



# SULPHUR BANK MERCURY MINE SUPERFUND SITE

U.S. ENVIRONMENTAL PROTECTION AGENCY \$ REGION 9 \$ SAN FRANCISCO, CA \$ FEBRUARY 2007

## CLEANUP PROGRESS UPDATE Elem Indian Colony Mine Waste Removal Action

### Clearlake Oaks, California

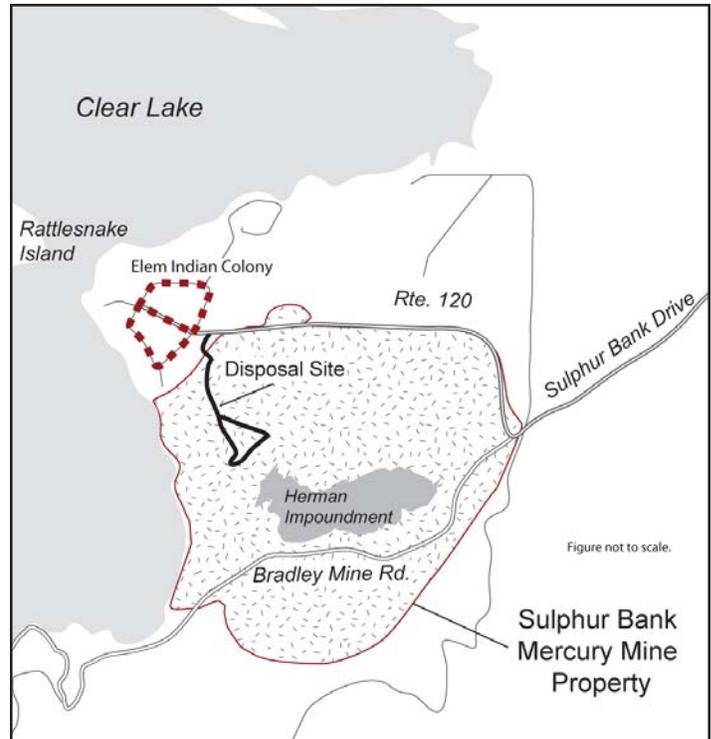
This fact sheet provides an update on the progress of the Elem Indian Colony Mine Waste Removal Action and is designed to inform and address questions that the community may have regarding the project. As the mine waste removal action is nearing completion, this fact sheet provides an update on the progress of the following project goals:

- # Protection of Elem Pomo Tribal Human Health Through Removal of Contaminated Mine Waste
- # Temporary Transitional Housing Program to Assure the Safety of Tribal Members During the Cleanup
- # Return of Elem Tribal Households to Their Tribal Lands
- # Protection of Elem Pomo Cultural Resources and Religious Practices
- # Infrastructure Reconstruction and Improvement at the Elem Indian Colony
- # Elem Pomo Tribal Workforce Enhancement

If you have any questions, please contact Pui Man Wong at the toll-free hotline (800) 231-3075 or email [wong.puiman@epa.gov](mailto:wong.puiman@epa.gov).



Elem Tribal member Sharon Brown and her grandchildren



Location of the Elem Indian Colony Mine Waste Removal Action

## REMOVAL ACTION PROJECT

### What is the Elem Indian Colony Mine Waste Removal Action?

After reviewing all of the possible cleanup alternatives, the United States Environmental Protection Agency (U.S. EPA) and the Elem Pomo Tribe selected the full removal of all the contaminated mine wastes from the Elem Indian Colony as the project cleanup goal.

The U.S. EPA excavated approximately **28,000 cubic yards of contaminated soil (1,400 dump truck loads) over a 4 month period** from the Elem Indian Colony residential area. The U.S. EPA safely disposed of it in a secure area on the Sulphur Bank Mercury Mine property. In the early 1970s when the Bureau of Indian Affairs (BIA) built housing, and paved and gravel roadways at the Elem Indian Colony, contaminated mine wastes were used as construction materials.

## Residential Area Cleanup, June 2006 – February 2007

### Construction Completion

The U.S. EPA has completed the cleanup of the residential area at the Elem Indian Colony. In this cleanup project, the U.S. EPA:

- \$ Demolished and rebuilt **five new homes** at the Elem Indian Colony to remove mine waste from beneath the homes
- \$ Removed **28,000 cubic yards of contaminated soil** from residential yards, housing pads, and paved and gravel roadways
- \$ Installed a **new water supply system** for the residential area
- \$ Demolished the paved road system and gravel roads to remove mine wastes from beneath the roadway
- \$ The U.S. EPA and BIA **reconstructed the roadway systems with clean construction materials**
- \$ **Cleaned and refurbished** the remaining **seven permanent homes** at the Elem Indian Colony to assure that the interiors are free from contamination



One of the five new modular homes with new sidewalks and storm drains

## PROGRESS IN MEETING THE U.S. EPA'S PROJECT GOALS

### PROTECTION OF HUMAN HEALTH

On September 27, 2006 the U.S. EPA excavated the last of the contaminated mine wastes from residential areas at the Elem Indian Colony. The mine wastes that were removed contained high levels of mercury, arsenic and antimony. The Elem Pomo Tribal government and community, throughout the development of the Mine Waste Removal



Construction workers installing storm drain system

conducted by the U.S. EPA after the removal of the contaminated mine waste shows that the U.S. EPA has removed the mercury, arsenic and antimony contaminated soils from the residential area, and has eliminated the potential for any future exposures.

## TEMPORARY TRANSITIONAL HOUSING PROGRAM

### ELEM TRIBAL HOUSEHOLDS RETURN HOME

Another project goal was to assure the health and safety of community residents during the project. In order to minimize health risks and inconveniences during construction, the U.S. EPA offered residents the opportunity to participate in the temporary transitional housing program. All residents living on the Elem Indian Colony agreed to participate and 17 households moved into rental housing located in Clearlake Oaks, Clearlake and Kelseyville. The U.S. EPA temporary transitional housing program was developed and implemented with the consultation and cooperation of the residents, Elem Environmental Office and the Elem Pomo Tribal government.



A resident's return move from temporary transitional housing to Elem Indian Colony

Action Project, requested the complete removal of the contaminated mine wastes from the Colony in order to protect their children and future generations. Confirmation sampling

Throughout the construction period, the temporary transitional housing team (U.S. EPA, Transitional Housing Community Liaison, Elem Environmental Office) were in continual contact with the residents through house visits, community meetings and phone calls. The needs of the community to access their land for cultural dances, traditional ceremonies and funerals were met through coordination with the U.S. EPA and our construction contractors.



Brenda Geary and granddaughter in her new house

While the U.S. EPA completed the new replacement homes and refurbished the existing homes, the U.S. EPA also made arrangements with the temporary transitional housing residents for their return. The U.S. EPA jointly coordinated with the Department of Housing Urban Development and the Elem Tribal Housing Committee to assist the Elem Tribe to obtain an

approval for the replacement of four additional residential mobile units on tribal lands. In December 2006 thru January 2007, **15 households moved back** to their permanent housings on the Elem Indian Colony or into their own rental homes. The two remaining households will return once their trailers have been replaced.

## PROTECTION OF CULTURAL RESOURCES AND RELIGIOUS PRACTICES

Early site work involved the identification and fencing off of culturally sensitive areas in the project area. These areas were protected by Elem Pomo Tribal cultural monitors and Elem Pomo Tribal members employed by the U.S. EPA's project contractors.

The U.S. EPA and the Elem Pomo Tribe also carefully coordinated planning efforts between the construction crew and the Elem community to ensure safe access for tribal members to the construction area to perform cultural dances, traditional ceremonies and funerals as the cleanup progressed.

To assure that Elem cultural and historical resources were fully protected, the U.S. EPA and the Elem Pomo Tribe agreed to use Elem cultural monitors to observe the mine waste excavation activities and to bring in an archaeologist if cultural artifacts were found.



Elem Tribal monitors overseeing soil excavation on the construction site

Following the finding of cultural artifacts, the U.S. EPA employed an archaeologist approved by the Elem Pomo Tribe, Dr. John Parker, to guide the mine waste excavation activities after the initial phase of the cleanup and ensure cultural resource protection. Mr. John J. Holson, Principal Archaeologist of Pacific Legacy Inc. was also hired by the U.S. EPA to provide additional project support and consultation on further excavation work. All of the remaining excavation work that was performed in culturally sensitive areas was conducted in accordance with earth moving protocols developed and guided by Dr. Parker.



Dr. John Parker implementing site monitoring and mitigation plan at the project site

In consultation with the Elem Pomo Tribe, Dr. Parker developed and implemented a site monitoring and mitigation plan under the National Historic Preservation Act. To assure the protection of Elem cultural resources while carrying out the contaminated mine waste removal action, the monitoring and mitigation plan guided the remaining excavation activities. Any cultural artifacts that were found have been recovered, and documented. The artifacts recovered by the Tribal Cultural Monitors, archaeologists Dr. Parker and Mr. Holson and their assistants during the excavation phase of the project primarily included obsidian flakes, obsidian points, stone tools, and a variety of items dated to the late 1880's such as broken glass and Chinese ceramic pottery. Following further analysis by Dr. Parker, the artifacts will be returned to the custody of the Elem Pomo Tribe.

## INFRASTRUCTURE RECONSTRUCTION AND IMPROVEMENT AT THE ELEM INDIAN COLONY

In addition to removing the contaminated mine wastes, the U.S. EPA also improved the Elem Indian Colony infrastructure through:

- \$ Installation of five new modular homes
- \$ Refurbishment and cleaning of seven existing homes
- \$ Replacement of the water supply system and new storm drains
- \$ Rebuilding of the paved roadways with new curbs and sidewalks
- \$ Improvement of the sewer system
- \$ Replacement of two trailers that were not in habitable condition



Installation of the new water line

## TRIBAL WORKFORCE ENHANCEMENT

In coordination with the Elem Pomo Tribal government and the U.S. EPA contractor CH2MHill, the local tribal workforce benefited through the involvement of Elem Pomo Tribal members:

- \$ **Nine tribal members** received the 40 hour HAZMAT training and certification for their on-site construction work.
- \$ **Thirteen tribal members** were trained and employed for traffic control and heavy equipment operation.
- \$ Approximately **30% of the construction crew** on the project were tribal members.



Elem Pomo Tribal Employees: Ko-e-ya John and Ruben Brown

## HEALTH AND SAFETY FREQUENTLY ASKED QUESTIONS

### What was in the contaminated soil?

These mine wastes contained high levels of mercury, arsenic and antimony that pose threats to human health by breathing or accidentally swallowing contaminated dust or soils. The mercury, arsenic and antimony present in the soils can be absorbed by the human body and cause health effects.

### Why is mercury a problem?

Mercury is of particular concern because it can be absorbed by the human body and interferes with the development of the central nervous system. Mercury is a special concern to women of child-bearing age and to children ages 1 to 17.

The public can be exposed to mercury by eating fish with high levels of mercury. People can also be exposed to mercury by breathing or accidentally swallowing contaminated dust or soils.

### What is arsenic?

Arsenic occurs naturally in the environment and as a by-product of some agricultural and industrial activities. Arsenic can enter drinking water through the ground or as runoff into surface water sources.

### What are arsenic's health effects?

People can be exposed to arsenic through breathing and eating contaminated soils and water. Long term exposure to arsenic has been linked to cancer of the bladder, lungs, skin, kidneys, nasal passages, liver and prostate.

If you are looking for more information about health effects, please visit the Center for Disease Control's arsenic web site at <http://www.atsdr.cdc.gov/HEC/CSEM/arsenic/index.html> and the OEHHA website at [http://www.oehha.ca.gov/public\\_info/press/asp](http://www.oehha.ca.gov/public_info/press/asp) or call them at (510) 622-3200

### Could I have been poisoned by touching the mercury on the Elem Indian Colony?

No. The health effects caused by the levels of mercury found in the contaminated soils at the Elem Indian Colony require exposures over a long period of time.

### Can we swim in the Lake?

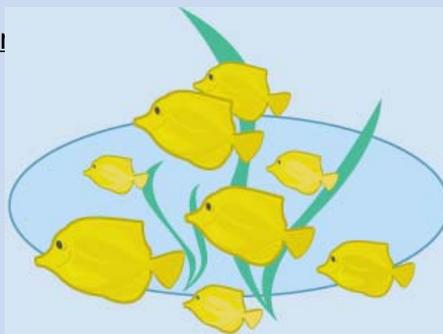
Yes. The levels of mercury found in the water in Clear Lake are low and within the mercury standard for safe drinking water.

### Is it okay to eat the fish?

The California Office of Environmental Health Hazard Assessment (OEHHA) has issued a health advisory for consumption of fish and shellfish from Clear Lake and other areas in the region. Mercury affects the developing central nervous system, the general guidelines for fish consumption from Clear Lake and other areas in the region are:

- \$ Women of childbearing age and children age 17 and younger may eat one fish meal per month.
- \$ Women who are pregnant and children under 6 years old should not be consuming any fish.
- \$ Women beyond childbearing age and men may eat one fish meal per week.
- \$ This guideline allows for consumption of greater amounts of certain fish that are known to contain lower levels of mercury.

For further info, see the OEHHA website at <http://www.oehha.ca.gov/fish.html> or call them at (510) 622-3200



# CONSTRUCTION BEFORE AND AFTER PHOTOS

These photos are examples of the mine waste removal construction work on the Elem Indian Colony.

**Before**



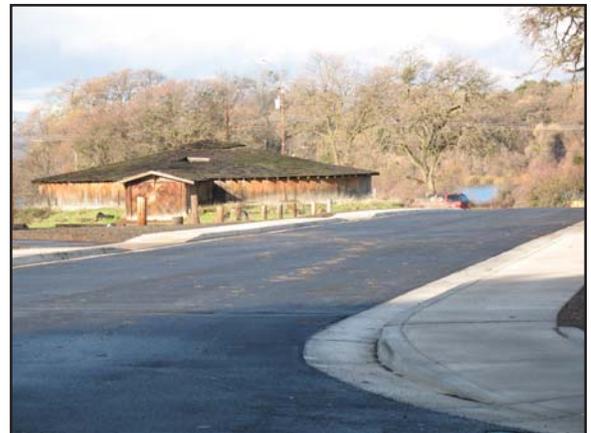
**After**



New modular home and newly paved roads, sidewalks and storm drains at the junction of Elem Drive and Pomo Street



New fencing for the Elem Pomo Tribal cemetery and newly paved road, sidewalks and storm drains on Pomo Street



Newly paved road, sidewalks and storm drains on Elem Drive next to the Elem Roundhouse

# WHO DO I CONTACT IF I HAVE ADDITIONAL QUESTIONS?



The U.S. EPA is working in close coordination with the Elem Pomo Tribe and Lake County Agencies. If you have additional questions please contact one of the following people.



## U.S Environmental Protection Agency (Primary Contact for the Project)

### SBMM Superfund Site Hotline: 1-800-231-3075

**Richard Sugarek**

Remedial Project Manager  
75 Hawthorne St.  
San Francisco, CA 94105  
415-972-3151 or **Hotline: 1-800-231-3075**  
sugarek.richard@epa.gov

**Pui Man Wong**

Community Involvement Coordinator  
75 Hawthorne Street, MC-SFD-3  
San Francisco, CA 94105  
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## Elem Indian Colony

**Raymond Brown Sr.**, Elem Tribal Chairman  
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707-998-9424

**Michael Schaver**, Environmental Director  
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## Clear Lake Environmental Action Network (CLEAN)

### US EPA Technical Assistance Grantee

**Chuck Lamb**, Chair  
P.O. Box 926  
Clearlake Oaks, CA 95423  
(707) 998-0135, Website: [www.cleanlake.org](http://www.cleanlake.org).  
email: [rtnc@sonic.net](mailto:rtnc@sonic.net)

# CLEANUP PROGRESS UPDATE

## Elem Indian Colony Mine Waste Removal Action

### THANK YOU ALL FOR YOUR SUPPORT!!

The U.S. EPA would like to express their thanks to Chairman Raymond Brown Sr., the Elem Indian Colony residents that participated in the temporary transitional housing program, other Elem Tribal members, BIA, and the many individuals and organizations in Lake County for their support in making this Elem Indian Colony Mine Waste Removal Action Project possible.

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