



California Gulch Superfund Site

Leadville, Colorado

Community Involvement Plan

Updated March 2011



Introduction

The U.S. Environmental Protection Agency's (EPA) Superfund Community Involvement Program is committed to promoting communication between residents and the Agency. Active public involvement is crucial to the success of any public project. EPA's community involvement activities at the California Gulch Superfund Site are designed to:

- Inform the public of the nature of the environmental issues associated with the site.
- Involve the public in superfund decisions that will affect them.
- Involve the public in the responses under consideration.
- Inform the public of the progress being made to implement the remedy.

The purpose of the Superfund Community Involvement Plan (CIP) is to ensure communication

between the community surrounding the California Gulch Superfund Site, the EPA, and the Colorado Department of Public Health and Environment (CDPHE), and to encourage community involvement in site activities. This document is an update of the Community Involvement Plan originally prepared in August 1988 and most recently updated in 2005.

The plan is based on meetings and interviews with members of the Lake County and Leadville community. A broad range of private residents, local government officials, businesses and community organizations were interviewed.

As the lead agency, EPA Region 8 is responsible for implementing the community involvement program outlined in this plan. The plan will be adapted as necessary to meet changing needs as site activities progress.

Introduction 2

Community Involvement Background 4

 History of Community Involvement 4

 Current Concerns..... 5

Community Involvement Program 8

 Response to Concerns and Communications Needs 8

 Community Involvement Objectives..... 8

 Activities & Work Schedule..... 9

Site Description and Background 10

 Site Overview10

 Site History10

 Community Profile.....11

 Community History.....12

 Recent Development13

 Cleanup Progress14

Attachments 19

 A: Site Map21

 B: Locations of Information Repositories23

 C: Locations for Public Meetings24

 D: Community Interview Questionnaire25

 E: Contacts26

Community Involvement Background

History

The history of community involvement and concern over mining wastes in the area dates back to the early part of the century when a local rancher suspected that his irrigation water, taken from the Arkansas River below California Gulch, was contaminated. His grandson still ranches on the property and believes that the contaminants have adversely affected livestock on the property. He and other ranchers in the area have taken an active interest in the environmental investigation and remain involved with the site today.

Community concern led to a meeting in 1972 in which local officials and representatives of the U.S. Soil Conservation Service, EPA, and the Colorado Department of Public Health and Environment (CDPHE) considered the possibility of classifying California Gulch as a Resource Conservation and Development Project. Lake County Commissioners later determined that cleanup costs would exceed local resources.

More formal community involvement activities began when the site was proposed for the Superfund National Priorities List in December 1982 and finalized in September 1983. Public concern about mine-related pollution was heightened in 1983 and again in 1985 when a "blow out" of mine drainage and metal-laden sludge from the Yak Tunnel released contaminants into the Arkansas River.

Throughout the cleanup process, EPA and CDPHE have maintained contact with members of the community and have carried out various community relations activities. Examples include:

- Periodic news releases to update the community on the agencies' activities and to announce scheduled events and activities.
- Briefings, meetings and tours with the local media that result in regular coverage of the Superfund Site. The Herald Democrat has been especially cooperative in keeping residents informed.
- Public meetings, public comment periods and open houses coinciding with proposed plans and other steps in the Superfund process to allow for residents to provide input on cleanup decisions and activities. These opportunities have been promoted locally via mailings, Emails and public notices in the Herald Democrat.
- Regular placement of public notices in the Herald Democrat to ensure that residents have been made aware of all opportunities for public input. Examples include Records of Decision (RODs), Explanation of Significant Changes, proposed deletions, and other steps pertaining to the Superfund site.
- Regular meetings with the mayor, county commissioners, various civic groups, Colorado Mountain College, and other interested parties.
- Interviews with residents and local officials regarding concerns about the California Gulch site.
- Briefings and presentations with representatives of Lake County public health and social services, school districts, teachers, parents, and local government officials to propose and launch a lead awareness program in 1990 (Kids First).
- Formation of the Lake County Community Health Program (LCCHP), previously Kids First,

Work Group to provide direction for the LCCHP. The Work Group consists of public health officials and representatives of the City of Leadville, Lake County, CDPHE, and EPA. The Work Group oversees the development of informational plans, distributes materials and evaluates the progress of the LCCHP.

- Fact sheets and other materials to keep the community informed about site activities, historic preservation and to provide general updates.
- An EPA Technical Assistance Grant (TAG), which allowed concerned community members to hire an independent technical advisor to help the community understand technical issues related to the cleanup.
- Information Repositories containing the Administrative Record and other information about the site, available to residents at the Lake County Public Library, 1115 Harrison Avenue, and at the Colorado Mountain College Timberline Campus Library.
- The California Gulch Virtual Forum, launched in November 2009 to facilitate two-way information exchange with community members on historic mitigation measures, remedial changes and other current interests regarding Stray Horse Gulch (Operable Unit 6).
- A 2009 EPA and CDPHE pilot study of potential capping approaches for mine waste piles, based on input from residents and officials in Lake County and the City of Leadville. The pilot study identified potential capping designs for addressing the spring run-off from mine waste rock piles that are contributing to surface water contamination in Stray Horse Gulch.

Current Concerns

Interviews with residents, local government officials, businesses and community organizations were conducted in January and February 2011 by EPA community involvement staff.

The overall results reflect concerns about the future of EPA activities, funding for cleanup, historic preservation and mitigation, the Superfund stigma, and future development on deleted operable units at the site. A majority of those interviewed have pointed out that over the last five years EPA has “turned a corner” in the community and is not viewed as negatively as it once was.

Highlights of the interview responses and a summary of concerns raised during the interviews appear below.

Attitude towards EPA

Almost everyone interviewed had negative, harsh words to describe EPA activities during the first decade of the site listing. Many expressed that the first years were learning years for EPA. There also were a few comments about the amount of time the process takes, and one person said EPA will probably never get out of town.

The good news is that most interviewees did not choose to dwell on the negative but instead emphasized the positive, saying that things have really improved at this site. People brought up numerous benefits of the site that have occurred in recent years:

- Improved water quality in California Gulch.
- Better community involvement.
- The Mineral Belt Trail.

Community Involvement Background

- Appreciation for EPA's interest in historic preservation and stabilizing head frames and other historic features.
- Appreciation for work on Hayden Meadows Reservoir.
- Vegetation growing in places never seen before.

Concerns about community involvement

For the most part, residents were complimentary of recent community involvement efforts. However, some residents were concerned about the complexity of information that has been distributed at times. Specifically some individuals stated that information is not understandable to the general public. Many individuals also had a negative view of the EPA website stating that it's too long, complex, and not user-friendly for the layperson.

Some residents stated that the "site is too complex to understand with all the different information that is out there." There were suggestions that EPA should try to find away to boil things down, giving frequent presentations at various civic groups, and have a consistent presence/face that people can see and talk to in the community.

Many residents expressed that Leadville suffers from a stigma due to the Superfund status. They believe Leadville needs to spur development but they fear that business will look elsewhere as a result of the Superfund status. It was suggested that EPA needs to work on pointing out how clean Leadville has become and the positive work EPA has completed in Leadville. One suggestion was working with the Herald Democrat and possibly adjacent city and county news papers on a story highlighting the successes of EPA in Leadville.

Many residents were very impressed with the capping study at the Denver City mine on the Mineral Belt Trail. However, many residents expressed concern about the shotcrete alternative highlighted on the capping study. Residents voiced concerned over the look, texture and long-term effectiveness of the shotcrete.

Current concerns about the site

The most-often mentioned concerns are the amount of time the Superfund process takes and the fact that EPA may never leave town, whether EPA will have funding to complete the cleanup, concerns on the reopening and Record of Decision Amendment for the Operable Unit 6 (OU6) remedy, and concerns regarding the historic preservation and mitigation in OU6.

Many residents expressed concern over the loss of history in OU6, pointing to the examples of the "wedding cakes" and stating that EPA should work with the community on historic mitigation and preservation while working on the OU6 remedy.

Many residents voiced concern over the long-term effectiveness of the OU6 remedy over a 20-to 30-year period. Some individuals had a concern that EPA was leaving waste in place, and was not doing enough to protect the environment in and around Leadville. Another concern is if the lead standards for cleanup change that EPA will have to go back and change previous remedies, adding to an already long history in Leadville.

A few residents voiced concern over the Kids First/Lake County Community Health Program. Some feel that they were not aware or adequately informed about the program and that it is not an adequate remedy. Others pointed to previous abuses of the program by property owners.

Some residents suggested that EPA needs to identify and present to the public what type of remediation will be done on each waste rock pile in OU6, and explain in a concise manner what will be done about water diversion in the area. Lastly, some residents stated that due to politics in Leadville and Lake County, elected officials are not looking at the distant future of OU6 and the entire site.

Preferences in receiving information

Most of those interviewed said the best way to share information and keep the community up to date is through Emails and/or articles and public notices published in the Herald Democrat. There also seems to be some consensus that fact sheets and mailings are useful when new information is available.

It was suggested that EPA post signage regarding current and future construction activities in OU6 or along the Mineral Belt Trail. Some residents said this step would go a long way toward educating the community and showing transparency on behalf of EPA.

Overall most of those interviewed felt they have been adequately informed about Superfund activities in Lake County. However, a few residents stated they either did not feel adequately informed or did not know about Superfund activities in the area. Some residents stated that EPA has a good relationship with the press, and should continue to make sure that there are no false leads reported, particularly with larger papers outside of Leadville.

Involving Leadville in EPA activities

One of the most important goals in EPA's community involvement program is to listen to and work with the community to figure out how to effectively involve individuals in EPA activities. Most

residents stated that having a consistent EPA face in the community will go a long way to build rapport and trust with residents. Many residents stated that EPA should attend civic group meetings and informal meetings often to give updates on site progress or just be present so individuals can ask questions.

A few residents suggested that EPA locate an office in Leadville so they could drop in anytime to ask questions or report on happenings at the site. Many residents stated that EPA should do outreach at area schools and work with teachers to educate students on the Superfund site. It also was suggested that EPA host an event in Leadville to celebrate its achievements and to further educate residents about the Superfund site.

Most residents credited EPA with doing a good job of involving the community with its activities and said the agency should build on that success. Many individuals stressed that EPA needs to find a balance between keeping the environment clean while working with the community to identify and preserve historic features and promote heritage tourism that is vital to the economy.

Community Involvement Program

Response to Concerns and Communications Needs

Overall it appears that significant progress has been made in recent years with regard to community involvement. Local residents and public officials have had frequent contact with EPA and CDPHE representatives and seem comfortable with the current level of community involvement activities. It will be important for EPA and CDPHE to inform residents of timelines for cleanup. Additionally, EPA and CDPHE will need to educate residents that with waste left in place there will be a continued presence by EPA and CDPHE in the community to monitor, evaluate, and maintain the remedies in place.

There also seems to be a need to provide different levels of information to the different audiences. While EPA may be able to provide more complex information to those who regularly attend meetings, there is a need to share shorter, simpler and more concise material to the general community. It is extremely important for EPA to continue its current community involvement efforts while finding new and innovative ways to involve the Spanish-speaking population and younger generation.

It will be important for EPA and CDPHE to keep residents aware of the work that will be done at the site in the coming years through public meetings and/or input sessions, distribution of factsheets, public notices, and signage about EPA and CDPHE activities in or around the area where work is taking place.

Community Involvement Objectives

1. **Continue regularly scheduled two-way communications opportunities with local officials and residents.** EPA and CDPHE will continue to hold formal and informal conversations between Leadville and Lake County elected and non-elected officials, various civic groups, and local residents.
2. **Continue demonstrating sensitivity to the community culture, pace and style.** Residents and officials appreciate EPA representatives' more informal communication efforts in recent years. The community seems to prefer one-on-one meetings, informal meetings, small-group meetings and phone calls over large public meetings and events.
3. **Provide shorter, simpler and more consistent updates to the general community.** Keep less-involved residents aware of site plans, progress and opportunities to be involved. This objective can be accomplished through newspaper articles and by mailing or Emailing materials directly to residents. It is also important to point residents to the EPA California Gulch website where they can find site updates and download documents to review.
4. **Continue to implement community involvement activities recommended by CERCLA guidelines.** As EPA looks to complete the OU6 remedy, along with historic mitigation and preservation, the public will be invited to participate in the decision-making process. These opportunities range from reviewing information in the Administrative Record to providing comments on the remedial design and participating in public meetings.
5. **Develop a better understanding of how to reach the Spanish-speaking population.** EPA and CDPHE will continue to work with Lake County, Leadville officials and residents to identify opportunities to listen, learn and

respond to the Spanish-speaking population. Additionally, the Lake County Community

Health Program Work Group will provide outreach materials in both English and Spanish.

Activities and Work Schedule

Activity	Schedule
Informal “coffee” meetings	Ongoing
Maintain up-to-date mailing list (including email addresses)	Ongoing
Distribute a site-wide update to interested parties via mail and email	Annually
Update Web page	Biannually or as new information becomes available
Distribute fact sheets via mail and email	As new information becomes available
Contact media outlets	As new information becomes available
Update site Information Repository and Administrative Record	Ongoing
Post public notices in the <i>Leadville Herald Democrat</i>	As required by CERCLA to inform community of document review opportunities, public comment periods, public meetings and decisions.
Public comment periods	As required by CERCLA to allow for comments on decision-making documents.
OU6 Remedial Design fact sheet	Once 30% design is complete. EPA and CDPHE will continue to seek community input during the remedial design process.
OU6 Remedial Action	Public meetings, briefings and input sessions to continually update the community on remedial action activities, receive input and respond to concerns.

Site Description and Background

Site Overview

The California Gulch Superfund Site is located in Lake County, Colorado in the upper Arkansas River Watershed. The site is about 100 miles southwest of Denver and encompasses about 18 square miles. The study area includes the City of Leadville, an unincorporated settlement known as Stringtown, various parts of the Leadville Historic Mining District, and a section of the Arkansas River from the confluence of California Gulch to the confluence of Two-Bit Gulch approximately 11 miles downstream.

California Gulch is located just south of Leadville and flows approximately 7.25 miles westward to its confluence with the Arkansas River. Numerous slag piles, tailings ponds, abandoned mine structures and mill sites are found along the length of the Gulch. The four-mile-long Yak Tunnel, built between 1895 and 1912, drains several underground mines and discharges into California Gulch about 2.5 miles from its origin.

More than 2,000 mine waste piles have been identified in the California Gulch site. A few of the waste piles are located within the residential areas of Leadville and Stringtown. Major tailing impoundments, slag piles and fluvial tailing deposits (tailings deposited in sediment) still exist. Currently, large amounts of water are treated by on- and off-site water treatment facilities.

Site History

The California Gulch site was proposed for the Superfund National Priorities List in December 1982. In September of 1983 the site was listed on the National Priorities List. The site was listed primarily due to the effects of acid mine drainage from the Yak Tunnel, mine waste piles and tailing

ponds that were identified as the sources of surface water pollution in California Gulch and the Arkansas River. Groundwater pollution was also detected. Public concern about mine-related pollution was heightened in February 1983 when a “blow out” release of a large amount of mine drainage and metal-laden sludge occurred from the Yak Tunnel. The orange-colored surge (indicating high iron content) deposited contaminants into the Arkansas River that were observed as far as 60 miles downstream. Water treatment plant officials in downstream communities closed water intake valves to protect drinking water supplies.

The California Gulch site has been the focus of mining, mineral processing and smelting activities that produced gold, silver, lead, copper, manganese and zinc for more than 130 years. Since 1859, when gold-bearing placer deposits were found along California Gulch, mining activity has been almost continuous, although economic conditions and labor issues have caused frequent production cessations or slowdowns.

A broad system of underground mines gave access to the ores; an estimated 26 million tons were produced in the Leadville Mining District from 1859 through 1986 (ASARCO, 1987). All of the mines within the California Gulch site boundaries are presently inactive, and all of the mills and smelters have been either decommissioned or demolished.

Numerous mining methodologies were used at the California Gulch site, including placer mining, exposed fissure veins and underground mining. Waste rock was excavated and left near mine entrances while metal ores were processed by crushing, milling and smelting. Contaminants were the result of a number of mining activities:

- **Waste Rock Piles** – Waste rock that often contained elevated levels of heavy metals and sulfide minerals was placed near mine entrances. In the presence of water, sulfide minerals can generate acid that lowers the pH of the water. Low pH water promotes the leaching of heavy metals from the rock and into the surface and groundwater.
- **Slag** – In the smelters, high-grade ores were refined and concentrated into higher-grade products. Waste product from the smelters included slag, dust and off-gases. Forty-four known smelters operated in the district.
- **Acid Rock Drainage** – Occurs when groundwater floods into mines and brings oxygen into contact with pyritic ores. The resulting oxidation process alters minerals to produce water with low pH levels that leaches heavy metals out of the rock and into streams.
- **Mill Tailings** – At mills on the site, ores were crushed and separated into metallic concentrates and waste products by physical processes. The metallic concentrates were shipped elsewhere or further processed at a smelter in the area. The waste products (mill tailing) were generally placed in nearby ponds and seeped into nearby streams and gulches during runoff and storm events.

Community Profile

Leadville is surrounded by the Sawatch Mountain Range to the west and the Mosquito Range to the east. The town sits in a high mountain valley that envelopes the headwaters of the Arkansas River. At 10,152-feet above sea level, Leadville is the highest incorporated city in the United States. It is close to the base of Mt. Elbert, which at 14,443-feet is the

highest peak in Colorado. Leadville/Lake County can be reached by automobile or by flying into Denver (125 miles), Colorado Springs (135 miles), or the Eagle County Airport (63 miles). Lake County Airport does not have commercial service but can be accessed by private aircraft. Access to Interstate 70 is 24 miles north of Leadville, with Vail and Breckenridge 45-minutes away by car. Buena Vista is 38 miles to the south.

The city has more than 300 days of sunshine annually and receives approximately 250 inches of snowfall. Snow is on the ground from the end of October to mid-May. Summer temperatures reach the high 70s F, with nighttime temperatures dipping into the 40s. Highs in winter average in the mid-30s and fall into single digits at night.

More than 75 percent of Lake County is public land that offers a wide variety of year-round outdoor recreation. Tourism is a major contributor to the local economy but the area places emphasis on its “real town” atmosphere. Leadville offers traditional services including hotels, motels and long-term housing, a number of restaurants, antique and gift shops, grocery stores, gas stations, hospital and medical services, and schools and colleges.

Demographics: Lake County

Lake County is home to 8,000 residents. The median age is 34.4 years with 51 percent of the population being male and 49 percent of the population being female. For people reporting once race alone, 78 percent were white. Forty-two percent of the people in Lake County are Hispanic. Fifty-five percent of the people in Lake County are White non-Hispanic. People of Hispanic origin may be of any race. Less than 0.5 percent were black or African American; 2 percent were American Indian and

Site Description and Background

Alaska Native; 1 percent were Asian; less than 0.5 percent were Native Hawaiian or Other Pacific Islander and 18 percent were some other race. One percent reported two or more races (2005–2009 estimate).

Demographics: Leadville

Leadville, the seat of Lake County, is home to 2,878 residents and covers 1.1 square miles. The median age is 33.2 years with 50 percent of the population being male and 50 percent of the population being female. For people reporting one race alone, 71 percent were White. Thirty-four percent of the people in Leadville are Hispanic. Sixty percent of the people in Leadville are White non-Hispanic. People of Hispanic origin may be of any race. One percent were Black or African American; 3 percent were American Indian and Alaska Native; 2 percent were Asian; less than 0.5 percent were Native Hawaiian and Other Pacific Islander and 24 percent were some other race. Less than 0.5 percent reported two or more races (2005–2009 estimate).

Income

The estimated median income for a household in Leadville is \$45,223 and approximately 22.3 percent of residents had an income below the poverty line (2005–2009 estimate).

Education

Leadville is located in the Lake County School District. This district contains one high school (Lake County High School), one middle school (Lake County Middle School), one elementary school (West Park Elementary School), and an early childhood care school (Margaret J. Pitts Elementary School). Leadville is also home to the Colorado Mountain College Timberline campus.

In 2005–2009 (estimate) 88 percent of residents 25 years and older had a high school degree or higher, 31 percent had received a bachelor's degree or higher and 9.8 percent had received a graduate or professional degree.

Community History

Lake County was established by the Colorado Territorial Legislature in 1861. The name Leadville was originally given to the post office and, after coming into general public use, was approved as the name of the town in January 1878 by local officials. The history of the Leadville area is inextricably tied to mining and the boom/bust cycle of the mining industry. Mining was the primary employment and economic base of the area, but hard rock mining in Lake County proved just as uncertain an enterprise as it did in other sections of the western United States. As a result, Lake County, and Leadville in particular, have experienced extraordinary population fluctuations tied to the ups and downs of mining in an area that was once part of the richest mining district in the world.

Lake County was first settled in 1859-60 with a population of 500. But with the advent of silver, gold, copper, zinc, manganese and lead mining, the population increased tenfold to 5,000 by June 1860 and to 8,000 by July 1860 with the discovery of gold in California Gulch.

At the end of the following decade, the 1877 silver boom had helped increase the county's population to 23,563, a forty-five-fold increase. Leadville alone had more than 20,000 residents, making it the second-largest city in Colorado at the time.

By 1880, the city's wealth attracted such notables as Doc Holliday, Susan B. Anthony, Frank and Jesse James, Oscar Wilde, John Philip Sousa, Harry

Houdini and Buffalo Bill. While Leadville was shaped by the hardscrabble lot of miners living in and around the city, the wealth amassed was a magnet for all sorts, famous and infamous, arriving by foot, mule and finally train.

But by the 1890s mining had become more expensive. Mines were dug deeper and began to flood, forcing the mining companies to dig long tunnels to drain the acidic water into the gulches.

The silver-market crash of 1893 ruined the local economy and Leadville's mining operations shifted to the processing of lead, zinc, and later molybdenum, a metal used in alloys, electrodes and catalysts. The county's population declined steadily to approximately 4,900 residents in 1930. Among Census counts between 1930 and 1980, Lake County's population fluctuated as much as 40 percent from count to count.

Between 1980 and 1985, the number of jobs in the county declined from 5,401 to 2,174. By 1987, when the Climax mine north of the city closed, Lake County had lost more than 85 percent of its tax base. According to Chet Gaede, Leadville's mayor between 2000 and 2004, "We became a blue collar town with no industry. We lost half our population. Unemployment hit 40 percent. We went from having the second-richest school district in the state to being in the bottom third." In 1999 the area's last active facility, the Black Cloud mine, shut its doors.

Recent Development

Leadville's population and the focus of local government have been shaped by the area's mining legacy. The 1988 Lake County Land Use Plan noted that:

"This heritage of continuous mining activity along and beneath the surface of Lake County has transformed the shape of the land and created many of the structures still located upon it. The quality of the water, the composition of the soils and the contents of the air have been shaped or affected by this mining activity. Most of all, this mining heritage molded the thinking, the outlook and the attitudes of much of the county's population."

As recently as 1990, some local officials and residents voiced the opinion that mining, with its relatively high-paying jobs and local income base, would return to the area. But a number of residents have supported diversification and insisted that economic development should rely on every possible resource, including tourism.

Lake County began to position itself as a tourist destination in the 1970s when it acquired the Ski Cooper skiing facility. In the late 1980s the City and County convinced the National Mining Museum to locate in Leadville. In 1988, a local couple started the Leadville, Colorado & Southern Railroad Company that provides train trips between Leadville and the Continental Divide and attracts visitors interested in the area's history and scenery.

Today, most of Leadville's and Lake County's revenues come from small businesses, tourism, and the employment of residents at the Vail and Copper Mountain ski resorts in adjacent Eagle and Summit counties. Leadville and Lake County have pursued historical and recreational tourism to diversify the local economy and exploit the region's mining heritage. The new emphasis has provided employment opportunities for long-time residents, some of whose families have lived in the area for

Site Description and Background

three or four generations. It has also attracted newcomers drawn by the prospects of work at the resorts.

Cleanup Progress

As of February 2011, EPA has conducted partial deletions for three of the 12 operable units on the National Priorities List (OUs 2, 8 and 10) and part of OU9. Five additional operable units can be deleted once operation and maintenance plans and institutional controls are in place. EPA may delete an operable unit when it determines: 1) no further response is required to protect human health or the environment; 2) there is state concurrence; and 3) a plan has been established for operation and maintenance and any institutional controls that will be used at the site. Operation and maintenance and institutional controls will continue as long as wastes remain in place at the California Gulch site.

Since 1995, EPA and the potentially responsible parties (PRPs) have conducted removal and remedial activities to consolidate, contain and control more than 350,000 yards of contaminated soils, sediments and mine-processing wastes. Cleanups by the potentially responsible parties have involved:

- Drainage controls to prevent acid mine runoff.
- Consolidation and capping of mine piles.
- Cleanup of residential properties.
- Reuse of slag.

Following is a summary of cleanup progress and status of each operable unit.

OU1: Yak Tunnel

Lead: Resurrection Mining Co.

Status: Ongoing water treatment

Yak Tunnel, one of two tunnels that drain the historic mining district, was a primary focus of studies and cleanup activities between 1989 and 1994. Prior to construction of the Yak Water Treatment Plant, the tunnel discharged about 210 tons of metals each year into California Gulch, which drains into the Arkansas River.

The Yak water treatment plant began operating in 1992 and the water quality in the Arkansas River has substantially improved since then. The water treatment plant is now operated by Resurrection Mining Company under a Consent Decree settlement with EPA and the state.

OU2: Malta Gulch

Lead: EPA

Status: Deleted

OU2 encompasses the Malta Gulch drainage. After construction was completed, the Malta Gulch Tailing Impoundment and Malta Tailing Impoundment remained. Institutional controls for these impoundments are provided by Lake County, as the properties are zoned for industrial mining. This operable unit was deleted from the National Priorities List in June 2001.

OU3: Denver & Rio Grande Railroad Slag Piles, Railroad Easement, Railroad Yard, and the Mineral Belt Trail

Lead: Union Pacific

Status: Proposed ROD Amendment and Deletion planned for 2011

OU3 encompasses several different slag piles and historic rail yards with high lead levels, including the Harrison Avenue slag pile and a portion of the Mineral Belt Trail. Slag is a by-product of smelting operations and has a high concentration of heavy metals. Union Pacific removed and consolidated the Harrison Street slag pile into the Arkansas Valley slag pile. Based on current land use, EPA determined that slag does not pose elevated health risks. Lake County adopted amendments to the Lake County Land Development Code in February 2009 that provide institutional controls, in the form of land use guidelines, for this operable unit.

OU4: Upper California Gulch

Lead: Resurrection Mining Co.

Status: Institutional controls under development

This operable unit encompasses the California Gulch watershed above the portal of the Yak Tunnel. Resurrection Mining Company has constructed water diversion channels and settling ponds to prevent heavy metals from flowing into surface water. Institutional controls will be needed before this operable unit can be deleted from the NPL.

OU5: ASARCO Smelter/Colorado Zinc-Lead Mill Site

Lead: EPA

Status: Cleanup activities completed

OU5 addresses contaminants associated with historic smelter sites around Leadville, and one mill site. One collection of smelter sites is known as the EGWA sites (Elgin Smelter, Grant/Union Smelter, Western Zinc Smelter, and Arkansas Valley South Hillside Slag Pile), and the second is known as the AV/CZL sites (Arkansas Valley Smelter and Colorado Zinc-Lead Mill). Smelter waste, waste rock and tailings from the milling process were consolidated on-site and capped with a soil cover. Field work has been completed at this operable unit. EPA assumed lead responsibility for OU5 following a bankruptcy settlement with ASARCO.

OU6: Stray Horse Gulch

Lead: EPA

Status: Record of Decision (ROD) Amendment signed in 2010

OU6 includes approximately 3.4 square miles in the northeastern portion of the California Gulch site and includes the Stray Horse Gulch and Evans Gulch watersheds and consists primarily of undeveloped land with cultural and historic resources including mining sites. The mine wastes in Stray Horse Gulch are in the form of waste rock piles and mill tailings.

Most of OU6 is currently zoned by Lake County as industrial/mining. Other land uses within OU6 include commercial activities limited to recreation and historic mine/heritage tourism and residential home ownership. Recreational activities include biking, Nordic skiing, ATV use and hiking.

Site Description and Background

A ROD Amendment for OU6 was signed in September 2010. The ROD Amendment changes a portion of the existing remedy addressing environmental contamination in the Stray Horse Gulch area of OU6. EPA and the Colorado Department of Public Health and Environment (CDPHE) determined that the surface water portion of the 2003 ROD was not sufficient or sustainable.

Recent studies conducted by EPA conclude that using the mine workings and the LMDT to convey water cannot be relied on for the long-term. This is due to known blockages and concerns regarding the structural integrity of the LMDT. The OU6 ROD Amendment includes the following components:

- Improving the clean water diversions systems along the Mahala, Pyrenees, Greenback, RAM, Old and New Mikado, and Adelaide-Ward waste rock piles.
- Capping additional mine waste rock piles, as determined in the remedial design, to decrease the volume of acid rock drainage (ARD) generated.
- Enhancing the current ARD collection system and retention ponds.
- Eliminating the use of the LMDT and reclamation treatment plant except in case of emergencies.
- Shifting monitoring of groundwater and water levels in the LMDT to the OU12 site-wide surface and groundwater remedy.
- Siting and constructing a site-wide repository in OU6.
- Implementing land use restrictions (institutional controls) to protect engineered remedies and to reduce exposure to contaminants that will remain.

OU7: Apache Tailings

Lead: EPA

Status: Institutional controls under development

ASARCO consolidated and capped this tailings pile in 2002. This operable unit will be ready for deletion from the NPL once institutional controls are in place. EPA assumed lead responsibility for OU7 following a bankruptcy settlement with ASARCO.

OU8: Lower California Gulch

Lead: Resurrection Mining Co.

Status: Deleted January 12, 2010

EPA has deleted Operable Unit 8 from the NPL. The agency determined that all appropriate response actions, other than operation, maintenance and five-year reviews, have been completed. OU8 is located between the Yak Water Treatment Plant and the point where California Gulch enters the Arkansas River.

Resurrection Mining Company completed work here in 2002 that involved removing tailings and non-residential soils and channel stabilization in the 500-year flood plain. Parcels within the operable unit include impounded tailings, non-residential area soils, waste rock, fluvial tailings and stream sediment within the geographic OU8 boundaries. Lake County adopted amendments to the Lake County Land Development Code in February 2009. These amendments provide institutional controls for this operable unit.

OU9: Populated Residential Areas

Lead: EPA

Status: Operations and maintenance

OU9 addresses lead contamination in the residential areas of Leadville and Lake County. In 1995, ASARCO launched Kids First, a program to reduce young children's exposure to lead and to provide information about lead to the community. A Record of Decision signed in 1999 outlined a program similar to Kids First called the Lake County Community Health Program (LCCHP). Performance goals for the remedy were met in 2006. In the summer of 2009, EPA completed soil sampling and remediation for those property owners who responded to a final call.

When EPA, Lake County and CDPHE adopted the Lake County Community Health Program Phase 2 in March 2010, OU9 transitioned into the operations and maintenance phase. The new program, LCCHP Phase 2, serves as the institutional control and operations and maintenance plan for OU9. EPA deleted a portion of OU9 in April 2002. This partial deletion affected subunits A and B of the residential populated areas, residential waste rock piles, and the parks and playgrounds within OU9. Deletion of the remainder of OU9 is planned for spring 2011.

OU10: Oregon Gulch

Lead: Resurrection Mining Co.

Status: Deleted

OU10 encompasses the lower portion of the Oregon Gulch drainage and includes the Oregon Gulch Tailing Impoundment owned by Resurrection Mining Company. Institutional controls on this tailing impoundment are provided by Lake County, as the property is zoned for industrial mining. This

operable unit was deleted from the NPL in April 2001.

OU11: Arkansas River Floodplain

Lead: EPA and the State of Colorado

Status: Field work completed

EPA signed a Record of Decision in 2005 and field work was completed in 2009. Institutional controls still need to be implemented. EPA and the state assumed lead responsibility for OU11 following a bankruptcy settlement with ASARCO and Consent Decree settlement with Resurrection Mining Company.

OU12: Site-Wide Surface and Groundwater Quality

Lead: EPA and the State of Colorado

Status: ROD signed in September 2009

EPA and the State assumed lead responsibility for OU12 following a bankruptcy settlement with ASARCO and Consent Decree settlement with Resurrection Mining Company.

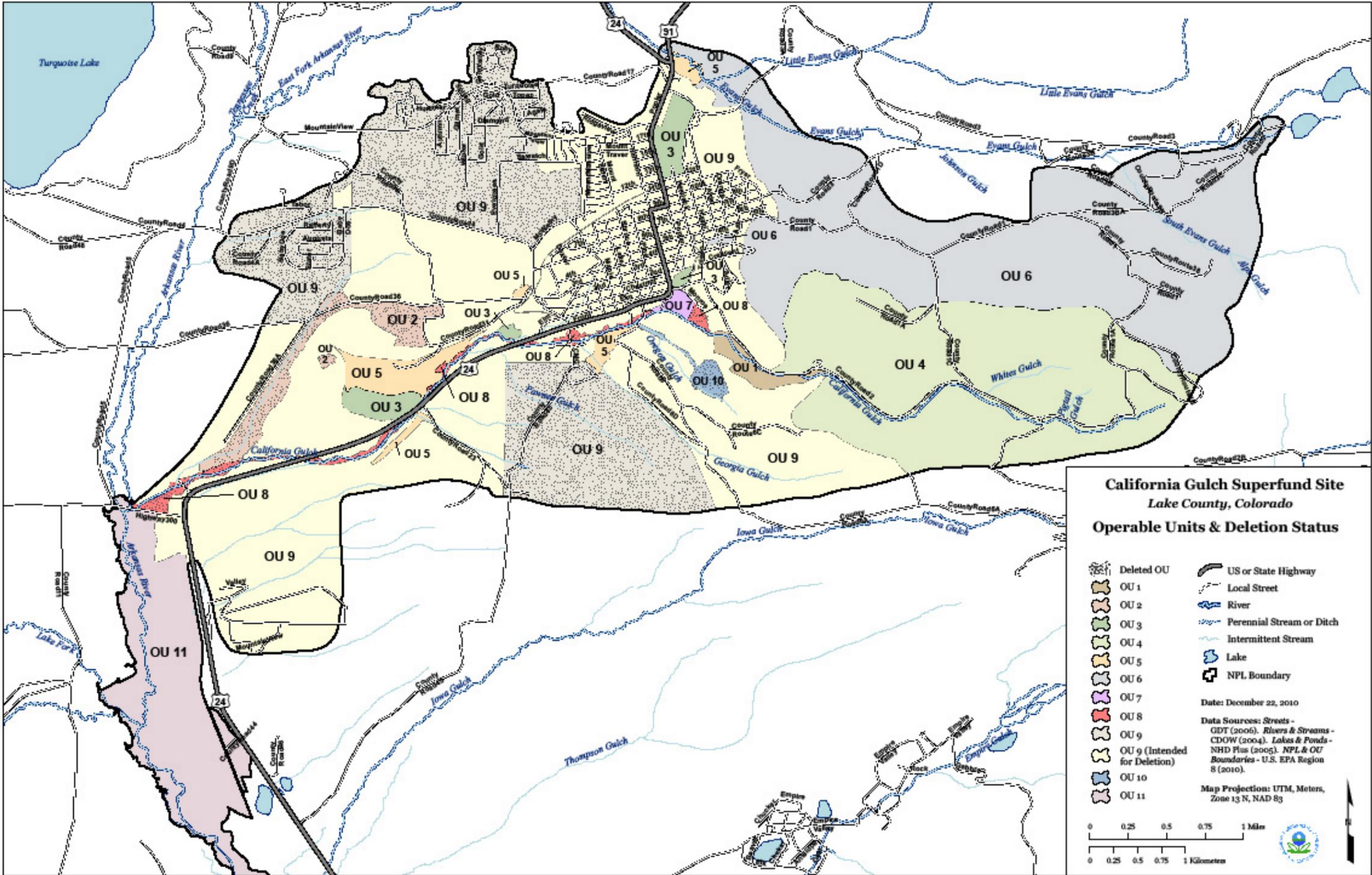
Remedial and removal activities throughout the years have significantly improved water quality in California Gulch and the Arkansas River (remedies for the remaining units will target source materials such as mine waste rock). EPA continues to monitor the improvements in surface and groundwater quality. If the remedies don't sufficiently improve the quality of the water, EPA and the state may require additional cleanup actions. OU12 assesses and addresses site-wide surface and groundwater quality. Unlike other operable units, OU12 includes the entire Superfund site.

Leadville Mine Drainage Tunnel

Emergency

On February 13, 2008, Lake County declared a state of emergency due to a potential threat caused by elevated groundwater in the Lake County Mining District due to multiple unstable blockages inside the Leadville Mine Drainage Tunnel. The blockages were believed to be trapping an estimated 500 to one billion gallons of water behind them. On February 14, 2008, EPA initiated an emergency response action based on the potential for a catastrophic release (blowout) of acidic mine water, rock, and sediment through the LMDT portal, bypassing the water treatment plant, through the Village at East Fork subdivision, and into the adjacent Arkansas River headwaters floodplain. On February 27, 2008, EPA began pumping some of the trapped water from a nearby well in the Gaw Shaft. By June 24, 2008, a permanent relief well was installed and water was pumped through a 4,700-foot-long pipeline to the Bureau of Reclamation water treatment plant before ultimately entering the Arkansas River.

A: Site Map21
B: Locations of Information Repositories23
C: Locations for Public Meetings24
D: Community Interview Questionnaire25
E: Contacts26



Lake County Library

1115 Harrison Ave.
Leadville, CO 80461
719-486-0569

Colorado Mountain College

Timberline Campus Library
901 US Hwy 24 S
Leadville, CO 80461
719-486-4250

EPA Superfund Records Center

1595 Wynkoop Street
Denver, CO 80202-1129
303-312-6473
800-227-8917 ext. 312-6473 (toll free Region 8 only)
Hours: 8:00 a.m.–4:30 p.m. Monday–Friday, closed holidays

Attachment C: Locations for Public Meetings

The National Mining Hall of Fame and Museum

120 West 9th Street
Leadville, CO 80461
719-486-1229

Colorado Mountain College

Timberline Campus Library
901 US Hwy 24 S
Leadville, CO 80461
719-486-4250

Lake County Library

1115 Harrison Avenue
Leadville, CO 80461
719-486-0569

Lake County High School

1000 West 4th Street
Leadville, CO 80461
719-486-6950

Post OU6 ROD Questionnaire

Interview Contact _____

Date _____

Interviewer _____

1. Do you have any concerns or comments regarding the recently signed Record of Decision for Stray Horse Gulch (OU6)?

2. Do you have any concerns about EPA completing the Superfund activities?

3. What is your impression of EPA Superfund activities in Lake County?

4. Do you feel adequately informed about the Superfund activities?

5. What is the best way to get information to you about updates and progress at the site?

6. What advice would you have to more effectively involve the community in EPA activities?

7. Is there anyone else you recommend we talk with about community involvement at this site?

Attachment E: Contacts

EPA

Linda Kiefer

Remedial Project Manager
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street (EPR-SR)
Denver, CO 80202-1129
303-312-6689
800-227-8917 ext. 312-6689 (Region 8 only)
303-312-7151 FAX
kiefer.linda@epa.gov

Mike Holmes

Remedial Project Manager
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street (EPR-SR)
Denver, CO 80202-1129
303-312-6607
800-227-8917 ext. 312-6607 (Region 8 only)
holmes.michael@epa.gov

Chris Wardell

Community Involvement Coordinator
U.S. Environmental Protection Agency, Region 8
1595 Wynkoop Street (80C)
Denver, CO 80202-1129
303-312-6062
800-227-8917 ext. 312-6062 (Region 8 only)
wardell.christopher@epa.gov

CDPHE

Craig R. Gander

Environmental Protection Specialist
Colorado Dept. of Public Health and Environment
Superfund & Voluntary Cleanup Unit
HMWMD-RP-B2
4300 Cherry Creek Drive South
Denver, CO 80246-1530
303-692-3449
303-759-5355 FAX
craig.gander@state.co.us

Alissa Schultz

Environmental Protection Specialist
Colorado Dept. of Public Health and Environment
Hazardous Materials and Waste Management
Division – Remediation Program
4300 Cherry Creek Drive South, Building B
Denver, CO 80246-1530
303-692-3324
303-691-7878 FAX
alissa.schultz@state.co.us

Warren Smith

Community Involvement Manager
Colorado Dept. of Public Health and Environment
4300 Cherry Creek Drive South
Denver, CO 80246-1530
303-692-3373
warren.smith@state.co.us

Leadville City Council

Mayor Bud Elliott

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-2571, 719-486-2042
Email: lvmayor@leadville-co.gov

Councilmember Betty Benson

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0349, 719-486-2092
Email: betty@bcconsulting.com

Councilmember Lue Ellen Brownlee

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0349, 719-486-2092
Email: brownleeal@hotmail.com

Councilmember Debbie Darby

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0576, 719-486-2092
Email: debbieinleadville@hotmail.com

Councilmember Rhonda Huggins

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0349, 719-486-2092

Councilmember Max Duarte

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0349, 719-486-2092
Email: mnm65mustang@msn.com

Councilmember Jaime Stuever

800 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0349, 719-486-2092
Email: hoochmeister@yahoo.com

Lake County

County Commissioner Mike Bordogna

505 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-4512
Email: mbordogna@co.lake.co.us

County Commissioner Carl Schaefer

505 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-0993
Email: cschaefer@co.lake.co.us

County Commissioner Dolores Semsack

505 Harrison Avenue
Leadville, CO 80461
Phone: 719-486-4102
Email: dsemsack@co.lake.co.us

Local Media

Leadville Herald Democrat

717 Harrison Avenue
P.O. Box 980
Leadville, CO 80461
719-486-0641

Attachment E: Contacts

State of Colorado

Governor John W. Hickenlooper

136 State Capitol
Denver, CO 80203-1792
Phone: 303-866-2471

Senator Mark Scheffel

Congressional District 4
200 E. Colfax Avenue
Denver, CO 80203
Phone: 303-866-4869
Email: mark.scheffel.senate@state.co.us

Representative Millie Hamner

Congressional District 56
200 E. Colfax Avenue
Denver, CO 80203
Phone: 303-866-2952
Email: millie.hamner.house@state.co.us

U.S. Congress

Senator Michael Bennet

2300 15th Street, Suite 450
Denver, CO 80202
Phone: 303-455-7600

Senator Mark Udall

999 18th Street, North Tower Suite 1525
Denver, CO 80202
Phone: 303-650-7820

Congressman Doug Lamborn

5th Congressional District
415 Main Street
Buena Vista, CO 81211
Phone: 719-520-0055



US EPA, Region 8 (OC-EISC)
1595 Wynkoop Street
Denver, CO 80202-1129
303-312-6312
800-227-8917 (Region 8 states only)
r8eisc@epa.gov
www.epa.gov/aboutepa/region8.html