



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

Mother Lode Field Office

5152 Hillsdale Circle

El Dorado Hills, CA 95762

www.blm.gov/ca/motherlode

2010 Abandoned Mine Lands Backfill Projects Environmental Assessment CA-180-10-46

Finding of No Significant Impact

June 30, 2010

It is my determination that the proposed abandoned mine land (AML) hazards abatement projects will not result in significant impacts to the quality of the human environment. Anticipated impacts are within the range of impacts addressed by the 2008 Sierra Resource Management Plan (RMP). Because these projects do not constitute major federal actions having a significant effect on the human environment, an environmental impact statement (EIS) is not necessary and will not be prepared. This conclusion is based on my consideration of the Council of Environmental Quality's criteria for significance (40 CFR §1508.27) regarding the context and intensity of the impacts described in the EA, and on my understanding of the projects.

1) Impacts can be both beneficial and adverse and a significant effect may exist regardless of the perceived balance of effects. Potential impacts include vegetation removal and soil disturbance due to the use of mechanized earth moving equipment to backfill hazardous pits, shafts and adits at the AML sites. However, none of these impacts would be significant at the local scale or cumulatively because of the small scale of the projects and of project design features that would reduce erosion and disturbance to trees and cultural resources to immeasurable levels.

2) The degree of the impact on public health or safety. No aspects of the projects have been identified as having the potential to significantly and adversely impact public health or safety. On the contrary, the very purpose of the projects is to abate significant physical safety hazards at abandoned mines.

3) Unique characteristics of the geographic area. There are no unique geographic characteristics associated with the project areas under the proposed action.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial effects. No anticipated effects resulting from the proposed action have been identified as highly controversial.

5) The degree to which the possible effects on the human environment are likely to be highly uncertain or involve unique or unknown risks. The analysis does not show that this action would involve any unique or unknown risks.

6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration. Abatement of AML physical hazards by BLM has been a common practice for decades. The proposed action will not establish a precedent for future actions.

7) *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.* The proposed action is not related to other actions and will not result in cumulatively significant impacts. No significant site specific or cumulative impacts have been identified. The projects are consistent with the actions and impacts anticipated in the 2008 Sierra RMP.

8) *The degree to which the action may adversely affect National Historic Register listed or eligible to be listed sites or may cause loss or destruction of significant scientific, cultural or historical resources.* The project areas do not include any sites listed on the National Register of Historic Places or sites known to be eligible for listing. The action will not result in the loss or destruction of significant scientific, cultural or historical resources.

9) *The degree to which the action may adversely affect ESA listed species or critical habitat.* No ESA listed species (or their habitat) are known to occur in the project areas.

10) *Whether the action threatens a violation of environmental protection law or requirements.* There is no indication that the proposed projects will result in actions that will threaten such a violation.

/s/ William S. Haigh
Field Manager, BLM Mother Lode Field Office

06/30/10
Date



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EA Number: CA-180-10-46

Proposed Action: 2010 Abandoned Mine Lands Backfill Projects

Location: Six sites in Nevada, Calaveras, Tuolumne and Mariposa Counties. Refer to Figure 1. The Badger Hill and Cement Hill sites are shown in Figure 2, the Mountain Mizery and Green sites are in Figure 3 and the Josephine and Rainbow sites are in Figure 4. Legal descriptions of the lands involved are listed in Table 1.

1.0 Purpose of and Need for Action

1.1 Need for Action

Field inspections of public lands in the Mother Lode Field Office management area have verified six abandoned mine land (AML) sites with significant physical safety hazards located within a quarter-mile of populated places. The sites are hazardous to nearby residences and to the general public. Hazardous features within these sites include 10 shafts, one steep-walled pit with a declined drift that connects the pit to an adjacent shaft, and two adits. These features are candidates for hazards abatement through the use of mechanized earth-moving equipment. Another purpose for the proposed action is to stimulate the local economy. Funding for these projects is provided by the American Recovery and Reinvestment Act of 2009. Local contractors would be paid to complete hazards abatement work at four of these AML sites.

1.2 Conformance with Applicable Land Use Plans

The proposed action complies with the 2008 Sierra Resource Management Plan (RMP) for the BLM Folsom Field Office. Refer to the RMP Record of Decision 2.18, page 36.

2.0 Proposed Action and Alternatives

2.1 Proposed Action

The proposed action is to backfill 10 vertical shafts, one deep pit and one adit portal at six sites. Bulldozers would be used to backfill the shafts at the Green, Josephine and Rainbow sites. Excavators and front-end loaders would be used to backfill the shaft and pit at Badger Hill, the shaft at Cement Hill, and the shaft and declined adit at Mountain Mizery. Cobbles would be used to fill the bottom half of the Cement Hill shaft and fill material from off site may be used to help fill the larger of the two Rainbow shafts. The deep pit and large shaft at the Badger Hill and Rainbow sites would be backfilled and the walls back-sloped to a grade of no steeper than 1:1 (horizontal to vertical). After the declined adit at the Mountain Mizery site is backfilled, a bat culvert would be installed in an opening left for bat habitat in the upper adit. Refer to Table 1 for detailed descriptions of work proposed at each site.

Figure 1. Map of AML Backfill Projects

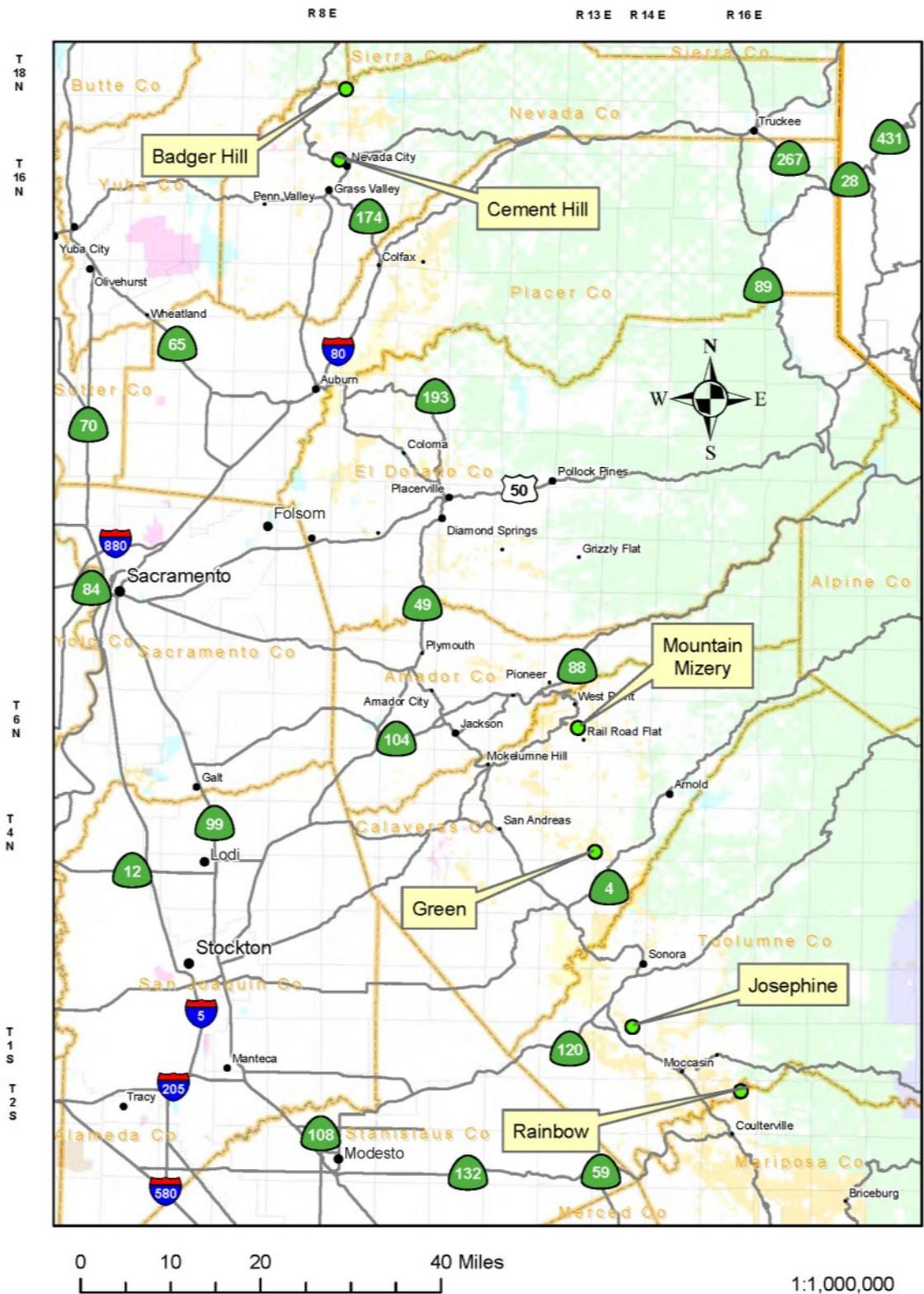


Figure 2. Badger Hill and Cement Hill AML Sites



Figure 3. Mountain Mizery and Green AML Sites

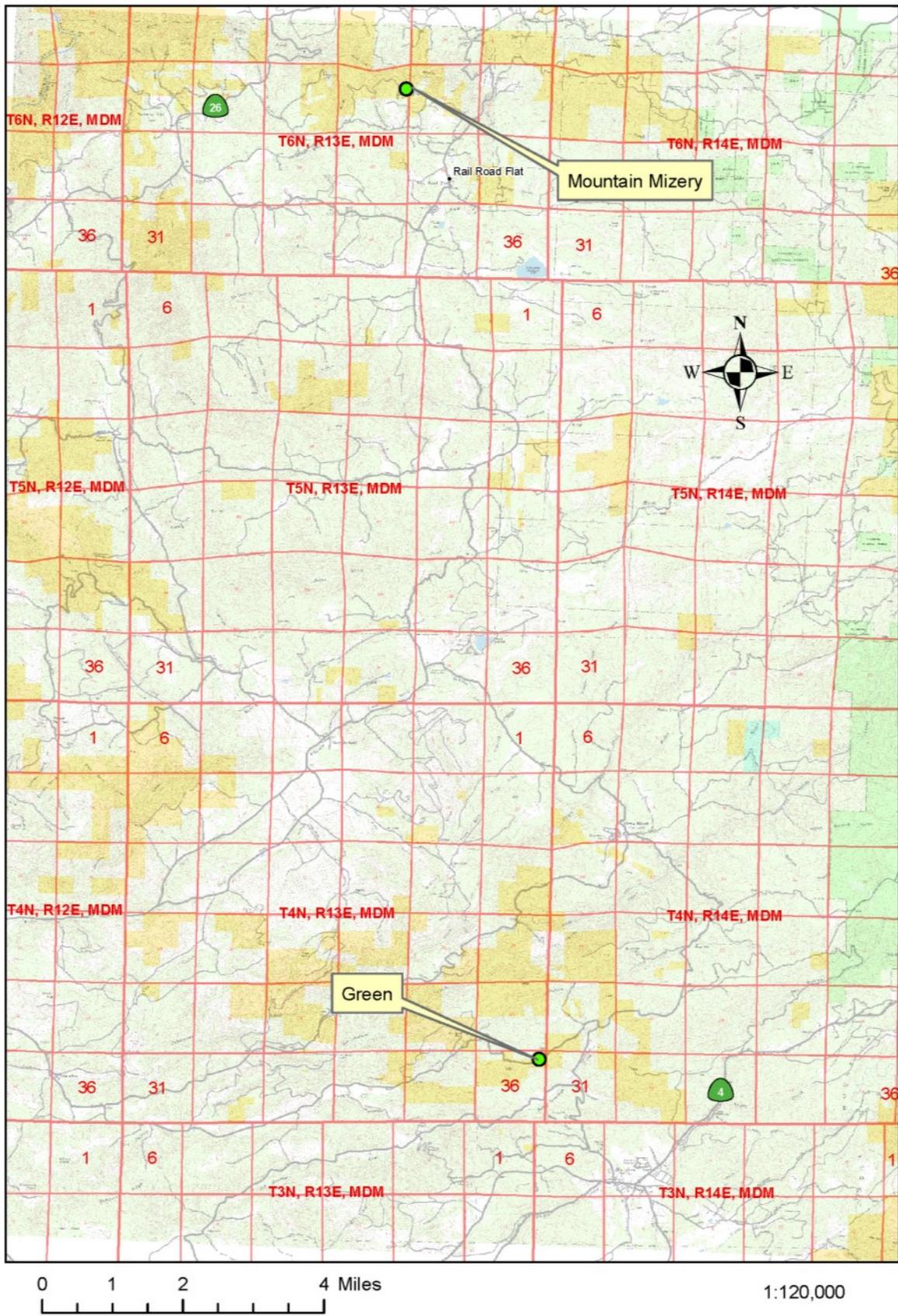


Figure 4. Josephine and Rainbow AML Sites

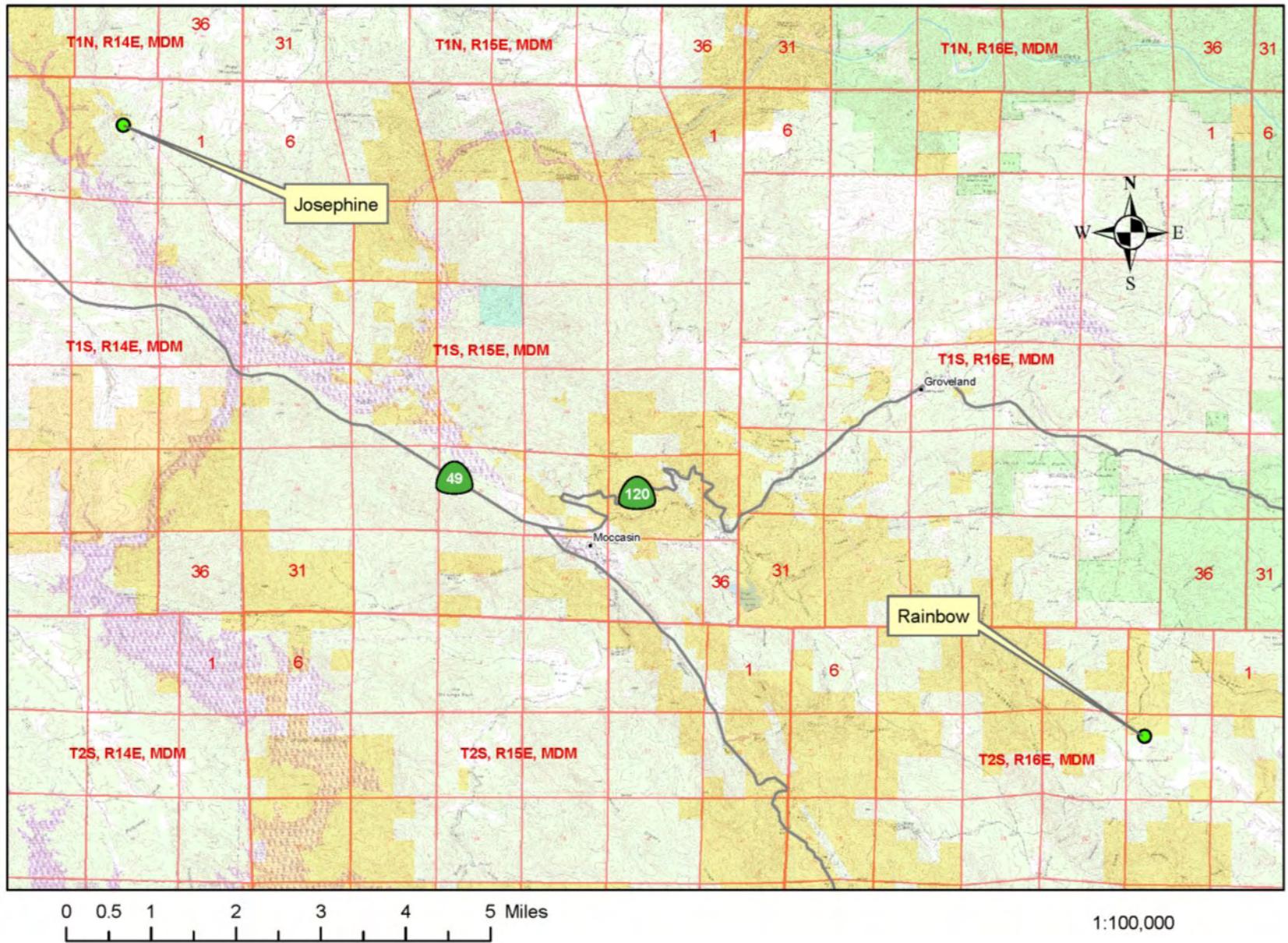


Table 1.
AML Physical Hazards Abatement – 2010 Backfill Projects
BLM Mother Lode Field Office

AML Site	Location (M.D.M.)	Hazardous Features	Abatement Work Requiring Use Of Mechanized Earth Moving Equipment
Badger Hill AMSC 2209	T. 18 N. R. 8 E. Sec. 36	One shaft and an adjoining steep-walled pit have been abandoned in the Badger Hill hydraulic mine four miles east of North San Juan. These are lode prospects developed after hydraulic mining ceased. The shaft has a portal opening of 8ft. x 10ft. and is 30-40 feet deep. The pit is about 20 feet deep. A declined drift from the pit floor intercepts the shaft.	About 400 cubic yards of material would be used to backfill the shaft, pit and declined drift using rubber-tracked excavator and rubber-tired loader. Pit slopes would be backfilled to a grade of 1:1. Material would be taken from a waste rock pile and from hydraulic mine tailings west and northeast of the shaft. If needed, dirt and tailings would also be excavated and hauled from a site south of the shaft at the edge of the hydraulic mine. Up to one acre of surface disturbance would result from this project.
Cement Hill AMSC 13161	T. 16 N. R. 8 E. Sec. 1	One water-filled shaft abandoned along a public-private land boundary on the north side of Nevada City. This shaft was driven through a volcanic cap that overlies gold-bearing Tertiary gravels near a drift mine. The portal is about 30ft. x 15ft. and the depth is about 20 feet. Surface waters drain from the north into the shaft during winter and spring.	The bottom ten feet of the shaft would be filled with cobbles delivered to the site by dump truck and hauled and dumped into the shaft by rubber-tired backhoe-loader. Manzanita and small oaks would be cut down to provide loader access a short distance from a dirt road that crosses the land boundary just east of the shaft. The backhoe bucket would then be used to backfill the shaft using dirt and waste rock adjacent to the portal, covering the boulders and filling the shaft to the level of the lower (northern) rim. Less than a quarter of an acre of surface disturbance would result from this project.
Mountain Mizery AMSC 24166	T. 6 N. R. 13 E. Sec. 22	One shaft and two adits were abandoned about two miles north of Railroad Flat near Indian River Road. The adits, an upper adit and a declined adit, share one portal that is 10ft. x 15ft. high. The shaft portal is about 9ft. x 3ft. with a depth of 12 to 15 feet.	Using a tracked excavator, the shaft and the declined adit would be backfilled with waste rock and dirt from the immediate vicinity of the portals. Because the upper adit is habitat for bats, a bat culvert will be installed on top of the fill material used to backfill the declined adit. Less than a quarter of an acre of surface disturbance would result from this project.
Green AMSC 20147	T. 4 N. R. 13 E. Sec. 36	Three shafts abandoned along Esmeralda Road about two miles northwest of Murphys. The portals are 4-10ft. x 10-20ft. in size and depths are from 10 to 30 feet.	Hazards abatement would be by backfilling the shafts using a dozer. Surface soils, regolith and waste rock adjacent to the shafts would be excavated and pushed into the shafts. Up to one acre of surface disturbance would result from this project.

AML Site	Location (M.D.M.)	Hazardous Features	Abatement Work Requiring Use Of Mechanized Earth Moving Equipment
Josephine AMSC 12941	T. 1 S. R. 14 E. Sec. 2	Two shafts were abandoned about five miles south of Jamestown along Jacksonville Road. The portals are about 15 feet in diameter with depths of 15 and 50 feet.	Using a bull dozer, the shafts would be backfilled with soil, regolith and waste rock immediately adjacent to the portals. Up to a half of an acre of surface disturbance would result from this project.
Rainbow AMSC 20127	T. 2 S. R. 16 E. Sec. 11	Two shafts were abandoned about four miles northwest of Greeley Hill just north of Hursh Road. One shaft is 25ft. x 15ft. and about 40 feet deep. The other shaft has a collapsed portal with a small opening and a depth of 15 to 20 feet.	Using a bull dozer, the shafts would be backfilled with soil, regolith and waste rock immediately adjacent to the portals. The site of the smaller shaft would be re-contoured to a natural appearance. The larger shaft would be backfilled to form pit slopes no steeper than 1:1. If necessary, fill material would be hauled from off-site and dumped into the large shaft. Up to one acre of surface disturbance would result from this project.

Before a shaft or adit portal is backfilled, adjacent shrubs and small trees would be removed and pushed to the edge of the excavation area. Soil, regolith, waste rock from past mining operations, and bedrock adjacent to the portal would then be pushed into the shaft or adit portal and compacted. Areas cleared of vegetation would be water-barred as needed to control post-project erosion. A quarter of an acre to at most one acre of surface disturbance at each site would result. The surface disturbance resulting from the proposed action would total less than four acres. Because the proposed action would produce relatively small areas of disturbance, natural re-vegetation is expected to provide sufficient ground cover. The project areas would be periodically monitored to ensure rehabilitation of impacted sites.

The heavy equipment would access the six AML sites using existing routes or by walking the equipment overland from existing roads. There would be no construction of new access roads. The work is scheduled for completion by September 30, 2010.

2.2 Project Design Features

2.2.1 Wildfire Prevention

To minimize the risk of wildfires, all earth-moving equipment used on these projects would be equipped with spark arresters. Other vehicles driven to the sites would not be parked where vegetation may come in contact with exhaust systems and catalytic converters. Should BLM issue a Stage 2 Fire Restrictions notice during times of extreme fire danger, dozer and excavator operations would not be allowed between 11:00 am and 5:00 pm.

2.2.2 Preventing the Spread of Invasive, Non-Native Weeds

To prevent the introduction of invasive/nonnative plant species (weeds), any earth moving equipment to be used on a project would be cleaned of adhering soil and vegetation before entering each project area. Weed-free fill material from off site may be used to fill shafts using dump truck and frontend loader; however, the sources of fill material must be inspected and certified weed-free. The following site-specific measures would be taken to minimize the likelihood of weed spread:

Cement Hill

A substantial patch of Scotch broom was observed southwest of the western hazardous feature that would be backfilled. Equipment would be accessing this site from the east, would be used outside of this patch of broom, and would not disturb a 15-foot buffer around the broom patch where substantial Scotch broom seed is likely to occur.

Badger Hill

This area is heavily infested with Scotch broom. Movement of seed within the project area is not a concern because broom is so widely distributed already. However, heavy equipment working on this project would be working among broom plants and in soils with substantial broom seed. Because there is a high potential for the movement of broom seed to offsite locations, equipment used on site would be cleaned before it leaves the project area. When the equipment reaches the base of the access road by the edge of the broom population, it would be cleaned of adhering vegetation and soil.

Josephine

An area of bulbous bluegrass occurs on private land along the dirt road south of the project area. The project area is confined to public land, so the potential for spreading this species is small. However, the contactor would be instructed not to use this road on private land, even if the landowner was to grant permission. Use of this road would have the potential to cause the transport of vegetative propagules of bulbous bluegrass, an increasingly prominent weed species.

2.2.3 Wildlife Protection Measures

Based on field examinations and out flight surveys, the upper adit at the Mountain Mizery site is used by bats. To minimize disturbance to bats, the use of an excavator to backfill the shaft and declined adit and the installation of a bat culvert at the upper adit would not be scheduled during maternity and winter hibernation periods. To avoid disturbing bats at this site during these periods, hazards abatement work at this site would be conducted only during the months of February, March, September and October. Barn owls are protected under the Migratory Bird Treaty Act of 1918 and have been observed using one of the Josephine shafts. In the western foothills of the Sierra Nevada, barn owls nest in shafts from March 1 to August 31. The Josephine shafts would be backfilled only during times of the year that fall outside of this nesting period.

2.2.4 Timber Resources

To minimize the impact on trees located near shaft and adit portals, no dozer or excavator work that would cause surface disturbance inside the drip-lines of trees having a diameter of six or more inches is allowed. Where a tree of this size is immediately adjacent to a mine portal or a source of backfill material and surface disturbance inside the drip line cannot be avoided, care would be taken to minimize disturbance to the root system during the backfill operation.

2.2.5 Cultural Resources

At the Badger Hill AML project area, the heavy equipment operator is not to work south of the southern-most potential source of fill material at the edge of the hydraulic mine (refer to Table 1). There are cultural resources beyond this area on BLM-administered land that have not been evaluated and are not to be affected by the proposed action. Backfill operations would not be allowed south of the designated project area.

2.3 No Action

Under the no action alternative, the shafts, pit and adits would be left open and no abatement of the physical safety hazards would be provided.

2.4 Alternatives Considered but Eliminated from Detailed Analysis

Other options for the abatement of AML physical safety hazards were considered. These include using polyurethane foam (PUF) to plug shaft and adit portals, bolting geomesh (high-tech chain link cover) to adit portals, and constructing fence enclosures. Although less surface area would be disturbed, using PUF or geomesh would cost substantially more than backfilling with a dozer or excavator. Geomesh and PUF are less permanent than a backfill closure and can be vandalized. Fencing would require monitoring and maintenance and would not prevent entry into shafts, pit or adits by individuals determined to gain access. Fencing would not reduce BLM's liability associated with hazardous AML features.

3.0 Affected Environment

Several elements of the environment are subject to additional requirements specified in statute, regulation, or executive order. Refer to the 2008 NEPA Handbook H-1790-1, Appendix 1, page 139. Of the elements listed in the NEPA Handbook, the following have been determined to be unaffected by the proposed action: air quality, fish habitat, rangelands, threatened or endangered species, hazardous or solid wastes, water quality, wild and scenic rivers, wilderness, environmental justice, floodplains and wetlands/riparian zones. BLM has also determined that recreational and visual resources and Areas of Critical Environmental Concern would not be affected by the proposed action.

The project areas are in chaparral, conifer forests and oak woodlands of the Sierra foothills. A BLM botanist surveyed the six AML sites in June of 2009 and in April, May and June of 2010. Refer to the Abandoned Mine Site Cleanup (AMSC) files for site-specific descriptions of soils and vegetation contained in his Botanical Resource Inventory Reports. Scotch broom, an invasive, non-native species occurs at the Badger Hill site. Refer to EA section 2.2.2. No federally threatened or endangered (T&E) plant species occur in areas that would be affected by the proposed action.

Many of the AML sites in the Mother Lode Field Office management area were reported by BLM foresters during the cruising of timber resources in the 1970s and 1980s. There are ponderosa pine, Douglas fir and incense cedar trees in the vicinity of the proposed dozer and excavator operations but merchantable trees would be avoided (EA section 2.2.4). Merchantable oak for firewood has a diameter (at average breast height or ABH) of at least six inches. For conifers the minimum ABH diameter is twelve inches. Some smaller trees of four to six inches ABH diameter to three inches at the top would be downed during dozer and excavator operations. These trees may be a resource for firewood.

In 2006 and 2009, barn owls were observed by BLM staff in the southeastern Josephine shaft. In June of 2009 and in May and June of 2010 the other sites were examined in the field a BLM wildlife biologist. The Josephine is the only AML site under the proposed action where migratory birds were found. Backfill operations at this site would not be conducted during the nesting period of March 1 to August 31. Refer to EA section 2.2.3. No T&E animal species occur in areas that would be affected by the proposed action.

In October of 2009 bat surveys of the Mountain Mizery adits were conducted by bat habitat specialists under contract. The upper adit is being used by bats. To prevent disturbance to bats during hibernation and maternity periods, excavator operations and bat culvert installation would only be conducted during the months of February, March, September and October. Refer to EA section 2.2.3.

In 2009 and 2010 the AML project areas were examined in the field by a BLM archaeologist. Each of these sites contains abandoned adits, shafts, or other mine workings associated with gold mining and prospecting probably before World War II. These mine workings are the target of the proposed action. BLM proposes to use heavy equipment to fill them in or otherwise destroy them because they are now potentially hazardous to the public. Because the targeted mine workings likely predate World War II, they are also considered cultural resources under BLM policy and, if determined to be historically significant, could be subject to consideration and management under Section 106 of the National Historic Preservation Act and its implementing regulations at 36 CFR 800.

The proposed AML project areas are within the Mother Lode, a region of California that experienced substantial gold mining beginning shortly after the discovery of gold at Coloma in 1848 and lasting until the USA's entrance into World War II (and, in some cases, after World War II). In fact, gold mining (and later logging) were historically the backbone of the region's economy. Evidence of mining activity—shafts, adits, and other mine workings—were the only type of cultural resources found within AML project areas and would be the only type of cultural resources that would be affected by the proposed action. Mining activity within the AML project areas was a part of the region's historic economy, an economy that supported towns like Nevada City, Railroad Flat, and Coulterville. For a more specific history and description of the cultural resources found within each AML project area, refer to the Cultural Resources Inventory Reports and recommendations by the BLM archaeologist in Appendix A. Resources with Native American affiliation were not found and would not be affected. It is very unlikely that the proposed action would negatively affect places to which Native Americans attach religious and cultural significance.

4.0 Environmental Effects

4.1 Impacts from the Proposed Action

Some vegetation would be removed from areas adjacent to the shafts and adits. The total area of disturbance at the six sites would be less than four acres. Trees located at the AML sites may be adversely impacted by dozer operations. The dozer blade or excavator bucket may cut tree roots and some branches hanging over excavation sites may become damaged. However, no significant loss of trees having a diameter of six or more inches is anticipated. Less than 3,000 cubic yards of material would be excavated from waste rock piles and from lands immediately adjacent to the shafts, adits and other workings targeted for hazard abatement at the six AML sites. Natural re-vegetation would be expected within a few growing seasons. Because these sites are located on gentle to moderately steep slopes with low potential for erosion, no increase in sediment load in nearby streams would result from the proposed action.

In 2009 and 2010 the project areas were surveyed in the field by a wildlife biologist, a botanist, an archaeologist and a geologist from the BLM Mother Lode Field Office. In addition, out flight, audio and interior surveys for bat use of the adits at the Mountain Mizery site were conducted under contract with local bat experts.

Only the upper adit of the Mountain Mizery site is being used by bats. Hazards abatement work at this site would only be conducted outside of bat maternity and hibernation periods. Therefore, the proposed action would not result in adverse impacts to bats. Nesting barn owls were observed at the southeastern Josephine shaft. No other migratory birds were observed at the six sites targeted for hazards abatement. Because dozer backfilling at the Josephine site would only be conducted outside of the barn owl nesting period (March 1 to August 31), there would be no adverse impacts to barn owls or other migratory birds. No T&E or other special status species or their habitats were observed at the project sites. No impacts to these species would result from the proposed action.

Field surveys for invasive/nonnative weeds were conducted by a BLM botanist. Scotch broom occurs at the Badger Hill and Cement Hill sites. Bulbous bluegrass was observed on private land close to the Josephine site. No weeds were observed at the other AML sites. In order to prevent the introduction of weeds to the six AML sites or the spread of Scotch broom from the Badger Hill site, measures would be taken as described in the Project Design Features section of this EA (2.2.2). With the implementation of these mitigating measures, the proposed action should make little or no contribution to the spread of weeds.

A BLM archaeologist has conducted cultural resource studies to help BLM meet its obligations under Section 106 of the National Historic Preservation Act. Various adits, shafts, and other mining-related cultural resources were identified within the AML project areas. These resources are the target of the proposed AML hazards abatement projects and would likely be severely damaged during project implementation. However, all of the resources identified were recommended to be not eligible for inclusion in the National Register of Historic Places. The proposal would not affect significant cultural properties. Of note, the cultural resources studies conducted by BLM did not include Native American consultation. It is very unlikely that the proposed action would affect places Native Americans attach religious and cultural significance. Please refer to the Cultural Resource Inventory Reports and recommendations in Appendix A.

4.2 Impacts from the No Action Alternative

The environmental consequence of choosing the no action alternative would be the continued threat to the health and safety of users of the public lands in the vicinity of these AML sites.

4.3 Cumulative Impacts

Cumulative impacts are not expected from the proposed action. Mining-related cultural resources would be destroyed but they have been deemed not historically significant. They are considered ubiquitous in the region. Minor short-term impacts such as the removal of vegetation and disturbance/compaction of soil would not result in cumulative impacts to soils, water resources, or vegetation at the larger watershed scale.

5.0 Agencies and Persons Consulted

5.1 Agencies Consulted

No other federal, state or local agencies were consulted during the preparation of this EA.

5.2 BLM Interdisciplinary Team

- Tim Carroll, Geologist, AML program coordinator and lead writer of EA
- James Barnes, Archaeologist, planning and environmental coordinator
- Peggy Cranston, Wildlife Biologist
- Al Franklin, Botanist

5.3 Adjacent Land Owners

- Lana and Coda Smith
- Bill and Stevie Sheatsley
- Juanita Hursh

5.4 BLM Reviewers

<i>/s/ Tim Carroll</i>	<i>6/30/10</i>
EA Author/AML project lead	Date
<i>/s/ Albert Franklin</i>	<i>6/30/10</i>
Botany	Date
<i>/s/ Peggy Cranston</i>	<i>6/30/10</i>
Wildlife	Date
<i>/s/ James Barnes</i>	<i>6/30/10</i>
NEPA coordinator, Cultural Resources	Date

5.5 Availability of Document and Comment Procedures

This EA is posted on the Mother Lode Field Office's website (<http://www.ca.blm.gov/motherlode>) under NEPA Documents and is available for review by the public for a 15-day period. Printed copies are available upon request. Comments should be sent to the BLM at 5152 Hillside Circle, El Dorado Hills, CA 95762 or emailed to us at: tcarrroll@blm.gov.

Appendix A.

Refer to Cultural Resources Inventory Reports in the Abandoned Mine Site Cleanup (AMSC) files AMSC 2209 (Badger Hill), AMSC 13161 (Cement Hill), AMSC 24166 (Mountain Mizery), AMSC 20147 (Green), AMSC 12941 (Josephine) and AMSC 20127 (Rainbow).

Please note: Web version - Appendix A is not included. For information on the cultural resources analysis conducted for the proposed action, email our archaeologist James Barnes, jjbarnes@blm.gov.