



DEPARTMENT OF CONSERVATION

OFFICE OF MINE RECLAMATION

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March 30, 2007

The Honorable Dianne Feinstein
United States Senate
One Post Street, Suite 2450
San Francisco, CA 94104
Attn: Michael Walker

Dear Senator Feinstein:

On behalf of fifteen federal and state agencies that participate in the California Abandoned Mine Lands Forum, and at the request of your San Francisco Office, I am forwarding two lists of California abandoned mines that represent the agencies' current assessment of priority sites for environmental and physical hazard remediation. These working lists illustrate the magnitude of the hazards posed by California's abandoned mines and provide rough estimates of the funding needed to remediate them.

As you know, 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 abandoned mine lands (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.

The problem of abandoned mine hazards in California is a critical and timely issue for many reasons.

Extent of the problem. California's federal and state AML agencies estimate that there are about 47,000 abandoned mine sites located throughout the State. About 67 percent are located on federal lands, another 31 percent are on private lands, and about 2 percent are on State or local lands.

Public safety. Abandoned mine hazards pose a serious threat to public safety. At least 11 people have died and 6 people have been injured in abandoned mines in California in the past decade. Several of these accidents and other "near misses"

occurred on federal and state lands. It is likely that many more incidents occurred that were not reported.

Environmental threats to human health and ecosystems. Contaminants in mine wastes impair drinking water and other water resources by natural leaching processes and sediment transport. 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. People are exposed to contaminated mill tailings and waste rock from AML sites on public lands and within historical mining communities. 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.

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 California desert regions and in other areas of the State that contain many hazardous AML sites.

The enclosed lists provide a snapshot of the known environmental, human health, and safety problems posed by abandoned mines in California. It is important to note that many AML sites have not yet been inventoried or assessed for hazards. The sources of information used to compile these lists are limited. They include historical records such as mine claims, past mining operations, maps, and field visits. In this context, the assessment and management of hazards at AML sites is a complex process affected by multiple factors. The prioritization process used for each list is briefly outlined below.

Environmental Hazards Priority List and Assessment Process

Once an AML site is identified and past mining activity detected (indicated by features or signs such as tunnels, shafts, building foundations, mill tailings, waste rock piles, or discolored soil), the environmental hazards assessment typically begins with a site investigation or characterization to determine the nature and extent of mining-related contamination. This includes identifying contaminants (arsenic, mercury, other metals, acid mine drainage, etc.), sources (such as mill tailings, waste rock, mine water, mill sites and other processing areas), affected media and pathways (soil and sediments, surface water, groundwater, and air), and potential environmental impacts. Prioritizing relative environmental hazards includes evaluating accessibility, proximity to population centers, land and water use, habitat values, and other factors.

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 the information provided in this list include the following:

- Many of the listed sites 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.
- Due to the lack of site-specific information, cost estimates for investigation and remediation are, in many cases, rough and likely understated.
- O & M costs can vary depending on the type of remedy selected.
- Costs for restoration of impacted natural resources are not addressed.

Physical Hazards Priority List and Assessment Process

An inventory of hazards at an abandoned mine site begins with a visit based on its mapped location, information from the land-owning agency, or notification from a member of the public. The type, number, and size of mine features such as open shafts and adits (vertical and horizontal openings) are then documented and mapped. Factors used to prioritize relative physical hazard risks include public accessibility, proximity to population centers, and current land uses. Typical remedies to mitigate physical hazards include removal of hazardous structures and debris, installation of gates and cupolas on adits and shafts (designed to keep people out, but allow use by bats and other wildlife), fencing, backfilling, and closure using polyurethane foam.

To date, federal and state AML agencies in California have remediated more than 300 hazardous features at more than 100 abandoned mine sites at a cost exceeding \$1 million. Remediation costs have included biological and cultural surveys, environmental documentation, and construction labor and materials. Remediation costs vary depending on the number, size, and location of features, as well as any biological and cultural resources present at a particular site.

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 prioritization of AML sites for remediation will ultimately require a complete statewide inventory. At this time, state and federal agency staff have inventoried only about 2,500 of California's estimated 47,000 AML sites (five 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.

- **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 (NRDAR) 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. These costs are not included in the attached environmental hazards priority list. 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.

The AML sites and potential remediation projects included in the enclosed lists represent only a snapshot of the problem of abandoned mines in California. Further research and sustained funding are needed to develop a complete priority list and implement a comprehensive program for remediating the environmental, human health, and safety problems posed by abandoned mines.

California's federal and state AML agencies appreciate your interest in abandoned mine hazard issues. We welcome the opportunity to work with you to craft an effective solution to remediate the environmental and physical hazards at the abandoned mine sites identified in the attached listings. If you have any questions, please do not hesitate to call me.

Sincerely,

/OSB/

Douglas W. Craig
Assistant Director

Enclosures

PARTICIPATING AGENCIES

Bureau of Land Management, California Regional Office
California Department of Conservation
California Department of Fish and Game
California Military Department
California Department of Parks and Recreation
California Department of Toxic Substances Control
California Resources Agency
California State Lands Commission
National Park Service, Pacific West Region
Regional Water Quality Control Board, Central Valley Region
State Water Resources Control Board
U.S. Environmental Protection Agency, Region 9
U.S. Fish and Wildlife Service
U.S. Forest Service, Region 5
U.S. Geological Survey

Abandoned Mines Recognized as Environmental Hazards With Incurred and/or Future Capital Costs April 4, 2007

Explanation:

1. The 117 abandoned mine sites on the list are assigned to one of three tiers based on capital cost of clean up.
 - a. **Tier 1** includes abandoned mines where past and estimated capital costs range between \$10 to 100 million or more.
 - b. **Tier 2** includes abandoned mines where past and estimated capital costs range between \$ 1 to 10 million.
 - c. **Tier 3** includes abandoned mines where past and estimated capital costs range between \$ 100,000 to \$ 1 million.

Each tier is subdivided into two subtiers (a and b).

- a. **Subtier (a)** contains sites where capital costs were incurred.
- b. **Subtier (b)** contains sites where there are only future capital cost estimates.

2. The list is further sorted within each tier by “problem” and then by “county.” The sort illustrates that Acid Rock Drainage (ARD), which is historically the most expensive problem, dominates Tier 1 sites (60%). Mercury (44%) and ARD (38%) dominate Tier 2 sites. Arsenic (36%) and mercury (30%) dominate Tier 3 sites. The list may also be sorted by county, ownership, administrative agency, etc if desired. Data presented represent a snapshot in time, and California’s federal and state AML agencies anticipate that the list will change in the future.
3. Federal and state landowning agencies provided cost information. Capital costs for abandoned mines with no cost history or estimate were estimated by comparing them to a similar site with known costs. Although cost data are incomplete, these data both demonstrate that substantial funds have been spent on abandoned mines (at least \$370 million), and suggest that future capital costs would likely be in the same range (at least \$380 million estimated). However, the list was not designed to, and thus, does not assign a schedule or order of clean up for the sites on the list.

General Abbreviations/Terms (listed below and in the footnotes):

ARD = Acid Rock Drainage (a low pH, metal-rich mine water produced by pyrite oxidation)

As = Arsenic

BLM = Bureau of Land Management

Cu = Copper

Hg = Mercury

DTSC = Department of Toxic Substances Control (State)

EPA = U.S. Environmental Protection Agency

NPL = National Priority List

O&M = Operation and Maintenance

OU = Operable Unit

PRP or RP = Potentially Responsible Party

RI/FS = Remedial Investigation, Feasibility Study

PA/SI = Preliminary Assessment, Site Investigation

PVT = Private

Recon. Sampling Performed indicates that a site has been visited and possibly some data collected

USFS = United States Forest Service

Tier 1a (\$10 to \$100 million)—Capital Costs Incurred

<u>Mine Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ millions)</u>	<u>Future Capital Cost (\$ millions)</u>	<u>O&M/yr (\$ millions)</u>	<u>Funding Status</u>
Leviathan (NPL)	State/USFS	EPA/RWQCB	Alpine	ARD	H	H	RI/FS on-going Early Response Actions completed. Trustees will do natural resource damage assessment. Active treatment planned. Active treatment system in design phase, site restoration on going.	4	30	1.6	Funding from state in-place. PRP Enforcement Lead long-term funding to be negotiated with PRP.
Penn Mine	PVT	SWRCB	Calaveras	ARD	H	L	Waste landfill and site restoration completed.	12	Unknown	Unknown	O&M funded
Iron Mt (NPL)	PVT	EPA/DTSC*	Shasta	ARD	H	H	Active treatment system built, site restoration ongoing.	PRP 200, EPA 100	40	4.5	O&M funded, future capital unfunded.
Mammoth	PVT	RWQCB	Shasta	ARD	H	M	Plug, passive treatment planned	10	Cost data pending	Cost data pending	Unknown
Lava Cap (NPL)	PVT	EPA/DTSC*	Nevada	As	H	H	Remedial Investigation underway for 2 OUs. Removal action completed for one OU. Remedial Action underway for another OU.	8	30	0.4	Partially funded
Atlas (NPL)	PVT/BLM	EPA/DTSC*	Fresno	Asbestos	M	H	Site restoration implemented. Cleanup of processing are under review. Risk Assessment for Off-Road Area Continuing.	15	0	0.1	Process area review. Risk study funded
Sulfur Bank (NPL)	PVT	EPA/DTSC*	Lake	Hg, sediments	H	H	Site characterization/removal actions completed. Remediation decision for mine pending. RI/FS needed for Lake bottom sediment.	5	35 for mine. Costs for cleanup of lake bottom not estimated.	Unknown	Partially funded

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WQ and HE Exposure Codes

H = High Priority
 M = Moderate Priority
 L = Low Priority

Problem

ARD = Acid Rock Drainage (a low pH, metal-rich mine water produced by pyrite oxidation)
 As = Arsenic
 Cd = Cadmium
 Cu = Copper
 Hg = Mercury

* At NPL sites, EPA funds investigations and 90% of remedy construction costs; DTSC pays for 10% of the construction costs plus long-term O&M costs).

Tier 1b (\$10 to \$100 million)—Future Capital Costs

<u>Mine Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ millions)</u>	<u>Future Capital Cost (\$ millions)</u>	<u>O&M/yr (\$ millions)</u>	<u>Funding Status</u>
Copperopolis	PVT	RWQCB	Calaveras	ARD	H	H	Recon. sampling performed.	0	10	Unknown	No Funding
Copper Bluff	Hoopa Tribe	RWQCB	Humboldt	ARD	H	L	Recon. sampling performed. EPA plans no further involvement. Priority for tribe. Geologic stability issues.	0	10	Unknown	No Funding
Empire	State	RWQCB/DTSC	Nevada	As	M	H	Site investigation underway.	1.5	15	Unknown	Partially funded
Rand Project (Kelly Mine)	BLM/PVT	BLM	San Bernardino - Kern	As, Antimony	Unknown	H	CERCLA Action completed RI/FS planned Note; Kelly, Johannesburg and Atolis were combined.	0	120 - 150	Unknown	Unknown
New Idria	PVT	SWRCB/DTSC	San Benito	Hg	L	H	PA/SI complete. Site qualifies for the NPL consideration. Future activities uncertain.	0	20	Unknown	Unknown

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Tier 2a (\$1 to \$10 million)—Capital Costs Incurred

<u>Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ millions)</u>	<u>Future Capital Cost (\$ millions)</u>	<u>O&M/yr (\$ thousands)</u>	<u>Funding Status</u>
Spenceville	State	RWQCB	Nevada	ARD	H	L	Waste land-filled, site restored, in O&M.	7.5	Cost data pending	2	O&M funded
Walker	PVT	RWQCB	Plumas	ARD	H	L	Plug completed, in O&M	1	Cost data pending	2	O&M funded
Balakalala	PVT	RWQCB	Shasta	ARD	M	L	DTSC and EPA have triaged site. Appears that RWQCB is addressing. Plug, passive treatment in-place.	Cost data pending	Cost data pending	Cost data pending	Project funded
Bully Hill	PVT	RWQCB	Shasta	ARD	M	L	Plug, passive treatment planned	Cost data pending	Cost data pending	Cost data pending	Project funded
Early Bird	PVT	RWQCB	Shasta	ARD	M	L	Plug in-place	Cost data pending	Cost data pending	Cost data pending	Project funded
Golinsky	USFS	USFS	Shasta	ARD	H	L	Site investigation, remedy selection underway.	2.3	1.4	75	Remedy unfunded
Keystone	PVT	RWQCB	Shasta	ARD	M	L	Plug, passive treatment in-place	Cost data pending	Cost data pending	Cost data pending	Unknown
Mason	PVT	RWQCB	Shasta	ARD	M	L	Plug in-place	Cost data pending	Cost data pending	Cost data pending	Unknown
Shasta King	PVT	RWQCB	Shasta	ARD	M	L	Plug in-place	Cost data pending	Cost data pending	Cost data pending	Unknown
Stowell	PVT	RWQCB	Shasta	ARD	M	L	Plug, passive treatment in-place	Cost data pending	Cost data pending	Cost data pending	Unknown

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Sutro	PVT	RWQCB	Shasta	ARD	M	L	Plug in-place	Cost data pending	Cost data pending	Cost data pending	Unknown
Rising Star	PVT	RWQCB	Shasta	ARD	M	L	Plug, passive treatment planned	Cost data pending	Cost data pending	Cost data pending	Unknown
Grey Eagle	PVT/US FS	EPA	Siskiyou	ARD	H	L	EPA removal action 1999 to stabilize tailings pile. Permanent work needed.	2	0	0	No funding
Mesa De Oro Tailings	PVT	DTSC	Amador	As	L	H	Waste capped, in O&M	7	0	50	Funded
Walker Mine Tailings	USFS	USFS	Plumas	Copper, silica	M	M	Dust supression, site restoration, stream restoration work ongoing.	1.4	2.1	50	Funded
Gambonini	PVT	RWQCB	Marin	Hg	H	L	U.S. EPA conducted removal actions. No further federal action planned. Waste landfill, site restoration completed.	3	Unknown	Unknown	No funding
Polar Star	PVT	EPA	Placer	Hg	L	H	Part of Nichols Diggings sluice tunnel system. U.S. EPA conducted removal action. No further federal action planned. Tunnel cleanout completed	1.5	Unknown	Unknown	No funding
Buena Vista/Klau (NPL)	PVT/BLM	EPA/DTSC*	San Luis Obispo	Hg, ARD	H	L	Some removal work has been done.	4	Cost data pending	75	Unknown
New Almaden	County	DTSC	Santa Clara	Hg	L	H	Waste landfill completed, site restoration on-going.	4	Cost data pending	Cost data pending	Unknown

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Pioneer Pit	PVT	RWQCB	Sierra	Hg, sediment	M	H	EPA removal completed 2005. No further action planned.	2	Unknown	Unknown	No funding
New London, Primera, La Trinidad, Pick & Shovel	State	RWQCB	San Luis Obispo	Sedi-ments, chromium	H	L	Soil contouring, revegetation w/irrigation, drainage strutures, & sediment basin clean out completed to date. Further erosion control needed, esp. New London	2.5	3	50	No funding

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Poison Lake mill tailings	EBMUD/BLM	RWQCB	Amador	ARD	M	L	CERCLA- Prelim investigation –completed - (50%)	0.1	6	Unknown	No funding
Newton	PVT	RWQCB	Amador	ARD	M	M	Recon. sampling performed	0	3	Unknown	No funding
Horse Mountain	USFS	USFS	Humboldt	ARD, metals	M	M	Recon. sampling performed	0	2	Unknown	No funding
Dairy Farm	Water district	RWQCB	Pacer	ARD	H	H	Recon. sampling performed	0	2	Unknown	No funding
Valley View	PVT	EPA/DTSC	Placer	ARD	M	L	EPA currently assessing. DTSC performed a PA in 2003.	0	1	Unknown	No funding
Greenhorn	PVT	RWQCB	Shasta	ARD	M	L	Recon. sampling performed	Unknown	Unknown	Unknown	Unknown
Afterthought	PVT	RWQCB	Shasta	ARD	M	L	Recon. sampling performed	Unknown	Unknown	Unknown	Unknown
Argonaut Tailings	PVT	DTSC	Amador	As	L	H	PA complete 1999. Further investigation needed.	0	2	Unknown	No funding
Davis Mine	BLM/DTSC	BLM	Nevada	As	M	H	CERCLA- Prelim investigation completed	0.1	5	Unknown	No funding
Hoge	PVT	DTSC	Nevada	As, Hg	M	M	Recon. sampling performed	0	5	Unknown	No funding
Cherokee	PVT/BLM		Butte	Hg	L	H	Visual inspection performed. Further investigation needed.	0	3	Unknown	No funding
Mt Diablo	PVT/State	RWQCB	Contra Costa	Hg, ARD	H	L	Recon. sampling performed	0	2	Unknown	No funding
Abbott	PVT/BLM	EPA	Lake	Hg	H	M	RP addressing continuing mercury source at mine. Site investigation underway.	Cost Data Pending	2.5	Unknown	RP paying for cleanup.
Turkey Run	PVT/BLM	EPA	Lake	Hg	H	L	RP addressing continuing mercury source at mine. Site investigation underway.	Cost Data Pending	2.3	Unknown	RP paying for cleanup.

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Tier 2b (\$1 to \$10 million)—Future Capital Costs

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Rathburn	BLM	RWQCB	Lake	Hg	M	L	CERCLA- Prelim investigation –completed - (75%)	0.1	1.9	Unknown	Unknown
Petray	BLM/ PVT	RWQCB	Lake	Hg	L	L	CERCLA- Prelim investigation –completed - (75%)	0.1	1.1	Unknown	Unknown
Oat Hill Extension	BLM	BLM	Napa	Hg	M	M	CERCLA- Prelim investigation –completed - (90%)	0.1	0.9	Unknown	Unknown
Relief Hill	PVT/ USFS	USFS	Nevada	Hg	L	M	In site characterization, remedy selection phase	0.16	2.2	Unknown	Remedy unfunded
Starr Mine	PVT/ BLM	BLM	Nevada	Hg	L	M	Recon. sampling performed	0	1	Unknown	No funding
Poore Mine	BLM	BLM	Nevada	Hg	L	M	CERCLA- Prelim investigation completed	0.1	1.2	Unknown	No funding
Birds Eye Tunnel	PVT/ BLM	BLM	Nevada	Hg	L	H	Recon. sampling performed	0	3	Unknown	No funding
You Bet	BLM/ PVT	BLM	Nevada	Hg, ARD	L	M	Recon. sampling performed	0	3	Unknown	No funding
Pond	BLM	BLM	Placer	Hg	L	H	CERCLA- Prelim investigation completed	0.2	3	Unknown	Remedy unfunded
Southern Cross	PVT	Unknown	Placer	Hg, nickel	L	H	Visual inspection performed.	0	3	Unknown	No funding
Yankee	PVT	Unknown	Placer	Hg	M	M	Visual inspection performed.	0	5	Unknown	No funding
Gold Run	PVT/ BLM	BLM	Placer	Hg, ARD	L	H	Recon. sampling performed	0	3.5	Unknown	No funding
Kings Mine	BLM/ USFS	BLM/USFS	San Luis Obispo	Hg	M	M	Unknown	0	1	Unknown	Unknown
Bolts Hill	BLM	BLM	Trinity	Hg	L	M	Recon. sampling performed.	0	1	Unknown	No funding

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H = High Priority
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ARD = Acid Rock Drainage (a low pH, metal-rich mine water produced by pyrite oxidation)
 As = Arsenic
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Tier 2b (\$1 to \$10 million)—Future Capital Costs

<u>Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ millions)</u>	<u>Future Capital Cost (\$ millions)</u>	<u>O&M/yr (\$ thousands)</u>	<u>Funding Status</u>
Altoona	PVT/ USFS	USFS	Trinity	Hg, As	M	M	Recon. sampling performed. U.S EPA plans removal action on private portion in Spring 2007.	0	4	Unknown	Funding requested
Reed	BLM	RWQCB	Yolo	Hg	H	L	Investigation completed 1993. No further action planned.	0	1	Unknown	Unknown
Juniper Uranium Mine	USFS	USFS	Alpine	Radiation, radio-nuclides	M	H	Site investigation, remedy selection completed.	0.5	4.6	Unknown	Remedy unfunded

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Tier 3a (\$100K to \$1 million)—Capital Costs Incurred

<u>Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ thousands)</u>	<u>Future Capital Cost (\$ thousands)</u>	<u>O&M/yr (\$ thousands)</u>	<u>Funding Status</u>
Zaca	USFS	RWQCB	Alpine	ARD, As	H	Unknown	Some work has been done, information pending	Cost data pending	Cost data pending	Cost data pending	Cost data pending
Morning Star	USFS	USFS	Alpine	ARD, As	M	M	Recon. Sampling performed	Unknown	Unknown	Unknown	Unknown
Spanish	PVT	RWQCB	Nevada	ARD	L	L	NPDES permit issued.	0	500	15	Unknown
Williams Brothers Mine	USFS	USFS	Fresno	As, ARD, hazardous materials and explosives.	H	H	CERCLA removal completed, ARD remedy pending	250	315	9	Funding secured for remedy construction but not O&M
Ruth	BLM	BLM	Inyo	As	M	M	CERCLA investigation under way.	50	Cost data pending	Cost data pending	Unknown
La Trinidad	USFS	USFS	Placer	As	L	H	Waste removal completed.	258	0	10	None needed
Ancho Erie	USFS	USFS	Sierra	As, lead	M	M	Waste removal completed.	347	0	10	None needed
Siskon	USFS	USFS	Siskiyou	As, hazardous materials	L	M	Waste encapsulated, site restored. Site inspection needed.	750	0	30	Unknown
Coalinga Asbestos (NPL)	PVT	EPA	Fresno	Asbestos	L	H	In O&M	Cost data pending	Cost data pending	Cost data pending	Funded
Boston	BLM/PVT	BLM	Nevada	Hg	L	H	Tunnel cleanout completed	500	0	1	Funded
Alpine	BLM	BLM	San Benito	Hg	M	L	Waste repository built	330	100	Cost data pending	Unknown
Clear Creek Dredgefield	BLM	BLM	Shasta	Hg	M	L	Stream restoration underway	800	400	Cost data pending	Funded

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Ziebright	PVT/ USFS	EPA	Nevada	Lead, As, Hg	L	H	EPA Removal action completed. No further remedial action planned.	100	Unknown	Unknown	No funding

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Tier 3b (\$100K to \$1 million)—Future Capital Costs

<u>Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ thousands)</u>	<u>Future Capital Cost (\$ thousands)</u>	<u>O&M/yr (\$ thousands)</u>	<u>Funding Status</u>
Cleopatra	USFS	USFS	Del Norte	ARD	H	L	No work	0	900	Unknown	No funding
Alta	USFS/PVT	USFS	Del Norte	ARD	M	M	Site investigation planned.	0	400	Unknown	Site Invg. 2007
LT2	USFS	USFS	Del Norte	ARD	H	M	No work	0	100	Unknown	No funding
Central Eureka Headframe	PVT	DTSC	Amador	As	L	H	EPA removal. Currently deferred to State.	0	500	Unknown	No funding
Old Eureka	PVT	DTSC	Amador	As	L	H	Remedy selection in progress	0	700	Unknown	No funding
South Eureka	PVT	DTSC	Amador	As	L	H	Remedy selection in progress	0	700	Unknown	No funding
Kennedy Mine/ tailings	PVT	DTSC	Amador	As	M	M	EPA Preliminary Assessment completed 1989. No further federal action planned	0	500	Unknown	No funding
Surcease	PVT	EPA	Butte	As	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	No funding
Four Oaks	USFS	USFS	Kern	As	M	M	PI and remedy selection complete	0	125	Unknown	PI and remedy selection funded, remedy unfunded
Old Amy	USFS	USFS	Kern	As	M	M	Erosion control waste removal	0	77	Unknown	No funding
French Meadows	USFS	USFS	Kern	As	M	M	Erosion control waste removal	0	94	Unknown	No funding

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<u>Name</u>	<u>Owner-ship</u>	<u>Admin. Agency</u>	<u>County</u>	<u>Problem</u>	<u>WQ Priority</u>	<u>Human Exposure Priority</u>	<u>Site Status</u>	<u>Incurred Capital Cost (\$ thousands)</u>	<u>Future Capital Cost (\$ thousands)</u>	<u>O&M/yr (\$ thousands)</u>	<u>Funding Status</u>
Black Bob	USFS	USFS	Kern	As	M	M	Site characterization/remedy selection complete.	45	295	Unknown	No funding
Idaho Maryland tailings	PVT	DTSC	Nevada	As	L	M	Unknown	0	500	Unknown	Unknown
Poorman Creek Forks	USFS	USFS	Nevada	As	M	H	Recon. sampling performed.	27	335	Unknown	No funding
Lucky Green Mine	BLM	BLM	San Bernardino	As, thallium, Cu	M	M	No work	0	300	Unknown	No funding
Dewey	USFS	USFS	Shasta	As	M	M	No work	0	500	Unknown	No funding
Lower Brush Creek	USFS	USFS	Sierra	As	M	H	PI and remedy selection sched. for 2008	75	275	Unknown	PI and remedy funded
Iron Dike	USFS	USFS	Plumas	Cadmium, copper	H	L	Recon. sampling performed.	23	250	Unknown	No funding
Grey Eagle	USFS	USFS	Tehema	Chromium, sediment	L	L	Unknown	0	500	Unknown	Unknown
Gold Hill	USFS	USFS	Del Norte	Copper	M	L	No work	0	300	Unknown	No funding
Rex Montis	USFS	USFS	Inyo	Hazardous substances	M	M	Recon. sampling performed.	0	250	Unknown	No funding
Garnet Dike	USFS	USFS	Kings	Hazardous substances	M	H	Recon. sampling performed.	0	90	Unknown	No funding
Johnson Sink Placer Mine	USFS	USFS	Nevada	Hazardous substances	M	H	No work	0	375	Unknown	No funding

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Hard-scrabble	USFS	USFS	Del Norte	Heavy metals	M	M	Site investigation planned.	35	500	Unknown	PI funded 2007
Webb	USFS	USFS	Del Norte	Hg	H	L	No work	0	500	Unknown	No Funding
Hanna Millsite	USFS	USFS	Inyo	Hg, lead, As	H	H	Recon. sampling performed.	34	690	67	No Funding
Central, Cherry Hill, Empire, Manzanita and West End Mines	BLM/PVT	BLM	Lake	Hg	M	L	Unknown	0	556	58	Unknown
Elgin	PVT	RWQCB	Lake	Hg	M	L	No work	0	389	18.5	No funding
Wide Awake Mine	BLM/PVT	BLM	Lake	Hg	M	L	Unknown	0	545	38	Unknown
Sulfur Creek	BLM/PVT	BLM	Lake	Hg	H	L	Recon. sampling performed.	0	897	83	Unknown
Helen Mine	BLM/PVT	BLM	Lake	Hg	H	L	Recon. sampling performed.	50	950	Unknown	Unknown
Harley Gulch Wetland	BLM/PVT	BLM	Lake	Hg	H	L	Recon. sampling performed.	0	726	58	Unknown
Knoxville	PVT	RWQCB	Napa	Hg	M	M	Recon. sampling performed.	0	300	Unknown	Unknown
North Star Central Shaft	PVT	DTSC	Nevada	Hg	L	M	Unknown	0	300	Unknown	No funding
Robinson Mine	USFS	USFS	Plumas	Hg	M	L	Recon. sampling performed.	0	250	Unknown	No Funding

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Sonoma	BLM/ PVT	BLM	Sonoma	Hg	H	L	Recon. sampling performed.	50	850	Unknown	Unknown
Contact Mine/Mill	BLM/ PVT	BLM	Sonoma	Hg	H	L	Recon. sampling performed.	50	650	Unknown	Unknown
Bean Hill Hydraulic Mine	USFS	USFS	Plumas	Sediment	M	M	No work	0	300	Unknown	No funding
Excelsior Hydraulic Mine	USFS	USFS	Sierra	Sediment	M	L	No work	0	335	Unknown	No funding
Holiday	USFS	USFS	Del Norte	Zinc, copper	M	L	No work	0	800	Unknown	No funding

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Abandoned Mines Recognized as Physical Hazards

April 4, 2007

Explanation:

1. This list is comprised of three tables. Each table is sorted by priority (Priority 1 = highest priority). Within each table, the information is sorted by "Ownership" then "County" then "Mine Name."

Priority 1: High Agency Priority with Remediation Costs Estimated

Priority 2: Preliminary Appraisal and Ranking (PAR) score of 5

Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4

2. Although virtually all abandoned mine sites present some physical hazards, this list contains only sites that are:
 - Identified agency priorities. California's federal and state landowning agencies provided known and estimated cost information as well as information on their respective agency priorities. Unless otherwise stated in the comments column, the cost data provided are for physical hazard remediation only.
 - In the Department of Conservation's (DOC) Abandoned Mine Lands Inventory Database as of February 2007 and that have the most significant physical hazards (e.g., a large number of openings to underground workings) as reflected by a PAR score of 5 or 4.^{1,2} In general, PAR rankings for abandoned mines are from 5 to 1, with 5 being the greatest hazard, exposure (likelihood that the public will have contact with the site), and risk. If the entry in the "Mine Name" column is for a heavily mined area or region with numerous abandoned mines, a range of PAR scores (e.g., "5 to 2") may be listed.
3. All inventory data represent a snapshot in time and may not reflect conditions at the site that have changed since the data were collected (e.g., accidents/fatalities, change in land use) that may raise the site to a higher priority for landowning agencies. The list was not designed to, and thus, should not be used to assign a schedule or order of remediation for the sites listed. As the cover letter indicates, there are potentially thousands of unidentified abandoned mines that pose physical hazards, and additional sites will likely be added in the future.
4. Abbreviations are listed in the footnotes.

¹ As of March 2007, the DOC's Abandoned Mine Lands Inventory Database contained information on more than 2,400 sites (about 5% of the estimated 47,000 abandoned mines in California) and more than 15,000 abandoned mine features.

² Physical hazards are discussed in the DOC's June 2000 Report, *California's Abandoned Mines: A Report on the Magnitude and Scope of the Issue in the State* (online at www.consrv.ca.gov/OMR/abandoned_mine_lands/california_abandoned_mines/index.htm); see Volume I, starting at p. 91. Terms and their derivations are explained in Volume II of the Report.

Abandoned Mines Recognized as Physical Hazards

Priority 1: High Agency Priority with Remediation Costs Estimated					
County	Mine Name	Ownership	Agency Priority (with Physical Risk [5 to 1, PAR-Based])	Est. Cost of Remediation	Comments
Inyo	Alabama Hills Recreation Area (<i>Old Abe, Alabama Mohawk, "Unknown" sites</i>)	BLM	HIGH (5 to 3)	\$60,000	
Kern	Keysville Recreation Area (<i>Morton Prospect, Sleepy Eye, Homestake, "Unknown" sites</i>)	BLM	HIGH (5 to 3)	\$40,000	
Kern	Randsburg High Use Area (<i>Shamrock #2 Prospect, Snowbird, Old Baldy, "Unknown" sites</i>)	BLM	HIGH (5 to 2)	\$100,000	
Kern / San Bernardino	Rademacher Hills OHV Area (<i>El Dorado Prospect, Gold Bug, Horoscope, Indian Valley Wells, Iron Peak, Jerry, Lehigh Valley Group, Lucky Boy Prospect, Northern View, Prize, Reward, Silver Bar Mining and Reduction Co., Stellar, "Unknown" sites</i>)	BLM	HIGH (5 to 3)	\$400,000	
Madera	Coarsegold High Use Area (<i>Quartz Mountain, "Unknown" sites</i>)	BLM	HIGH (5)	\$20,000	
Mono	Southern Belle	BLM/USFS	HIGH (5)	\$60,000	Cost estimate provided is for BLM costs only.
Riverside	Mountaineer	BLM	High (5)	\$400,000	Est. cost incorporates several types of AML physical hazards.
San Bernardino	El Mirage Recreation Area (<i>Beacon Claim, Primmer Deposit, Tungsten King, "Unknown" sites</i>)	BLM	HIGH (4 to 3)	\$30,000	
San Bernardino	Kelly	BLM	HIGH (5)	\$200,000	Cost to remediate both chemical and physical hazards at site is estimated at \$120 million.
San Bernardino	Spangler Hills OHV Area (<i>Epiphany Claim, Hilltop, Spangler, "Unknown" sites</i>)	BLM	HIGH (5 to 3)	\$200,000	
San Bernardino	Turtle Mts. Wilderness Area (<i>Brown's Camp, Lisa Dawn, Rainbow, Glory Bee, Glory Been, "Unknown" sites</i>)	BLM	HIGH (5 to 0)	\$10,000	

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Other abbreviations:

OHV = Off Highway Vehicle
 PAR = Preliminary Appraisal and Ranking
 TBD = To Be Determined

April 4, 2007

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Abandoned Mines Recognized as Physical Hazards

Priority 1: High Agency Priority with Remediation Costs Estimated					
County	Mine Name	Ownership	Agency Priority (with Physical Risk [5 to 1, PAR-Based])	Est. Cost of Remediation	Comments
Tuolumne	Long Fellow Mill	BLM	High (5)	\$400,000	PAR score of 5 generated from worksheet submitted by BLM. Cost is to remediate chemical and physical hazards at site.
Inyo / San Bernardino	Death Valley National Park (<i>Corkscrew, Gower Gulch, Owlshead Mtn, other mines</i>)	NPS/Private	HIGH (5 to 3)	\$163,000	Rio Tinto Minerals is potential private partner in remediation.
Lassen	Lassen National Park (<i>Lake Helen Quarry, Lost Creek, and other quarries</i>)	NPS	HIGH	\$176,000	
Marin	PORE Quarry	NPS	HIGH (5)	\$283,000	PAR score of 5 generated from worksheet submitted by NPS.
Riverside / San Bernardino	Joshua Tree National Park (<i>Anaconda, Desert Queen, Golden Bee, Golden Eagle, Paymaster, Tingman Holland, Zulu Queen, other mines</i>)	NPS	HIGH (5 to 3)	\$89,000	
San Bernardino	Mojave National Preserve (<i>Allured, Barrett, Benson, Big Hunch, Billy Boy, Blond Beauty, Blue Buzzard, Blue Jay No. 1, Bullion, Butcher Knife, Cal (52,61,66), Columbia, Comet, Dnib, Denver, Francis, Gold Bug, Gold Cycle, Gyron, Helenbak, I AM NO. 3, Johnny Shaft, Kay Claim, Kewanee, Korfist, Lost Burro, Mineral Spring, Mojave Annex, Mojave Tungsten, New Trail, New Trail Magnesite, Nipton, Oro Fino, Paymaster, Piehls Quarry, Sadr, Sani Lani 1 & 2, Sericite, SOL Claims, Standard District, Taylor Mine North and South, Thomas Jefferson, Tungsten King, other mines</i>)	NPS	H (5 to 1)	\$951,000	
Modoc	Sunshine	Private	HIGH (3)	\$35,000	
Imperial	Turtle (Jet Black)	State	HIGH (4)	\$40,000	
Mono	Bodie Mining District	State	HIGH	TBD	

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April 4, 2007

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County	Mine Name	Ownership	Agency Priority (with Physical Risk [5 to 1, PAR-Based])	Est. Cost of Remediation	Comments
Plumas	Plumas-Eureka State Park	State	HIGH	TBD	
Butte	Stringer	USFS	HIGH (3)	\$5,000	
Del Norte	French Hill	USFS	HIGH	\$45,000	
Del Norte	Logan	USFS	HIGH (1)	\$25,000	
El Dorado	Cement Hill	USFS	HIGH	\$25,000	
El Dorado	Ford Contraband	USFS	HIGH	\$13,000	
El Dorado	Gravel Hill	USFS	HIGH	\$25,000	
El Dorado	Tipton Hill	USFS	HIGH	\$25,000	
Fresno	San Joaquin Mines	USFS	HIGH	\$150,900	
Humboldt	Horse Mountain	USFS	HIGH (3)	\$35,000	
Humboldt	Owl	USFS	HIGH	\$25,000	
Inyo	Tungsten Hills (<i>Aeroplane, Little Sister, Longley Meadow Millsite, Lucky Strike, Van Loon Prospects, other sites</i>)	USFS	HIGH (5 to 2)	\$80,000	
Kern	Moreland Mining Claims (<i>Evening Star Mine, Bright Star Adit, Gold Standard Mine, Jennette-Grant Mine, Little Alaska Site, Lone Star Mine/Mill, Weldon Meadow Mine, Weldon Meadow Dolomite, & Mary Etta Mine</i>)	USFS	HIGH (4 to 1)	\$734,000	
Kern / Inyo	White Mountains (<i>Birch Creek Area Prospects, Black Warrior, Bullion, Comstock Pumice Deposit, Copper Queen, Eva Belle, G. B. and S. Mining and Milling Nos 1-6, Golden Siren, Grandview Mine, Green Monster, Inspiration, Mexican, Pacific, Russel Nos 1-17, Sacramento, Saratoga, Lexington, Ranger, Silver Consolidated, Silver Pile, Silver Pinon, Silver Tiger, Z & S, other mines</i>) Total = 63 sites.	USFS	HIGH (5 to 1)	\$945,000	
Lassen	Red Rock	USFS	HIGH (3)	\$3,000	

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Abandoned Mines Recognized as Physical Hazards

Priority 1: High Agency Priority with Remediation Costs Estimated					
County	Mine Name	Ownership	Agency Priority (with Physical Risk [5 to 1, PAR-Based])	Est. Cost of Remediation	Comments
Lassen / Sierra / Plumas	Beckworth District (<i>Plinco, Locke, Hope, Hayden, Forest Queen, "Unknown" sites</i>)	USFS	HIGH (4 to 2)	\$28,000	
Los Angeles	Acme	USFS	HIGH	\$75,000	
Los Angeles	Arrastre Canyon Mines	USFS	HIGH	\$160,000	
Los Angeles	Monte Cristo Mines	USFS	HIGH	\$240,000	
Mariposa	El Portal Barite	USFS	HIGH (5)	\$500,000	
Mendocino	Bald Mountain	USFS	HIGH	\$7,000	
Modoc	High Grade	USFS	HIGH (3)	\$5,000	
Modoc	Klondike Group	USFS	HIGH	\$55,000	
Modoc	Lost Cabin	USFS	HIGH (3)	\$25,000	
Nevada	Giant King	USFS	HIGH (3)	\$20,000	
Nevada	Johnson Sink Placers	USFS	HIGH	\$375,000	Cost is to remediate chemical and physical hazards at site.
Nevada	Last Chance	USFS	HIGH (4)	\$10,000	
Orange	Santa Ana Mine Complex	USFS	HIGH	\$7,000	
Placer	Black Canyon	USFS	HIGH	\$20,000	
Placer	Hydraulic	USFS	HIGH	\$25,000	
Plumas	Mt Hough District (<i>Beardsley, Bullion, King Solomon, Mount Hough, Taylor Diggings, "Unknown" sites</i>)	USFS	HIGH (4 to 2)	\$45,000	
Plumas	Snow Mountain/Asbestos King	USFS	HIGH (2)	\$20,000	
Plumas / Sierra	Feather River District (<i>Yankee Hill Diggings, Union Keystone, Spanish Flat, Queen City, Mountain Boy, Davis Motor, Clippership, California, Caledonia, Whiskey Diggings, Upper Dutch Diggings, Bellevue, Poverty Hill, Excelsior Placers, "Unknown" sites</i>)	USFS	HIGH (5 to 2)	\$45,000	
Riverside	Gold Shot	USFS	HIGH (4)	\$128,500	
Riverside	Tin #4 Mine	USFS	HIGH	\$7,000	
San Bernardino	Doble	USFS	H (5)	\$60,000	

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Abandoned Mines Recognized as Physical Hazards

Priority 1: High Agency Priority with Remediation Costs Estimated					
County	Mine Name	Ownership	Agency Priority (with Physical Risk [5 to 1, PAR-Based])	Est. Cost of Remediation	Comments
San Bernardino	Naked Miner	USFS	HIGH	\$30,000	
San Bernardino	Viscera Springs Placer	USFS	HIGH (4)	\$150,000	
San Diego	Anchor Prospect	USFS	HIGH (4)	\$28,500	
San Diego	Gold Standard Group	USFS	HIGH (1)	\$27,500	
San Diego	Last Chance	USFS	HIGH	\$10,000	
San Diego	Prosperity	USFS	HIGH	\$7,000	
San Luis Obispo	Rinconada	USFS	HIGH	\$86,000	
Sierra	Chips Creek	USFS	HIGH	\$20,000	
Siskiyou	Cousins Gulch	USFS	HIGH (4)	\$10,000	
Siskiyou	Eliza	USFS	HIGH (3)	\$25,000	
Siskiyou	Gold Hill	USFS	HIGH	\$300,000	Cost is to remediate chemical and physical hazards at site.
Siskiyou	Lady Gray	USFS	HIGH (5)	\$25,000	
Siskiyou	Salmon River	USFS	HIGH (2)	\$55,000	
Tuolumne	Grant Ridge Projects (<i>Sonnet Mine, Lucky Strike Mine, Gold Ridge Mine, Blue Stake Adit, Stove Pipe Shaft, Noonday Mine, and the Unnamed #25 Shafts</i>)	USFS	HIGH (4 to 3)	\$125,840	

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Abandoned Mines Recognized as Physical Hazards

Priority 2: Preliminary Appraisal and Ranking (PAR) score of 5					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
Imperial	Paymaster	BLM	5	TBD	
Imperial	Unknown	BLM	5	TBD	
Inyo	Cerro Gordo	BLM/Private	5	TBD	
Inyo	Cleveland	BLM	5	TBD	
Inyo	Green Monster	BLM/Local	5	TBD	
Inyo	Ignacio	BLM/Private	5	TBD	
Inyo	Morning Star	BLM	5	TBD	
Inyo	Reward	BLM/Private	5	TBD	
Inyo	Sunset	BLM/Private	5	TBD	
Inyo	Unknown	BLM	5	TBD	
Inyo	Whiteside	BLM/Private	5	TBD	
Los Angeles	Red Rover	BLM	5	TBD	
Mariposa	Losch	BLM	5	TBD	
Napa	Unknown	BLM	5	TBD	
Nevada	Le Du	BLM/Private	5	TBD	
Nevada	Malakoff	BLM/State	5	TBD	
Nevada	Reddog You Bet Diggings	BLM/Private	5	TBD	
Placer	Gleeson Diggings	BLM	5	TBD	
Placer	Gold Run	BLM/Private	5	TBD	
Riverside	Mountaineer	BLM	5	TBD	
Riverside	Pinto	BLM	5	TBD	
Riverside	Roosevelt	BLM	5	TBD	
San Bernardino	Birthday Present	BLM	5	TBD	
San Bernardino	Desert Antimony	BLM	5	TBD	
San Bernardino	Glory Hole	BLM/DOD	5	TBD	
San Bernardino	Gold Hill Group	BLM/State	5	TBD	
San Bernardino	Goldstone	BLM	5	TBD	
San Bernardino	Gypsy	BLM	5	TBD	
San Bernardino	Islander	BLM	5	TBD	
San Bernardino	Maria	BLM	5	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 2: Preliminary Appraisal and Ranking (PAR) score of 5					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
San Bernardino	Mollusk	BLM/Private	5	TBD	
San Bernardino	Saint Louis	BLM/State/ Private	5	TBD	
San Bernardino	Salt Springs	BLM	5	TBD	
San Bernardino	Umberci	BLM	5	TBD	
San Bernardino	Unknown	BLM	5	TBD	
San Bernardino	Unknown	BLM	5	TBD	
San Bernardino	Unknown	BLM	5	TBD	
San Bernardino	Virginia Dale	BLM/Private	5	TBD	
San Bernardino	Wander	BLM	5	TBD	
San Bernardino	West Camp (Toltec)	BLM/Private	5	TBD	
Shasta	Great Western	BLM	5	TBD	
Shasta	Milkmaid	BLM/Private	5	TBD	
Shasta	Silver Falls	BLM/Private	5	TBD	
Shasta	Tom Green	BLM/Private	5	TBD	
Trinity	Summit	BLM	5	TBD	
Calaveras	Detert Deposit	Private	5	TBD	
Colusa	Cherry Hill	Private	5	TBD	
Colusa	Manzanita	Private	5	TBD	
Colusa	Wide Awake	Private	5	TBD	
Kern	Gwynne Group	Private	5	TBD	
Lake	Canary Hill Deposit	Private	5	TBD	
Mariposa	Green Mountain	Private	5	TBD	
Mariposa	Louisa	Private	5	TBD	
Mariposa	Mary Harrison	Private	5	TBD	
Mariposa	PineTree - Josephine	Private	5	TBD	
Mariposa	Unknown	Private	5	TBD	
Napa	Moore	Private	5	TBD	
Nevada	California Gold & Copper Corp.	Private	5	TBD	
Nevada	Zeibright	Private	5	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 2: Preliminary Appraisal and Ranking (PAR) score of 5					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
Placer	Nichols Diggings	Private	5	TBD	
Placer	Valley View	Private	5	TBD	
San Bernardino	Gold Trails	Private	5	TBD	
San Bernardino	Supply	Private	5	TBD	
San Diego	J.B. Unlimited Quarry	Private	5	TBD	
Santa Clara	Western	Private	5	TBD	
Shasta	Balacklala	Private	5	TBD	
Shasta	Franklin	Private	5	TBD	
Shasta	Iron Mountain	Private	5	TBD	
Sierra	Pioneer Placer Diggings	Private	5	TBD	
Trinity	La Grange	Private	5	TBD	
Alpine	Leviathan	State	5	TBD	
Napa	Silverado	State	5	TBD	
Riverside	Val Verde Quarry	State	5	TBD	
San Bernardino	Los Padres	State/Private	5	TBD	
San Bernardino	New Deal	State	5	TBD	
San Diego	Hilton	State	5	TBD	
El Dorado	Delwisch	USFS	5	TBD	
El Dorado	Unknown	USFS	5	TBD	
Inyo	Cardinal	USFS	5	TBD	
Inyo	Marble Tungsten	USFS	5	TBD	
Kern	Kergon	USFS	5	TBD	
Kern	Quonset Beach	USFS	5	TBD	
Mariposa	Clearing House	USFS/Private	5	TBD	
Mariposa	Red Cloud	USFS/Private	5	TBD	
Mono	Chemung	USFS	5	TBD	
Mono	Gold Crown	USFS	5	TBD	
Mono	Stairway Copper Nos 1-16	USFS	5	TBD	
Nevada	Buckeye	USFS/Private	5	TBD	
Nevada	Steephollow	USFS	5	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 2: Preliminary Appraisal and Ranking (PAR) score of 5					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
Orange	BlueLight	USFS	5	TBD	
Placer	Blue Eyes	USFS	5	TBD	
Placer	Gilmore Lake	USFS	5	TBD	
San Bernardino	Balanced Rock	USFS	5	TBD	
San Bernardino	Brown Desert View	USFS	5	TBD	
San Bernardino	Cobra Prospect	USFS	5	TBD	
San Bernardino	Grand View	USFS	5	TBD	
San Bernardino	Hilltop	USFS	5	TBD	
San Bernardino	Mamouth	USFS	5	TBD	
San Bernardino	Monte Christo	USFS	5	TBD	
San Bernardino	Morongo Silver	USFS	5	TBD	
San Bernardino	Rose	USFS/Private	5	TBD	
San Bernardino	Saint Francis Graphite Prospect	USFS	5	TBD	
San Bernardino	Shooting Star	USFS	5	TBD	
San Bernardino	Smart Ranch Limestone	USFS	5	TBD	
San Luis Obispo	Eucalyptus No. 1	USFS	5	TBD	
Sierra	Brandy City Diggings	USFS	5	TBD	
Sierra	Depot Hill	USFS	5	TBD	
Sierra	Indian Hill	USFS	5	TBD	
Sierra	Sailor Boy Diggings	USFS	5	TBD	
Sierra	Tippecanoe	USFS	5	TBD	
Sierra	Unknown	USFS	5	TBD	
Siskiyou	Cherry Hill	USFS	5	TBD	
Siskiyou	Uncle Sam	USFS	5	TBD	
Trinity	Bolts Hill Hydraulic	USFS	5	TBD	
Trinity	Canyon Placers, Inc	USFS	5	TBD	
Trinity	Unknown	USFS	5	TBD	
Tuolumne	Unknown	USFS	5	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
El Dorado	Montezuma-Apex	BLM/Private	4	TBD	
Imperial	Golden Queen	BLM	4	TBD	
Inyo	Estelle Tunnel	BLM	4	TBD	
Inyo	New Era	BLM	4	TBD	
Inyo	Yaney	BLM	4	TBD	
Kern	Wildcat Mine	BLM	4	TBD	
Lake	Helen	BLM	4	TBD	
Mariposa	Bullion Hill	BLM/Private	4	TBD	
Mariposa	Iron Duke	BLM	4	TBD	
Nevada	Edwards No 2	BLM	4	TBD	
Nevada	Poore	BLM/Private	4	TBD	
Nevada	You Bet Pit	BLM/Private	4	TBD	
Placer	Campbell	BLM/Private	4	TBD	
Placer	Devils Canyon	BLM	4	TBD	
Riverside	Anaheim	BLM	4	TBD	
Riverside	Brooklyn	BLM/State	4	TBD	
Riverside	Calzona	BLM	4	TBD	
Riverside	Goat Basin	BLM	4	TBD	
Riverside	North Star	BLM	4	TBD	
San Bernardino	Anita	BLM	4	TBD	
San Bernardino	Avawatz Crown	BLM/Private	4	TBD	
San Bernardino	Azucar	BLM	4	TBD	
San Bernardino	Azurite	BLM	4	TBD	
San Bernardino	Blue Heaven Group	BLM	4	TBD	
San Bernardino	Californian	BLM	4	TBD	
San Bernardino	Camp Rock	BLM	4	TBD	
San Bernardino	D and W	BLM	4	TBD	
San Bernardino	Ford	BLM	4	TBD	
San Bernardino	Goods	BLM	4	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
San Bernardino	Iron Age	BLM	4	TBD	
San Bernardino	Jackpot	BLM	4	TBD	
San Bernardino	Jeff Davis	BLM	4	TBD	
San Bernardino	Lester	BLM	4	TBD	
San Bernardino	Little Joe	BLM	4	TBD	
San Bernardino	Lorman	BLM/State	4	TBD	
San Bernardino	Lucky Jim	BLM	4	TBD	
San Bernardino	Maumee	BLM	4	TBD	
San Bernardino	Merrick	BLM	4	TBD	
San Bernardino	Vine	BLM	4	TBD	
San Bernardino	White Rock Claim	BLM	4	TBD	
Shasta	Yankee John	BLM	4	TBD	
Sonoma	Buckeye	BLM/Private	4	TBD	
Trinity	Old Kentucky	BLM	4	TBD	
Trinity	Ray	BLM	4	TBD	
Placer	Bauer	BOR	4	TBD	
Trinity	Lone Jack	DOD	4	TBD	
Yuba	Lone Tree	DOD	4	TBD	
Contra Costa	Somersville	Local	4	TBD	
Shasta	El Dorado	NPS	4	TBD	
Shasta	Ganim	NPS	4	TBD	
Shasta	Mt. Shasta	NPS	4	TBD	
Alameda	Central Pit	Private	4	TBD	
Amador	Cooper	Private	4	TBD	
Calaveras	Penn	Private	4	TBD	
Calaveras	Wet Gulch	Private	4	TBD	
Colusa	Lost	Private	4	TBD	
Contra Costa	Tunnel Rock Quarry	Private	4	TBD	
Del Norte	Alta	Private	4	TBD	Site is mostly on private lands
Del Norte	Copper Creek	Private	4	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
El Dorado	Lookout	Private	4	TBD	
El Dorado	Spanish Oak	Private	4	TBD	
Imperial	Golden Queen Prospect	Private	4	TBD	
Inyo	Eclipse	Private	4	TBD	
Kern	Buckeye	Private	4	TBD	
Kern	Rosamond Uranium Prospect	Private	4	TBD	
Los Angeles	Bradshaw Lease	Private	4	TBD	
Los Angeles	Emma Group	Private	4	TBD	
Los Angeles	Governor	Private	4	TBD	
Los Angeles	Hazel Dell	Private	4	TBD	
Los Angeles	Hilltop	Private	4	TBD	
Los Angeles	Puritan	Private	4	TBD	
Mariposa	Bondurant	Private	4	TBD	
Mariposa	Yellowstone	Private	4	TBD	
Napa	Twin Peaks	Private	4	TBD	
Nevada	Allison Ranch	Private	4	TBD	
Nevada	Arrowhead	Private	4	TBD	
Nevada	Birchville Diggings	Private	4	TBD	
Nevada	Christmas Hill	Private	4	TBD	
Nevada	Old Brunswick	Private	4	TBD	
Nevada	Polarstar	Private	4	TBD	
Placer	Dairy Farm	Private	4	TBD	
Placer	Godecke	Private	4	TBD	
Placer	Parker Ranch	Private	4	TBD	
Placer	Rising Sun	Private	4	TBD	
Placer	Todd Creek	Private	4	TBD	
Riverside	Serpentine Hill Asbestos Prospect	Private	4	TBD	
San Bernardino	Big Four	Private	4	TBD	
San Bernardino	Christie	Private	4	TBD	
San Bernardino	Elsie	Private	4	TBD	

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Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
San Bernardino	Giant Ledge	Private	4	TBD	
San Bernardino	Nett Prospect	Private	4	TBD	
Shasta	Bully Hill	Private	4	TBD	
Shasta	Green Horn	Private	4	TBD	
Shasta	Keystone	Private	4	TBD	
Shasta	Mammoth Mine Complex	Private	4	TBD	
Shasta	Sutro	Private	4	TBD	
Siskiyou	Gazelle Mountain Chrome	Private	4	TBD	
Trinity	Altoona	Private	4	TBD	
San Bernardino	Clark Mountain Gold Prospect	State	4	TBD	
San Bernardino	Providence Mine	State	4	TBD	
San Diego	Granite Mountain	State	4	TBD	
San Diego	Stonewall	State	4	TBD	
Yuba	Wellman Creek	State/Private	4	TBD	
Del Norte	Toujoure Gai	USFS	4	TBD	
Del Norte	Union-Zaar	USFS	4	TBD	
El Dorado	Arctic	USFS	4	TBD	
El Dorado	Blue Gouge	USFS	4	TBD	
El Dorado	Jones	USFS	4	TBD	
El Dorado	Texas	USFS/Private	4	TBD	
Inyo	Black Warrior	USFS	4	TBD	
Inyo	Chipmunk	USFS	4	TBD	
Inyo	Chipmunk 2	USFS	4	TBD	
Inyo	Shober	USFS	4	TBD	
Kern	Little Joe	USFS	4	TBD	
Kern	Little Sparkler	USFS	4	TBD	
Kern	Morning Star	USFS	4	TBD	
Kern	Peggy Sue	USFS	4	TBD	
Kern	Sweepstakes	USFS	4	TBD	
Los Angeles	Bear Canyon Placers et al	USFS/Private	4	TBD	

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County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
Los Angeles	Silver King	USFS	4	TBD	
Mariposa	Free Bird	USFS	4	TBD	
Mono	Gold Web	USFS	4	TBD	
Mono	Golden Wedge	USFS	4	TBD	
Nevada	Blue Lead	USFS/Private	4	TBD	
Nevada	Liberty	USFS	4	TBD	
Placer	Adams Pit	USFS	4	TBD	
Placer	Big Chief	USFS	4	TBD	
Placer	Boedner	USFS	4	TBD	
Placer	Elkhorn	USFS	4	TBD	
Placer	Evening Star	USFS/Private	4	TBD	
Placer	Fairview	USFS	4	TBD	
Placer	Nob Hill	USFS	4	TBD	
Placer	X-ray	USFS	4	TBD	
Riverside	Dorothy Ann Prospect	USFS	4	TBD	
San Bernardino	Arrastre	USFS	4	TBD	
San Bernardino	Beaumont	USFS	4	TBD	
San Bernardino	Blue Quartz	USFS	4	TBD	
San Bernardino	Cactus Flat	USFS	4	TBD	
San Bernardino	Cajon Limestone	USFS	4	TBD	
San Bernardino	Chetlea Prospect	USFS	4	TBD	
San Bernardino	Coupon	USFS	4	TBD	
San Bernardino	Dinner Bell	USFS	4	TBD	
San Bernardino	Gold Hill	USFS	4	TBD	
San Bernardino	Green Lead	USFS	4	TBD	
San Bernardino	La Paloma Prospect	USFS	4	TBD	
San Bernardino	Lady Esther Prospect	USFS	4	TBD	
San Bernardino	Memphis	USFS	4	TBD	
San Bernardino	Morongo King	USFS	4	TBD	
San Bernardino	Olio Prospect	USFS	4	TBD	

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Abandoned Mines Recognized as Physical Hazards

Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
San Bernardino	Pine Tree	USFS	4	TBD	
San Bernardino	Sheep Creek Limestone	USFS	4	TBD	
San Bernardino	Silver Dream	USFS	4	TBD	
San Bernardino	Silver Tip	USFS	4	TBD	
San Bernardino	T.P.A.	USFS	4	TBD	
San Bernardino	Treasure Chest	USFS	4	TBD	
San Bernardino	Western Hope Prospect	USFS/Private	4	TBD	
San Bernardino	Wonder Water Mill	USFS	4	TBD	
San Diego	Noble Mine Area (site 1-3)	USFS	4	TBD	
San Diego	Pronein Group	USFS	4	TBD	
San Luis Obispo	Pick and Shovel	USFS/Private	4	TBD	
Santa Barbara	Eastern Star	USFS	4	TBD	
Santa Barbara	Miracle 1, 2, and 3	USFS	4	TBD	
Shasta	Highland	USFS	4	TBD	
Sierra	Arcade Extension	USFS	4	TBD	
Sierra	Arizona	USFS	4	TBD	
Sierra	Australia	USFS	4	TBD	
Sierra	Chrome "P" "N"	USFS	4	TBD	
Sierra	Empire	USFS	4	TBD	
Sierra	Golden Hub	USFS/Private	4	TBD	
Sierra	High Commission	USFS	4	TBD	
Sierra	Lucky Boy	USFS	4	TBD	
Sierra	Mexican	USFS	4	TBD	
Sierra	Mountain	USFS	4	TBD	
Sierra	Mountain House	USFS	4	TBD	
Sierra	North Fork	USFS	4	TBD	
Sierra	Rabid Hoss	USFS	4	TBD	
Sierra	Tomboy and Eureka	USFS	4	TBD	
Sierra	Wolf Bite	USFS	4	TBD	
Siskiyou	Cub Bear	USFS	4	TBD	

Agency abbreviations used in this document:

BLM = Bureau of Land Management
 BOR = Bureau of Reclamation
 DOD = Department of Defense
 NPS = National Park Service
 USFS = U.S. Forest Service

Other abbreviations:

OHV = Off Highway Vehicle
 PAR = Preliminary Appraisal and Ranking
 TBD = To Be Determined

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Abandoned Mines Recognized as Physical Hazards

Priority 3: Preliminary Appraisal and Ranking (PAR) score of 4					
County	Mine Name	Ownership	Physical Risk (5 to 1, PAR-Based)	Est. Cost of Remediation	Comments
Siskiyou	Gigalo	USFS	4	TBD	
Siskiyou	Homestake	USFS	4	TBD	
Siskiyou	Ladd	USFS	4	TBD	
Siskiyou	Last Chance	USFS	4	TBD	
Siskiyou	Overton	USFS	4	TBD	
Trinity	Enterprise	USFS	4	TBD	
Trinity	McClaron	USFS	4	TBD	
Tuolumne	Grant	USFS	4	TBD	
Tuolumne	Mountain Lily	USFS/Private	4	TBD	
Ventura	Denver	USFS	4	TBD	

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