for exactly this reason). EPA will be sending letters to the affected well owners to provide the results of the corrected analysis.

Wells north of the mine

Above MCL	ND-MCL	ND
0	0	1

Total of 1 well

Wells from the mine south to Greenhorn Road

Above MCL	ND-MCL	ND
7	2	0

Total of 9 wells

Wells south of Greenhorn Road to Lost Lake

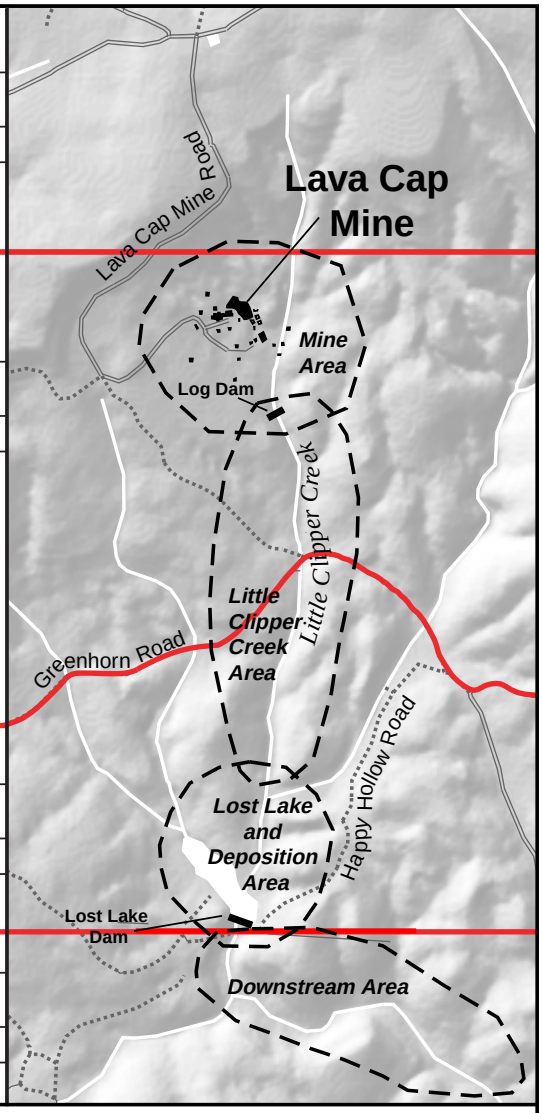
Above MCL	ND-MCL	ND
1	9*	4

Total of 14 wells
* 4 recent detections

Wells south of Lost Lake

Above MCL	ND-MCL	ND
0	1	1

Total of 2 wells



KEY MCL - Maximum Contaminant Level
ND - Non-detect

Changing standard for arsenic in drinking water

The federal government and the states set standards for drinking water quality, called Maximum Contaminant Levels or MCLs. For many years the federal MCL for arsenic in drinking water supplied by public water supply systems was 50 parts per billion. In 2001, EPA lowered that standard to 10 parts per billion. The standard is based primarily on the health risks of arsenic in drinking water and partly on the technical and economic feasibility for water supply systems to meet this standard. Community water purveyors have until 2006 to meet the new standard, but it does not apply to private drinking water wells serving individual residences. However, the Superfund program will use the new MCL in protecting drinking water supplies and possibly in setting cleanup levels for groundwater.

Arsenic in bottled water

Some area residents have asked whether they should drink bottled water rather than well water. To provide some perspective on this issue, bottled drinking water may contain levels of arsenic higher than the new federal standard

for public water supply systems, according to research by the Natural Resources Defense Council (NRDC). NRDC found amounts of arsenic in bottled water ranging from none detected (most brands) to over 30 parts per billion, with several brands in the three to six ppb range and a few even higher. NRDC's results are available at http://www.nrdc.org/water/ drinking/bw/appa.asp. EPA has no information on the quality of NRDC's data and does not endorse their results, but if NRDC's results are correct, levels of arsenic found in wells near Lava Cap Mine are similar to levels found in some bottled waters.

Future steps

EPA's data quality experts are working to investigate additional ways of testing the drinking water wells for arsenic in order to eliminate the uncertainty resulting from the recently collected data. Additionally, EPA plans to perform a comprehensive analysis of the groundwater to determine where the arsenic is coming from and where it is going. This investigation will likely take more than a year to complete. EPA will provide further information from this investigation as it becomes available.

Site History

The Lava Cap gold mine operated for 67 years between 1861 and 1943. The process of extracting gold from the local ore, which naturally contains significant amounts of arsenic, left behind "tailings" – powdered rock that is very mobile and contains high levels of arsenic. The tailings were contained in the Little Clipper Creek drainage behind a log dam on the Lava Cap Mine property. In a severe storm in January 1997, the log dam collapsed and allowed over 10,000 cubic yards of tailings to wash down the steep creek bed to the confluence of Clipper Creek and Lost Lake, where they settled out of the water as it spread out and slowed. Some tailings washed over the Lost Lake dam spillway into Clipper Creek below the dam and downstream for a distance of approximately a quarter mile, possibly more. Over the next year, EPA stabilized the tailings pile to reduce the chance of further releases.

As a result of this event and due to the likelihood of harmful effects on people and the natural environment, in February 1999 EPA placed the Site — the Lava Cap mine property and areas downstream to which contamination had spread — on its list of the priority sites for cleanup under the Superfund program. Since October 1999, EPA has been studying the Site to determine the nature and extent of contamination and to quantify the risks to human health and the environment from the release of the mine tailings. The periodic sampling of drinking water wells is part of this study.

FOR MORE INFORMATION

For additional copies of this fact sheet or for other information on the Lava Cap Mine Superfund site, please contact:

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Email: hodge.don@epa.gov

U.S. Environmental Protection Agency,
Region 9, 75 Hawthorne Street (SFD-3)
San Francisco, CA 94105-1309

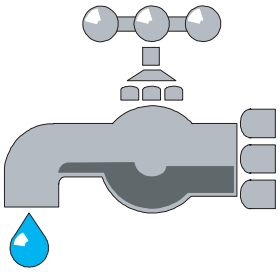
Or, you may leave a message on the EPA's Office of Community Involvement toll-free line at **(800) 231-3075** and your call will be returned.

Information Repositories

The EPA will place copies of pertinent documents related to the Lava Cap Mine Superfund site RI/FS at the locations listed below. The documents at the information repositories are part of the Administrative Record for the Lava Cap Mine Superfund site.

- **Superfund Records Center**
  (the most extensive collection of documents)
  95 Hawthorne Street, Suite 403S
  San Francisco, CA 94105
  Telephone: (415) 536-2000
- **Nevada County Library**
  980 Helling Way
  Nevada City, CA 95959
  Telephone: (530) 265-7050
- **Grass Valley Public Library**
  206 Mill Street
  Grass Valley, CA 95945
  Telephone: (530) 273-4117

Is my drinking water safe?



EPA has notified owners of wells where our sampling program has found arsenic. We do not recommend drinking water containing arsenic at levels higher than 10 ppb.

Community Meetings

EPA, in cooperation with the Banner Mountain and Greenhorn Road homeowners associations, will hold two open public workshops to gather community input on cleanup options for the Lost Lake area. See page 1 for dates, times, and locations. EPA will also be available to discuss the results of site studies to date and current plans for future work.

We will be happy to meet with additional groups or individuals in their homes as scheduling allows. Please contact us (see page 3 for contact information) to arrange for a small-group meeting.

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San Francisco, CA 94105-3901
Attn: Don Hodge

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