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Good morning Chairman Costa and Subcommittee members. Thank you for the opportunity to testify before you today. My name is Bridgett Luther, and I am the Director of the California Department of Conservation, which includes the Director's Office of Mine Reclamation (OMR).

OMR was created in 1991 to oversee California's Surface Mining and Reclamation Act (SMARA) of 1975 (Public Resources Code, Division 2, Chapter 9, section 2710 et seq.). This act represents some of the best regulatory legislation in the state. Through SMARA, the state of California ensures that miners must plan AND pay for the future—what will happen after their mine no longer exists—BEFORE they mine. In 1996, the California Legislature created the Abandoned Mine Lands Unit (AMLU) within OMR to document California's historic abandoned (no-longer-mined) mine problem. These findings were published in the Department's June 2000 report entitled *California's Abandoned Mines: A Report on the Magnitude and Scope of the Issue in the State* (see [www.consrv.ca.gov/omr/abandoned\\_mine\\_land/AML\\_Report/Pages/Index.aspx](http://www.consrv.ca.gov/omr/abandoned_mine_land/AML_Report/Pages/Index.aspx)). The AMLU currently implements a field program to inventory and assess these former mines AND remediates legacy mining hazards on public lands in order to protect human life and safety and any associated wildlife and cultural values.

Unfortunately, neither SMARA nor our Abandoned Mine Lands (AML) program existed during and for a century after the Gold Rush of the mid-1800s. Years of mining later, California faces a legacy of abandoned mines that threaten public safety and health, pollute our surface and ground water, land, and air with mercury, lead, and other chemicals, and endanger our wildlife. The industry not only left a toxic legacy, the focus of your hearing today, but it also left lots of open mines that range from small horizontal openings called adits, to pits, steep highwalls, and vertical shafts where ore was pulled from more than 1,000 feet below the ground surface. And, from the high Sierras to the desert, thousands of acres of mined lands today are wastelands, unable to support vegetation or wildlife.

The presence of mercury in thousands of miles of Sierra waterways, the Delta, and San Francisco Bay is another environmental impact related to centuries-old gold mining in California. The historic practice of charging sluice boxes with mercury may have been efficient at capturing gold; however, an estimated 6,000 tons of mercury was lost to the environment from Sierra gold mines, in addition to the approximately 33,000 tons of mercury that was lost from Coast Range mercury mines.

My goal today is to briefly describe California's historic AML problem, and to highlight some key challenges facing the agencies and organizations that are tackling the legacy of an unregulated industry. Here is what we know.

- **Extent and Nature of the Problem.** California's federal and state AML agencies estimate that there are about 47,000 abandoned mine sites located throughout the State. These mine sites contain approximately 165,000 individual mine features (such as vertical shafts and horizontal adits). Gold was the main commodity mined at nearly half of California's abandoned mines. Gold accounts only for approximately 2.5 percent of total mining production in the state (2008 data based on total value of minerals mined).
- **Both Physical and Environmental (Chemical) Hazards.** Nearly 40,000 abandoned mines (84 percent) are physical safety hazards and more than 5,000 (11 percent) are environmental hazards. An estimated 62,000 of the State's 165,000 mine features present hazardous openings that could present a threat to human life.
- **A Statewide Issue.** California's abandoned mines can be found in every county except San Francisco. Approximately 47 percent of these mines are located in San Bernardino and Inyo Counties and 12 percent are located in the "Mother Lode" area in the Sierra. About 67 percent are located on federal lands, 2 percent on State or local lands, and 31 percent on private lands.
- **Increasing exposure.** In recent years, the number of people migrating to regions of the State with high densities of AML sites has increased significantly. Examples include the "Mother Lode", a historical gold mining region in the Sierra Nevada that stretches for 300 miles along historic Highway 49, where communities such as Grass Valley, Nevada City, Sutter Creek, and Jackson are undergoing rapid growth. Population increases in these areas have resulted in the development of properties for residential, recreational, and commercial uses on or near AML sites. Recreational use of public lands is also increasing in the desert regions and other areas of the State that contain hazardous AML sites.
- **A Critical Priority.** In each of the past four years, Governor Schwarzenegger has identified federal funding for abandoned mine restoration as a critical priority to California and the nation. Key benefits to the people of California from sustained new funding for a long-term AML remediation program would include:
  - Improved public safety and a healthier environment.
  - Enhanced coordination among federal and state agencies on AML restoration and remediation projects throughout the State.
  - Enhanced enforcement capabilities on sites with potentially responsible parties.

***What Impacts are Associated with Abandoned Mines?***

Abandoned mine lands present two general types of hazards: physical hazards and environmental or chemical hazards.

### **Physical hazards**

Physical hazards include the mine workings themselves, derelict structures, and mining-related equipment. Some of the time, these hazards can be classified as attractive nuisances, as they are not only easy for an observant person to recognize, but their recognizable features cause people to approach and even enter the hazard instead of following our motto of “Stay Out-Stay Alive.”

Open shafts descending tens to thousands of feet are particularly hazardous, and they have injured and killed both children and adults that were hiking or riding on bicycles, road bikes, or off-highway vehicles throughout the state. Many people are less aware of the potential hazards of adits, abandoned quarries, and highwalls, which can include hidden vertical openings, bad air, risk of drowning, or falling rock.

Since 2000, 44 accidents involving 47 people and 13 animals, and resulting in 15 people dying, were reported at abandoned mines in California. This includes an accident earlier this month, when a 30-year-old woman died after falling 100 feet into a vertical abandoned mine opening in Kern County. Other recent notable accidents include the following.

- In July 2009, a 22-year-old man died after falling off a highwall at the abandoned Tungsten Blue Mine (Inyo County).
- In May 2008, three men in their 20s died from carbon monoxide poisoning in an abandoned gold mine they had dewatered (Madera County).
- In June 2007, a 41-year-old man died after he was thrown from his motorcycle on a rocky trail at an abandoned quarry (Plumas County).
- In April 2006, a 41-year-old man out riding an off-highway vehicle with his six-year-old son died after walking into an adit and falling 50 feet down an internal shaft (San Bernardino County). The son made his way alone to try to obtain help. This accident was the subject of a “Stay Out-Stay Alive” DVD that the Department collaborated with the federal Mine Safety and Health Administration (MSHA) to produce (see [www.msha.gov/streaming/wvx/sosa/Rusty.wvx](http://www.msha.gov/streaming/wvx/sosa/Rusty.wvx)). One week later, a rescue team pulled a 34-year-old man out of the same abandoned mine.

Several of these accidents and other “near misses” occurred on federal- and state-owned lands. It is likely that many more incidents occurred that were not reported.

Collapsing underground abandoned mine workings represent another physical hazard that can occur at any time. If the mine workings are near the ground surface, subsidence may occur. Although the potential for this type of physical hazard can be more difficult to predict, several instances of abandoned mine-related subsidence have occurred in recent years, turning once valuable property into a liability. As California’s

growing population moves into formerly mined lands, the risk of additional occurrences, and for injury or death, increases.

### **Environmental and chemical hazards**

Chemical or environmental hazards presented by abandoned mine lands include increased stream sediment, mercury pollution, acid mine drainage, asbestos problems, and other negative impacts on water and soil quality. These hazards can be subdivided into acute and chronic.

Acute environmental hazards can contain old explosives, drums of chemicals, or direct exposure to highly toxic tailings. Poisonous gases or low oxygen environments can also develop in underground workings; the adventurous spelunker may be caught unaware and asphyxiate. This is a case where the environmental hazard becomes a physical hazard.

More often, abandoned mines may present chronic exposure hazards that can affect the environment miles away. Often the pathway to exposure is through our waters. Contaminants in mine wastes impair drinking water and other water resources by natural leaching processes and sediment transport. Mines in areas of high-sulfide rock may create acid-generating conditions. Low-pH (acidic) waters may carry high levels of heavy metals, which present a health hazard both to humans and wildlife. This “acid rock drainage” has caused numerous fish kills and continues to degrade habitat and contribute high concentrations of toxic metals to many streams in California.

Other chronic exposure pathways are through the soil and air. People are exposed to contaminated mill tailings and waste rock from AML sites on public lands and within historical mining communities. Asbestos is of high concern particularly in areas where mining occurred in high serpentinite-bearing rocks (serpentine is California’s state rock), and is the subject of ongoing studies. Dust or sediment from historic tailings or waste rock may contain naturally-occurring contaminants such as arsenic or chromium, which have become exposed to the environment due to physical disturbance such as land development or off highway vehicle use, weathering, or runoff. Additionally, mining wastes have reportedly been exported offsite and used as fill and in road construction projects. The possible harmful effects of these exposures have not yet been evaluated.

Many abandoned mines in California are home to, or within the habitat of, threatened and endangered species, including bats, raptors, and desert tortoise. According to Bat Conservation International, Inc., many threatened bat species depend on abandoned mines at one time or another during the year for roosting and hibernation. Threatened and endangered species are affected by mining-related contaminants present in soil and water, such as heavy metals, mercury, and methyl-mercury (MeHg), a toxic form of mercury that biomagnifies in the food web and is most toxic to wildlife and humans.

The New Idria Mercury Mine, located on private land in San Benito County, and the Mount Diablo Mercury Mine, located on private land in Contra Costa County, are just a

few examples of the challenges posed by mercury from abandoned mines. Due primarily to concerns over potential liability and the significant costs of remediation and post-remediation operation and maintenance, remediation has not begun at these sites.

Another California abandoned mine, the Iron Mountain Mine in Shasta County, contains the most acidic acid mine drainage in the world. Before cleanup began at this Superfund site, the mine discharged an average of a ton a day of toxic metals into nearby streams and then into the Sacramento River, a major source of drinking water as well as critical salmon spawning habitat. After more than 20 years of cleanup and treatment, 95 percent of the historic quantities of metals discharged from Iron Mountain are intercepted and the associated acidity is neutralized. However, an estimated \$4.5 million per year is spent on operation and maintenance costs, and treatment will be needed for a long time. The U.S. Geological Survey (USGS) estimates that Iron Mountain could continue to produce acid mine drainage for 2,500 to 3,000 years.

***What Are Some of the Challenges that California Faces to Address the Legacy of Abandoned Mines?***

Which brings us to a few of the challenges faced by California's state and federal Abandoned Mine Lands programs.

- As noted earlier, risks to public health and safety are increasing as more people are moving into, and recreating in, areas of historic mining activity. The remote areas of the Sierra and desert that miners once worked in hundreds of years ago are not as remote today.
- Liability concerns can discourage agencies, nonprofits, and the private sector from taking actions to even try to clean up environmental hazards at abandoned mine sites, particularly on private lands. More research is also needed to identify the parties that are historically and/or potentially responsible for cleaning up these sites.
- Historically, there are few dedicated federal funding sources to address California's abandoned mines, the majority of which lie on federal lands. Should California receive dedicated funds, the challenge becomes identifying and prioritizing the projects to implement.
- California has begun the effort to prioritize sites for remediation should funding become available. In March 2007, the Department and 14 other State and federal agencies identified 117 abandoned mines that all agencies agreed remained high priority environmental hazards to address. The 15 agencies also agreed on more than 100 high priority sites that contain physical safety hazards. Remediation of these hazards is estimated to cost billions of dollars.

***Does California Receive Any Fees or Royalties to Fund Abandoned Mine Related Activities in the State?***

Until recently, California received little or no direct federal funding to help remediate the State's abandoned mine sites, including abandoned mines located on federal lands. The Federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) (30 U.S.C. 1201 et seq.), which assesses fees for surface- and underground-mined coal, is the primary funding source for many state abandoned mine reclamation programs. Many of these coal states have significantly reduced their hard-rock abandoned mine land problems using SMCRA funds. Since California is not a coal-producing state, it is not currently eligible to receive SMCRA funds. Recent federal appropriations and stimulus funding to California's federal agencies are just beginning to address the multitude of abandoned mine hazards on federal lands.

In 2001, the Department's Abandoned Mine Land Unit (AMLU) helped close a hazardous abandoned mine shaft as a public safety demonstration project. In 2002, the Department's AMLU began its program to remediate physical hazards associated with abandoned mines on state, local, AND federal lands using approximately \$125,000, or one-half, of its existing annual appropriation, with the remaining balance used to continue to conduct the State Abandoned Mine Inventory. In 2003, the State passed Senate Bill 649 (Kuehl, Chapter 794, Statutes of 2003; Public Resources Code section 2207(d)(4)(B)), which provides for a fee of \$5.00 per ounce of gold and \$0.10 per ounce of silver produced in California. Upon appropriation by the Legislature, the Department may expend these monies to remediate physical hazards at abandoned mines. The FY 2004/05 Budget Act appropriated \$409,000 for AMLU remediation activities. As of January 2006, gold and silver fees are now being used to remediate hazards at historic abandoned mines throughout California.

The Department has also recently funded and completed two significant abandoned mine projects. The 2006/07 Budget Act appropriated \$1 million for the Department to conduct a focused, two-year effort to complete an inventory and assessment of physical and chemical hazards associated with abandoned mines on State-owned land. The 2006/07 Budget Act also appropriated \$2 million for the Department to remediate specified chemical hazards over an estimated three-year timeframe. This funding enabled the Department to partner with the State Department of Parks and Recreation and U.S. Environmental Protection Agency (USEPA) to complete a chemical remediation project at Bodie State Historic Park (SHP) in Mono County in June 2009.

***What Funding does California Need to Address the Public Health and Safety and Environmental Impacts of Abandoned Mines?***

**Estimated costs to complete AML physical hazard remediation in California**

In its June 2000 Report on the magnitude and scope of the abandoned mine land issue in California, the Department estimated that the cost to remediate just physical hazards in the State - not chemical hazards or site reclamation - was approximately \$528 million.

From 2001 through 2009 to date, the AMLU has helped to remediate more than 625 hazardous abandoned mine features, in partnership with more than 44 federal, state, local, nonprofit, and private partners. This includes more than 460 features since 2006, using Gold and Silver fees and federal award monies. Remediation techniques used include: wire fencing; backfills; polyurethane foam (PUF) closures; bat-compatible gates, cupolas, and culvert gates; fitting with concrete plugs and steel caps; and demolition and/or removal of unstable structures and trash. All work is conducted in accordance with California Environmental Quality Act (CEQA) or National Environmental Policy Act (NEPA) reviews completed by the land-owning agencies.

Since 2002, the AMLU has provided more than \$750,000 to its landowning agency partners to remediate physical hazards on their lands. The average cost of a closure ranges from \$200 for a small wire fence around a vertical shaft to \$500 for a minor backfill project to tens of thousands of dollars to build more complex, bat-friendly gates, cupolas, and culvert gates. The Department estimates that the cost to remediate the state's remaining hazardous abandoned mine openings would exceed \$470 million.

#### **Estimated costs to complete AML chemical hazard remediation in California**

The Department has not recently attempted to estimate the cost to remediate all chemical hazards associated with abandoned mines in California.

In its June 2000 Report on the magnitude and scope of the abandoned mine land issue in California, the Department estimated that the cost to remediate chemical abandoned mines in the State that presented chemical (environmental) hazards at a level of Category 3 (moderate potential for a chemical risk) or above was approximately \$4.1 billion. This total excluded the cost to remediate the Iron Mountain Mine, which at the time had cost approximately \$150 million and was not fully remediated. In October 2000, the USEPA estimated that total cleanup costs for the Iron Mountain Mine could approach \$1 billion.

Environmental remediation costs vary widely. Remediation approaches depend on the extent, volume, and concentration of each contaminant, the affected media and pathway, the threat to humans and the environment based on current land uses (e.g., residents, recreational users, or trespassers), and site conditions. Typical remedies to mitigate environmental hazards can include source removal, encapsulation, and treatment. Some remedies, such as those involving water treatment or encapsulation, can require long-term, often indefinite operation and maintenance (O & M).

Uncertainties in determining remediation costs include the following:

- Many abandoned mine sites in California have not been adequately characterized. This is also the case with offsite impacts associated with the transport of contaminants in sediments, surface water, or groundwater, and the export of mill tailings or waste rock for construction.
- O & M costs can vary depending on the type of remedy selected.
- Costs for restoration of impacted natural resources are often not addressed.

***Long-Term AML Program Efforts and Needs***

In order to make greater and consistent progress on mitigating the safety hazards and human health and environmental impacts and threats associated with AML sites in California, a long-term commitment and coordinated AML program is required on the part of federal and state agencies and private parties. Long-term needs for a coordinated California AML program are identified below.

- **AML inventory.** The Department’s research confirms that a field visit is necessary for “ground-truthing” and assessment of physical hazards. Similarly, the prioritization of AML sites for remediation will ultimately require a complete statewide inventory. At this time, state and federal agency staffs have inventoried only about 3,000 of California’s estimated 47,000 AML sites (5 percent). Coordinating the inventory efforts of multiple agencies and maintaining a consolidated statewide inventory of AML sites are important long-term needs and will greatly assist in the prioritization of sites and interagency coordination efforts. Based on the time required by Department staff to inventory abandoned mine lands to date, staff estimates the cost to complete an inventory of all abandoned mines in California to be approximately \$58.5 million.
- **Site assessment, characterization, and prioritization.** This work includes field verification, sampling, and analysis of contaminants. Initial characterization is needed to determine if a site is releasing hazardous substances and whether a cleanup action is required. Development and implementation of a common screening and ranking process and a common protocol for site investigation, characterization, and remediation would help state and federal AML agencies to focus efforts on the highest priority environmental and physical hazard projects.
- **Continuous and sustainable funding for environmental and physical hazard remediation activities, including operation and maintenance.** The problem of abandoned mines in California is widespread. Short-term, stopgap funding will produce only limited results. The success of any long-term AML program remediation program will depend on stable funding for AML remediation projects and subsequent monitoring of clean up and mitigation effort effectiveness.
- **Restoration.** Separate from remediation activities, Natural Resource Damage Assessment and Restoration activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at AML environmental hazard priority sites, such as Iron Mountain Mine and New Almaden Mine, have cost millions of dollars. Without a viable responsible party for an AML site, restoration of natural resources generally does not take place. Natural resource trustees have already faced this situation at several AML sites in California.
- **Research.** Further research is needed on contaminants such as mercury and arsenic with regard to their effects on human health and ecosystems, and on innovative approaches to remediation. Partnerships on research involving public

agencies, universities, and the private sector could ultimately reduce remediation costs borne by public agencies.

***What Agencies Work on Abandoned Mine Issues in California?***

A large number of federal, State, and local agencies and nonprofit groups are working on addressing both physical hazards and the legacy of contamination associated with abandoned mine lands in California. The Department’s AML Program has partnered with a network of agencies and organizations, including those listed below, to remediate abandoned mine sites.

State and Local

- California Department of Conservation's California Geological Survey
- California Department of Fish and Game
- California Department of Parks and Recreation
- California Department of Toxic Substances Control
- California State Lands Commission
- Department of Toxic Substances Control
- Regional Water Quality Control Boards (RWQCBs)
- State Water Resources Control Board
- Local agency partners

Federal

- National Park Service
- U.S. Bureau of Land Management, California State, Desert District, and Field Offices
- U.S. Bureau of Reclamation (Auburn and Folsom State Recreation Areas)
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey
- U.S. Army Corps of Engineers (Restoration of Abandoned Mine Sites Program)

Nonprofit and/or private partners, such as Bat Conservation International.

***Success Stories***

Now, I would like to provide you with an overview of some of California’s mercury-related abandoned mine remediation success stories. At last week’s meeting of the State’s Abandoned Mine Lands Forum, which provides a venue for discussion and coordination on water quality, safety and environmental hazard issues that agencies and other groups face with AML remediation projects (see [www.consrv.ca.gov/omr/abandoned\\_mine\\_lands/Pages/amlu\\_forum.aspx](http://www.consrv.ca.gov/omr/abandoned_mine_lands/Pages/amlu_forum.aspx) for details), Forum members identified 12 AML sites in California with mercury contamination where investigation work had been started and remediation completed, including the following mines (listed by county).

- Abbott and Turkey Run Mines (Lake County)
- Sulphur Bank Mercury Mine (Lake County)

- Gambonini Mercury Mine (Marin County)
- Bodie State Historic Park (Mono County)
- Alpha Diggings Hydraulic Mine (Nevada County)
- Boston Mine (Nevada County)
- Sailor Flat Hydraulic Mine (Nevada County)
- Deer Trail Mercury Mine (San Luis Obispo County)
- Rinconada Mercury Mine (San Luis Obispo County)
- Gibraltar Mercury Mine (Santa Barbara County)
- New Almaden Mercury Mine (Santa Clara County)
- Altoona Mercury Mine (Trinity County)

You will likely hear details about one or more of these projects and other success stories today. Details of the projects that OMR partnered on are provided below.

### **Bodie SHP remediation project, Mono County**

In the late 1800s to early 1900s, the town of Bodie was part of a major gold mining district. In 1962, the town and adjacent area became Bodie SHP, which is owned and managed by the Department of Parks and Recreation (State Parks). The park is preserved in a state of “arrested decay,” and a critical priority for State Parks is to maintain the appearance and historical setting of mining, including structures, artifacts, tailings, and other cultural resources.

As a consequence of mining and gold processing, however, Bodie was contaminated by mercury, lead, and arsenic. Mercury was used as amalgamate with gold to enhance recovery. Lead was used in the assay process (which allows for measurement of the amount of gold in an ore sample). Arsenic is commonly associated with gold deposits and occurs naturally in the area. In 2006, the State Legislature appropriated funds from OMR’s Surface Mining and Reclamation Account to “remediate specified chemical hazards” (Assembly Bill 1801, Item 3480-001-0035). Using these funds, OMR coordinated with State Parks and the USEPA Region 9 Superfund Technical Assessment and Response Team to investigate and remediate chemical hazards at Bodie SHP to protect human health and safety. The USEPA conducted the sampling and remediation work assisted by specialists from the U.S. Coast Guard (locations and procedures were designed to fully characterize and remediate any contaminants and protect cultural resources and artifacts), which was monitored by State Parks’ archaeologists and OMR staff.

Both employee and visitor exposure to contaminants in the soil and air and the possibility of rainwater carrying contaminants from tailings piles into Bodie Creek and downstream to the Walker River and Walker Lake in Nevada were concerns.

The AMLU inventoried the entire site, while OMR’s Reclamation Unit provided some technical input – particularly about revegetation work on the “tailings piles” (mine waste), as did the Department of Toxic Substances Control. State Parks provided archaeologists to ensure that artifacts were handled well and the original state of the park was preserved, as well as a botanist to help in the revegetation efforts, while the

Park Superintendent and other staff ensured that the public was informed, but at a safe distance, when any work was being conducted.

The project, which was completed in June 2009, included the following tasks.

- Installation of a modified radon extraction system to reduce mercury vapor concentrations inside Bodie’s Standard Mill.
- Control of erosion of mercury-laden mine tailings adjacent to Bodie Creek by building a rocky diversion channel, with rocks collected onsite to preserve the Park’s visual character, to carry runoff away from the tailings and Bodie Creek.
- Composting and reseeded the tailings to promote growth of native plants to further reduce runoff from the tailings.
- Remediation of lead-contaminated soil from outside several historic assay buildings and removal of lead-contaminated dust from building interiors.
- Construction of new fences and repair of existing fences to protect public safety.

### **Gambonini Mercury Mine, Marin County**

During historic mining at the Gambonini Mercury Mine, mine wastes were placed in a steep canyon covering an area of about 11 acres. Consequently, large quantities of mercury-laden sediment would discharge each year into Salmon Creek—a tributary to Walker Creek and Tomales Bay. Threats to the beneficial uses of these waters included degradation of coho salmon spawning areas in Walker Creek and bioaccumulation of mercury by wildlife and fish in Tomales Bay. Under contract with the San Francisco Bay Regional Water Quality Control Board, OMR conducted the following tasks:

- Collected seed and cuttings from the mine area and obtained nursery services to cultivate plants for revegetation test plots and full-scale implementation.
- Designed and planted revegetation test plots and monitored plots to evaluate success.
- Reviewed the existing geological, chemical, soil, and physical data pertinent to the design of a remediation plan.
- Conducted surveys for listed species on the mine site, surveyed site vegetation, inventoried the types of native plant species growing on site, and assessed which species were most likely to succeed in a revegetation project.
- Prepared and implemented field sampling plan to evaluate soil types, nutrient content, and organic matter content of mine area soils to determine what types of soil additives or clean soil cover were necessary for revegetation to succeed.
- Prepared grading plan to excavate portions of the mine waste rock dump and fill the existing open pit; the goal was to establish a final grade for the waste rock dump that would be stable and could be revegetated.
- Documented the relative success of various revegetation treatments.
- Helped to determine treatment options to remediate impacted creek.
- Provided construction monitoring and oversight for site grading, resoiling, erosion control and revegetation during full implementation of the remediation plan.
- After full-scale implementation, monitored soil nutrient availability, erosion potential, and revegetation of the remediated slope.

### ***Other Successes***

Some of the Department’s AML-related accomplishments are listed below.

- Between 1997 and October 2009, the AMLU has collected inventory data on more than 2,800 abandoned mine sites and nearly 27,000 features. This included an inventory of all known State-owned AML properties.
- Similar to the reclamation planning work on the Gambonini Mine, AMLU provided reclamation work on the USEPA’s Leviathan, Sulphur Bank and Atlas Mine sites, and the California Department of Fish and Game’s Spenceville Mine site.
- From 2006 to date, the AMLU has used gold and silver fees and collaborated with numerous landowning agencies and other partners to make safe more than **465** hazardous abandoned mine features, which is nearly three times the number of remediations than had been completed in the previous four years.
- In June 2009, the AMLU funded the successful completion of a two-year characterization and remediation project at Bodie State Historic Park in Mono County in partnership with State Parks and the USEPA.
- In October 2009, the AMLU was recognized for its participation in the Bureau of Land Management’s (BLM) “Fix A Shaft Today!” (“FAST!”) Campaign—a partnership initiative aimed at eradicating unsafe abandoned mine land features, especially open mine shafts—when the unit was a co-recipient of the BLM’s first Reclamation and Sustainable Development “FAST!” Award.
- As California’s representative to the National Association of Abandoned Mine Land Programs (NAAML), the AMLU was recently selected to co-host, with Nevada, the 2011 NAAML Annual Conference (the first hardrock, non-coal states to serve as host) providing further opportunities to highlight California’s AML issues and successes and raise awareness of AML hazards.

In addition, recent Federal Budget Acts and the American Recovery and Reinvestment Act of 2009 have provided the BLM, National Park Service, and U.S. Forest Service with funding to remediate abandoned mines on California federal lands, the results of which should be seen in the immediate future. Although small compared to the amount of funding needed to address the multitude of legacy environmental and physical problems associated with abandoned mines in California, the State has rarely received federal funds designated specifically for abandoned mine remediation and we are eager to show you what we can accomplish.

The challenge of addressing hazards associated with California’s 47,000 historic abandoned mines is enormous. It is a challenge that we in the Department of Conservation and today’s other speakers are committed to continue to undertake.

I appreciate previous efforts to provide federal funding to the Department of Conservation for our Abandoned Mine program. And I respectfully ask that you consider the tremendous public health and environmental benefit this program provides in future funding cycles. Simply put, the more Congress allocates, the more we can alleviate this serious problem.

Thank you.