



Klau / Buena Vista Mines Superfund Site

U.S. Environmental Protection Agency

Region 9

San Francisco, CA

San Luis Obispo County, California

February 2014

Site Investigations Proceed Treatment Options for Some Areas Presented

To address the mercury and other heavy metals contamination coming from these two mines, the U.S. Environmental Protection Agency (EPA) has divided the site into three components based on location and the nature of the problem (see map on page 3):

- » **Operable Unit 1 (OU1)**—the 320 acres of the mine property itself (Objective: to clean up and control the source of the contamination)
- » **Operable Unit 2 (OU2)**—the 6 ½ miles of Las Tablas Creek extending from the mine site to the Las Tablas Creek Ranch Reservoir (Objective: to fill data gaps to better determine cleanup options for this source of contamination)
- » **Operable Unit 3 (OU3)**—Lake Nacimiento (Objective: to determine how methylmercury moves through the lake and into fish and wildlife)

Where We Are With Each Operable Unit

OU1

With the Remedial Investigation (RI) for this part of the site having been completed more than a year ago, EPA focused on the Feasibility Study (FS) to evaluate options for addressing the contamination that was documented in the RI. This contamination was found to pose either a current or potential future threat to humans or animals. In addition to the information provided by the RI, EPA performed additional studies to assist in developing the best options for cleanup and/or containment:

1. Topographic mapping to study erosion and help determine how much future remedial action might cost;
2. Soil erosion study to estimate the amount of contamination moving off the site into the Las Tablas Creek Watershed;

3. Geochemical modeling to assess the removal of metals from surface water coming from the mine using carbon;
4. Analysis of risk reduction using different cleanup levels and calculating how mercury bioaccumulates in receptors (people or the environment) to evaluate cleanup goals.

Summary of the FS for OU1

Sixteen areas of potential concern were evaluated for how they might be cleaned up. Three onsite areas of the greatest concern are: the soils around the Western Retort on the Klau Mine; the soils adjacent to the Buena Vista Rotary Furnace; and the hill slope below the Buena Vista Repository. Additional areas that pose the greatest concern for offsite migration of sediment and water are: the

discharge ditch that carries runoff to the North Fork of Las Tablas Creek; the Klau Branch that has seepage from the Klau Mine workings and sediment running off the site; the Buena Vista Repository seepage which funnels rainwater through contaminated material into both the Klau Branch and the North Fork of Las Tablas Creek; and Buena Vista seeps and surface water that ultimately reach the North Fork of Las Tablas Creek through a discharge conveyance ditch.

The conclusions and proposals presented in the FS are currently under review. One recommendation is to conduct a treatability study of bioreactor technology to determine its effectiveness in treating mine drainage. EPA has begun the process for conducting such a treatability study (hoping to start in early 2014 and last one to two years) to see how effective it might be with different flows and geochemistry over different seasons.

OU2

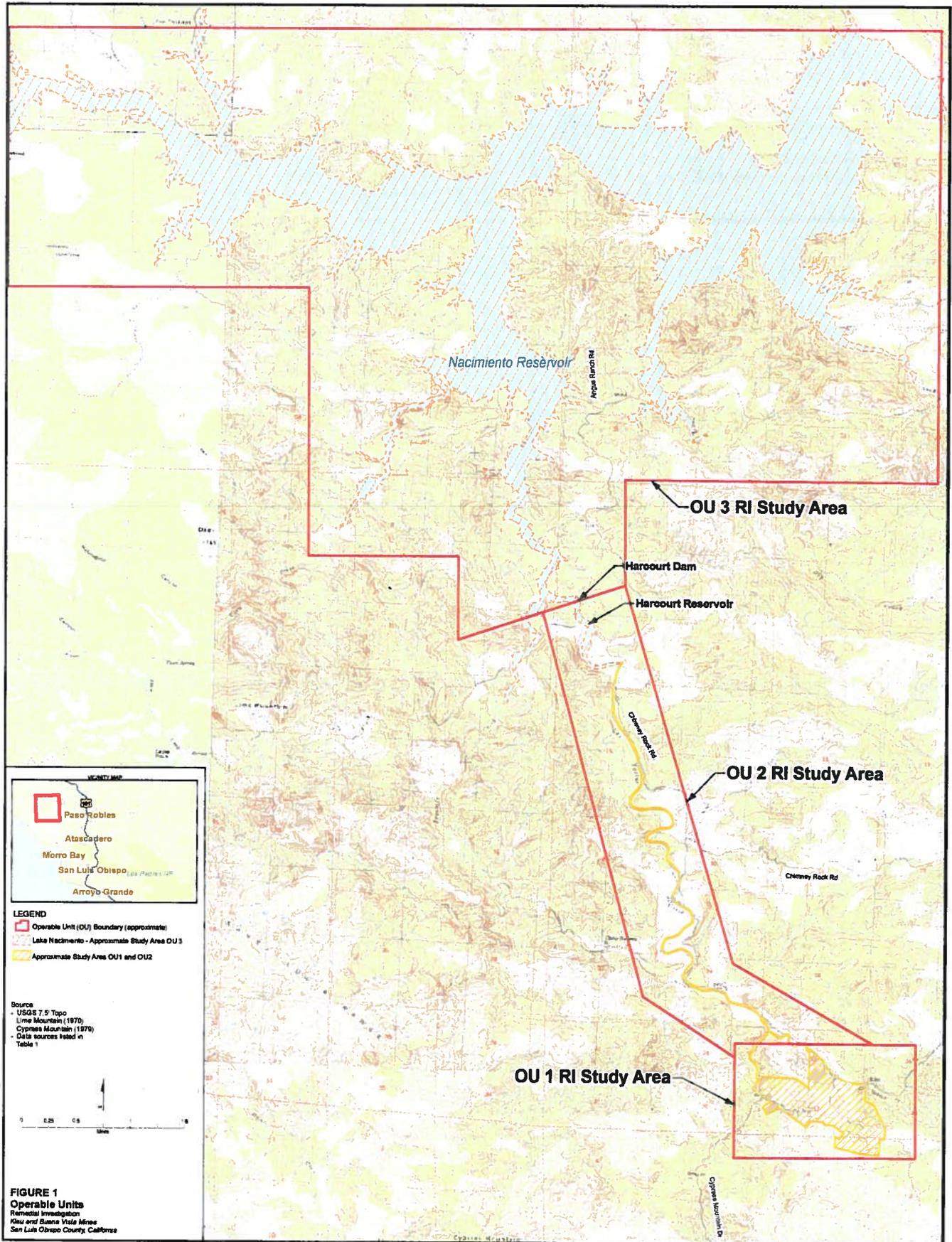
The RI report for this Operable Unit has also been completed. It pointed out areas needing further investigation to determine how much sediment and contamination is moving through the Las Tablas Creek watershed from OU1; how much is normally trapped by the Las Tablas Creek Ranch Reservoir; and whether this Reservoir will continue to trap the contaminated sediment or clean itself up once the contaminant releases from OU1 are stopped. To do that, EPA has started a sediment erosion and deposition assessment to evaluate stream flow and the amount of contamination in the transported sediment. The initial steps of the investigation will involve the installation of six stream-flow monitoring stations, four on the drainages around OU1 and two at the Las Tablas Creek Ranch Reservoir. These monitoring stations will determine the amount of stream flow in the winter and summer and will have automated collection equipment to collect storm water samples. Because of variations in rainfall from year to year, we plan to collect this data for at least two winters. Understanding how much contamination moves off the site into the watershed will allow us to better evaluate cleanup options.

OU3

Sampling water and sediments in Lake Nacimiento has begun. The purpose of this sampling is to determine source locations for mercury and methylmercury in the lake and how these contaminants move through the lake and into the fish. The first phase began this past fall and consisted of a bathymetric survey (underwater mapping) of the bottom of the Las Tablas Creek Arm and sampling sediment and surface water at select locations. We have also started monthly water column profile monitoring at approximately five locations in the main part of the lake and in Las Tablas Creek Arm (see photo). This will help us better understand the chemistry of the lake water and how it affects the distribution of mercury and methylmercury. Water samples and measurements are taken from the surface to the bottom in five-foot increments, and water quality samples will be collected three times in the wet season and three times in the dry season. Evaluating these results will help us know how to sample key biota such as algae, insects and fish.



Water sampling on Lake Nacimiento



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EPA website for KBV site:
<http://www.epa.gov/region09/klaubuenavista>

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If you have questions or concerns about the Klau/Buena Vista Mines site, please contact:

For More Information

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