

## Selected AMLU Abandoned Mine Remediation Projects (2008)

(Click on pictures below or scroll down for more information)

	<p>Partner(s): Bureau of Land Management Ridgecrest Field Office          Closure type: Cupola          Location: Kern County          Completed: October 2008</p>
	<p>Partner(s): California State Lands Commission          Closure type: Bat gates and backfills          Location: Ship Mountains, San Bernardino County          Completed: October 2008</p>
	<p>Partner(s): U.S. Forest Service (USFS) Eldorado National Forest          Closure type: Polyurethane foam and culvert gates          Location: El Dorado County          Completed: August 2008</p>
	<p>Partner(s): U.S. Bureau of Reclamation &amp; California Department of Parks and Recreation (State Parks)          Closure type: Polyurethane foam          Location: Auburn State Recreation Area, Placer County          Completed: July 2008 (featured on <i>Dirty Jobs</i>, January 2009)</p>
	<p>Partner(s): State Parks          Closure type: Fencing          Location: Bodie State Historic Park, Mono County          Completed: June 2008</p>
	<p>Partner(s): USFS Inyo National Forest          Closure type: Culvert gates and fencing          Location: Inyo County          Completed: May 2008</p>
	<p>Partner(s): National Park Service Mojave National Preserve          California Conservation Corps (CCC)          Closure type: Fencing          Location: San Bernardino County          Completed: May 2008</p>
	<p>Partner(s): U.S. Bureau of Reclamation &amp; State Parks          Closure type: Polyurethane foam          Location: Auburn State Recreation Area, Placer County          Completed: March 2008</p>
	<p>Partner(s): State Parks          Closure type: Bat gates          Location: Near Tracy, Alameda County          Completed: January 2008</p>

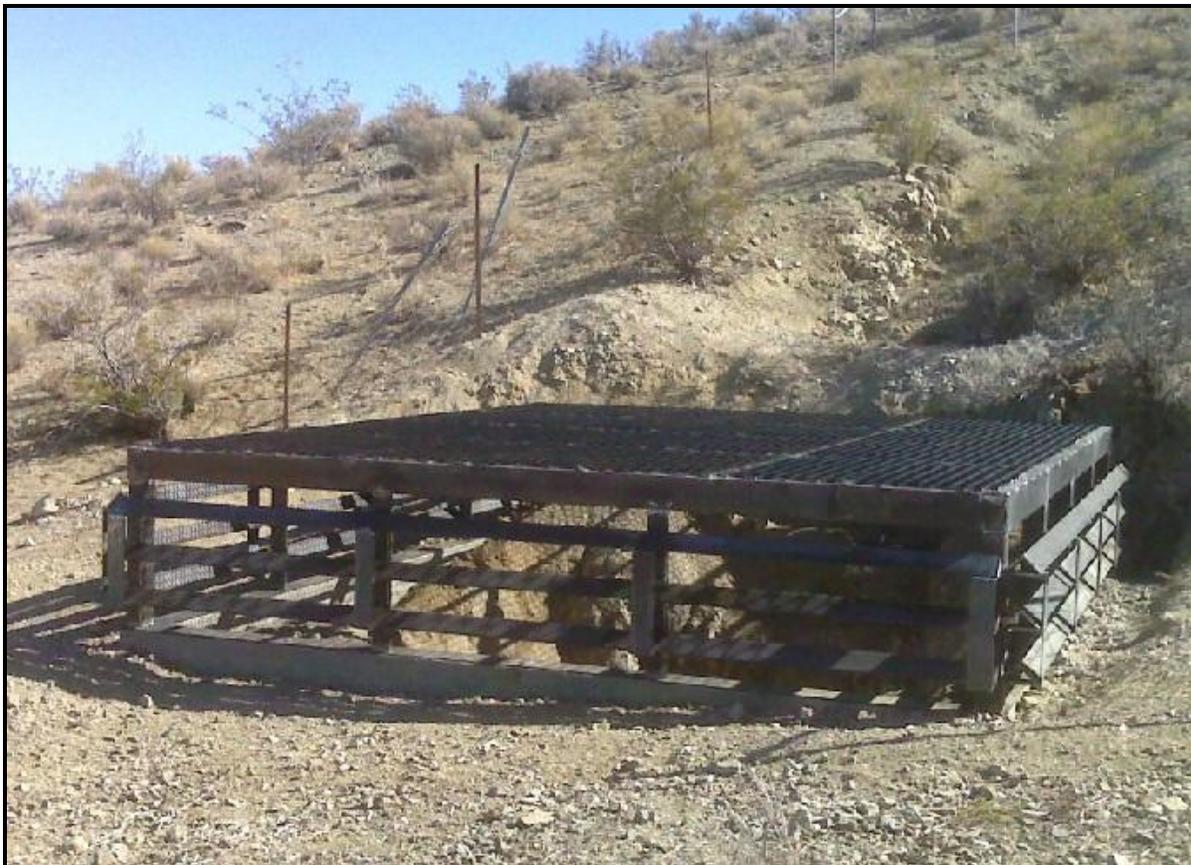
**AMLU's 500<sup>th</sup> Remediation Project: Cupola Installed on BLM Shaft, Kern County, October 2008**

In late October 2008, the Abandoned Mine Lands Unit (AMLU) completed its 500<sup>th</sup> physical hazard remediation project since it began funding such projects in 2002: the installation of a dome-like cupola to keep people safe while allowing bats to enter and leave at the Gold Bug Mine complex in Kern County. The project involved closing a 40-foot-deep shaft on U.S. Bureau of Land Management (BLM) property near Ridgecrest, less than a mile from Cerro Coso Community College. There's high traffic in this area, with people 4-wheeling, running, and walking their dogs in the Rademacher hills.

The Gold Bug was a significant gold mine in its time. It opened in the 1890s and was worked off and on through 1949, producing gold, silver and copper and leaving fairly extensive underground workings. Of the seven shafts onsite, the deepest is about 300 feet. The remaining shafts, which are currently fenced, will be covered with bat cupolas in the coming weeks. Ultimately, BLM plans to turn the Gold Bug site into an interpretive nature center with information about bats and mining history.

*"The California Department of Conservation Abandoned Mine Lands Unit is an important and valuable partner for us here in California. Together we have accomplished a number of closures of dangerous physical safety hazard features throughout the state."*

-- John Key, BLM State Program Lead, Hazardous Materials, Abandoned Mine Lands, and Natural Resource Damage Assessment and Restoration



## Closure of Hazardous Features by Backfill and Bat Gate, San Bernardino County, October 2008

In October 2008, California State Lands Commission and AMLU staffs partnered to close five abandoned mine features on a state-owned parcel in the Ship Mountains area of San Bernardino County. An adit at the site has continuously provided habitat for bats, while the other features, including a 66-foot-deep shaft and a prospect pit, represented a hazard to the public and wildlife. The features were secured with a bat compatible closure and backfills.

*“Overall we were pleased with the results of this closure work. No animals were harmed and minimal surface occurred. The bat gate should continue to provide protected habitat for the bats that frequent the long adit and raises. The fall hazard for the public and wildlife of the 66’ and 14’ deep shafts were abated with backfill of the native waste rock. As for historic resources, although none were discovered in the adit, the gate will protect the historic nature of the mine workings. We thank all of those who contributed to this successful effort including the Office of Mine Reclamation, California Department of Fish and Game, the State Historic Preservation Office, Brown/Berry Biological Consulting, Frontier Environmental Solutions and Frank Giarmo of Quality Backhoe.”*

--Greg Pelka, Senior Mineral Resources Engineer,  
State Lands Commission

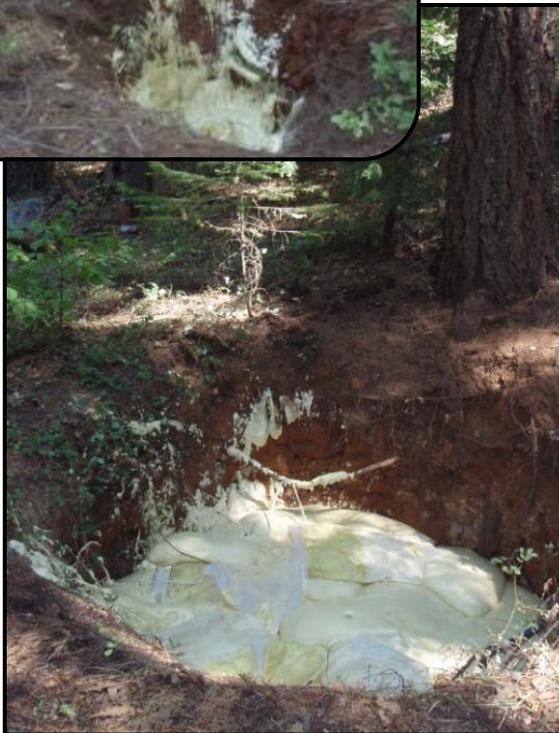


## **Shafts Plugged with Polyurethane Foam and Culverts Gate Installed, Eldorado National Forest, El Dorado County, August 2008**

In August 2008, the AMLU partnered with the Eldorado National Forest to plug four shafts and install one culvert gate near the town of Volcanoville, CA. Polyurethane foam was used to seal the shafts located adjacent to a local horse trail after wildlife exclusions had been performed. It was also used to secure the culvert gate in place before being covered by several feet of dirt.

*“Partnering with the State DOC AML crew, we are able to complete about twice as many hazardous abandoned mine closures each year. The State DOC has consistently helped us with all phases of emergency and permanent closures, from inventory to implementation. The crew has a high level of expertise with many abandoned mine closure methods, make themselves available for consultation about appropriate closure methods, and are then available to come to the project and do the closure work. I depend on them to make the Forest Service’s AML program successful.”*

--Tera Curren, U.S. Forest Service, Eldorado National Forest



## ***Dirty Jobs* Filming of Shaft Plugged with Polyurethane Foam, Auburn State Recreation Area, Placer County, July 2008**

In July 2008, the host of *Dirty Jobs*, Mike Rowe, joined Ed Winchester, a Mine Safety and Health Administration-certified contractor who has worked with the AMLU on numerous abandoned mine remediation projects throughout California, to seal a dangerous abandoned mine shaft in the Auburn State Recreation Area in Placer County and to highlight the hazards associated with abandoned mines. Polyurethane foam used to close the shaft was donated by Dennis Dunham, president of Foam Concepts, a company based in Minnesota.

The show (Episode #324, entitled “Abandoned Mine Plugger”) first aired on the Discovery Channel in January 2009.



The 50-foot deep shaft was located across the shallow and narrow Shirland canal from a well-used trail within the Auburn city limits and near to some relatively new housing developments. It was discovered only after a dog survived a fall down a slightly shallower shaft nearby, prompting a site survey. Staffs from the AMLU, U.S. Bureau of Reclamation, and California State Parks coordinated on site selection, environmental review, and project completion.

*“Fascinating job. Who knew that California was riddled with holes and shafts....”*

*“Mike, I thought the mine hole closing was fascinating. To plug it with foam, who would ever think that could work? But it does....”*

– Posts by viewers on *Dirty Jobs*’ blog

## Fencing, Bodie State Historic Park (SHP), Mono County, June 2008

In June 2008, an AMLU field team built several fences at Bodie SHP to help protect the public and the historical resources for which the Park is noted. The AMLU completed the following.

- Repaired nine fences around physical hazards.
- Repaired two sections of perimeter fencing.
- Built one new fence around a mine shaft.

State Parks purchased materials for the project, while the AMLU staff supplied the labor.

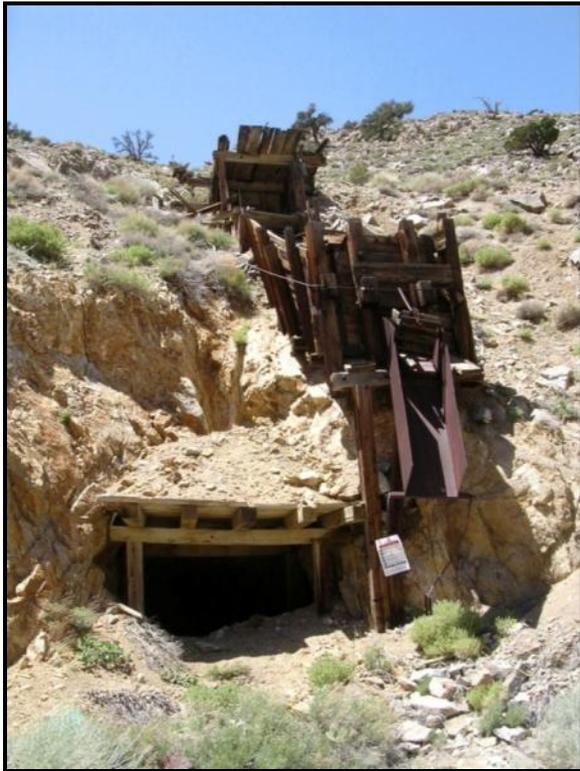
*"Thanks to you and your staff for all of your hard work. My staff and I appreciate the dedication, professionalism and expertise that the AMLU and DOC have been able to provide for us at Bodie. I had a chance to survey some of the new and repaired fencing and I was extremely impressed. My staff and I appreciate both the AMLU and the DOC's assistance in keeping Bodie safe and secure. As you know we couldn't have done it without your help."*

*--Matthew Green, Alpine Mono Sector Superintendent,  
California State Parks*



## Culvert Gates and Fence Installed, Inyo National Forest, Inyo County, May 2008

In May 2008, the AMLU partnered with the Inyo National Forest (NF) to close four dangerous adits and fence a shaft near Independence, CA. Working together, they stabilized and secured the future of some of the unique historical mining structures at the site, abated physical hazards associated with these openings, and improved wildlife habitat. Inyo NF's road crew came out with a backhoe to help with the heavy lifting and backfill work, while the AMLU staff aided in the securing of two culvert gates and the placement of a polyurethane foam (PUF) plug. These were the last of several dangerous features to be remediated at this abandoned mine. In 2005 and 2006 the AMLU and Inyo NF partnered to close eight other features at the mine site.



*"In 2008 OMR provided additional manpower to the U.S. Forest Service for closures of an abandoned tungsten mine located at the end of a popular OHV route near Independence, CA. Staff members from OMR assisted the U.S. Forest with the placement of culvert gates and foam on four adits."*

*--Lynn Oliver, US Forest Service, Inyo NF*



## Fences Installed with Assistance from the California Conservation Corps, Mojave National Preserve, San Bernardino County, May 2008

In May 2008, National Park Service staff assisted by a California Conservation Corps crew and with funding from the AMLU installed fences around 17 hazardous abandoned mine features within the Mojave National Preserve.

The sites are located along frequently used trails, and tire tracks can be observed on the waste dumps and trails leading to several shafts.



*“Thanks for funding our projects. To this point, we have completed the chain link fence around the trench and eight associated features. We also installed the footing for a bat cupola on the main shaft. At [another site], we installed six barbed wire fences and rebuilt an additional one. We also installed a fence around one shaft that is being used by barn owls and fenced a decline. More work to follow as this saved other project funds. Again, many thanks for the help.”*

– Ted Weasma, National Park Service,  
Mojave National Preserve

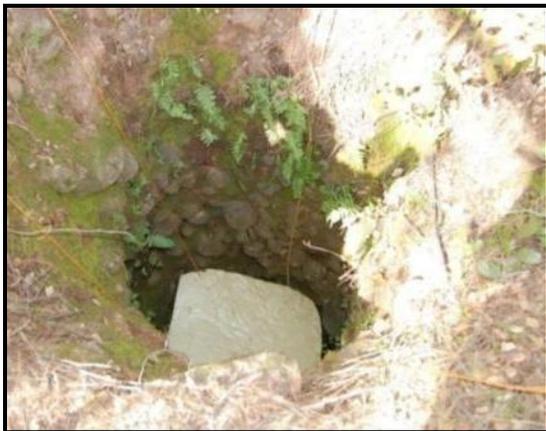


## Shaft Closed with Polyurethane Foam (PUF), Auburn State Recreation Area, Placer County, March 2008

In March 2008, the AMLU, California State Parks, and U.S. Bureau of Reclamation teamed up to seal an abandoned mine shaft exposed as a hazard after a dog fell in. On January 21, Dewie, a golden retriever, was with his owners on a popular trail in the foothill community of Auburn. While chasing a rock down an embankment in a wooded area, he vanished down a 35-foot-deep shaft, part of Gold Rush-era workings. Hours later, Auburn firefighters pulled Dewie to safety. Rangers quickly placed a fence around the shaft, and the AMLU contacted State Parks with the offer to install a permanent fix. Six weeks later, Dewie returned to stand atop the shaft after it was plugged with expandable PUF more than strong enough to support the weight of Dewie and his owners.

*“Dewie came through the ordeal just fine. An adult or child falling in the mineshaft might not have been so lucky.”* – Mike Lynch, Supervisor, Environmental Resources Group, California State Parks, Auburn Sector, Gold Fields District

*“This is a great outcome. We’re happy no one will get hurt in this hole.”* – Erica Roper, Dewie’s owner



**INSERTING A  
“FALSE BOTTOM”**



**POURING PUF INTO  
THE SHAFT**



**SHAFT SITE (AFTER  
THE CLOSURE)**

## Bat Gates Installed at Historically Significant Coal, Sand, and Clay Mining Site, Alameda County, January 2008



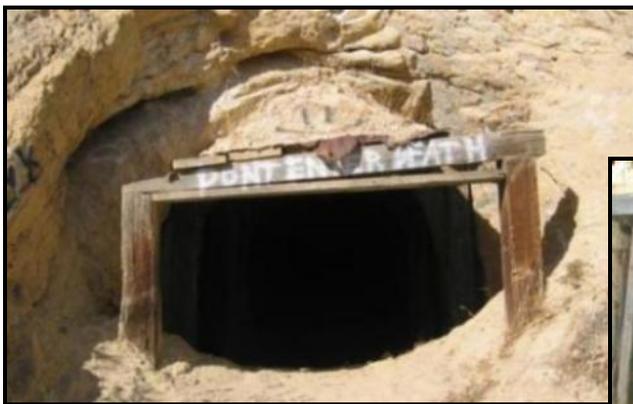
**HISTORICAL PHOTO OF SITE**

In January 2008, the AMLU and California State Parks teamed up to protect public safety by installing several bat gates on hazardous abandoned mine openings at a historically significant site that was once California's largest coal mining center. The agencies invited the media to view the closure and to highlight the site's historical value and the AMLU's **"Stay Out – Stay Alive"** message.

While the site is currently off-limits to the public, there is ample evidence in the form of graffiti and litter that it is visited frequently. Vandals had recently entered the site illegally and burned some of the 100-year-old wooden beams inside the entrance to one of the adits, potentially weakening the mine's supports. One mine had been used as a methamphetamine lab for a few days, until Park rangers discovered and stopped the operation. The bat gate also protects bats, including pallid and Townsend's big-eared bats, which have been found inside the abandoned mine and can hibernate or set up maternity colonies now that the human disturbance has been removed.

*"Thank you for all your hard work and efforts that went into making this event a success! I'm delighted we had the opportunity to partner on this very important project, and look forward to other opportunities in the future."*

-- Daphne Greene, Deputy Director, Off-Highway Motor Vehicle Recreation Division, California State Parks



**ADIT (BEFORE BAT GATE)**



**ADIT (AFTER GATE INSTALLED)**