



United States Department of the Interior



BUREAU OF LAND MANAGEMENT

Mother Lode Field Office

5152 Hillsdale Circle

El Dorado Hills, CA 95762

www.ca.blm.gov/motherlode

EA Number: CA-180-11-34

Proposed Action: 2011 Abandoned Mine Lands Backfill Projects

Location: Five sites in Tuolumne County. Refer to Figure 1. Shown in Figures 2 through 6 (respectively) are the John Royal, Eureka Plumbago, John Donkey SE, Olsen and Alhambra AML sites. 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 five 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 consist of three shafts, one sinkhole 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 hired to complete hazards abatement work at 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.

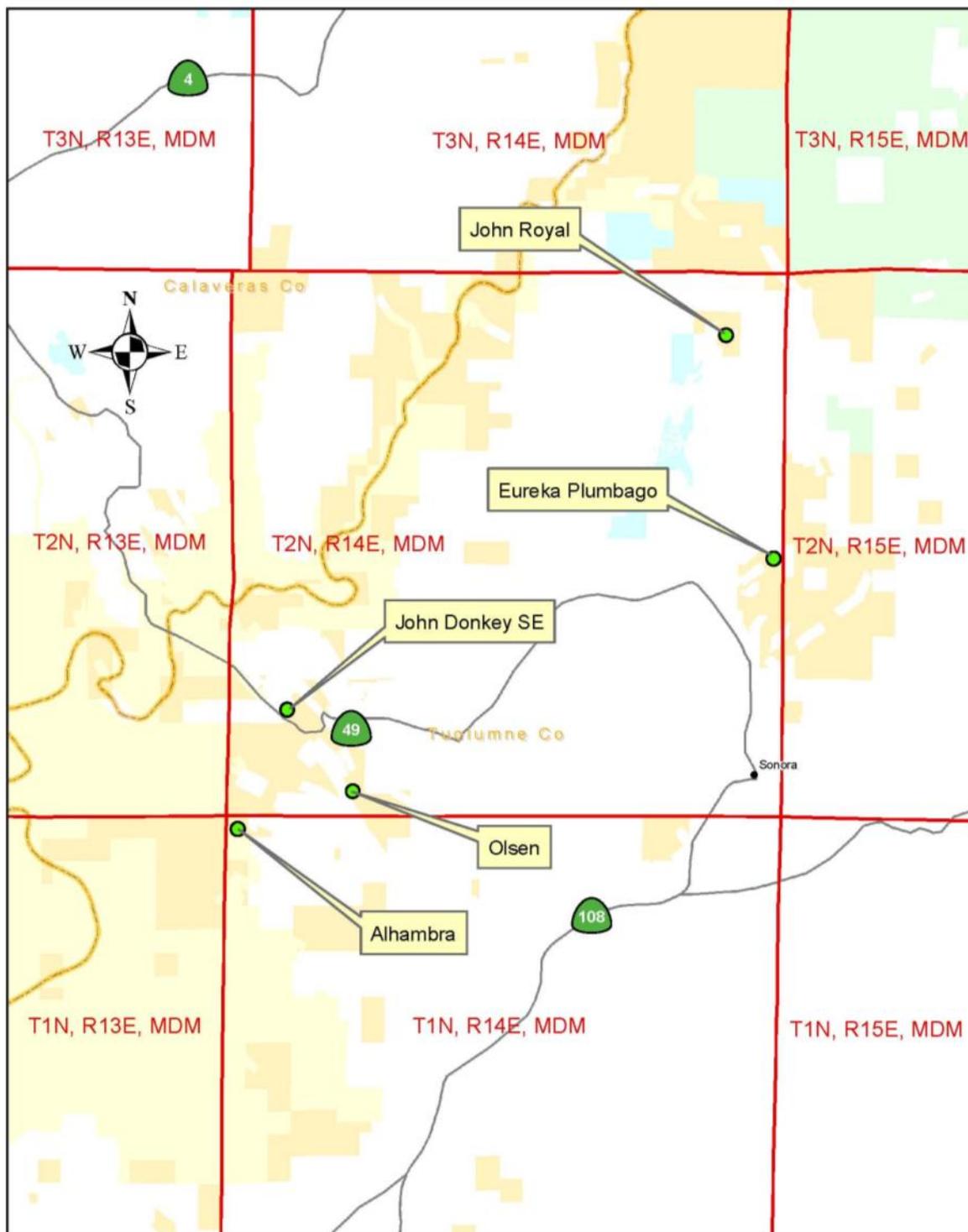
2.0 Proposed Action and Alternatives

2.1 Proposed Action

Bulldozers, excavators and/or front-end loaders would be used to backfill three vertical shafts, one sinkhole and two adit portals at five AML sites. At the John Royal, rock would be hauled in from an off-site commercial or private source (not from BLM land) and dumped into the sinkhole. Surface soil material adjacent to the sinkhole would then be used to cover the rock. Refer to Table 1 for detailed descriptions of work proposed at each site.

Before a shaft or adit is backfilled, adjacent shrubs and small trees may 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 portal and compacted. Areas cleared of vegetation would be water-barred as needed to control post-project erosion. At most a quarter of an acre of surface disturbance at each site would result. Because there would only be about one acre of surface disturbance, natural re-vegetation is expected to provide sufficient ground cover. The sites would be periodically monitored to ensure rehabilitation of impacted areas.

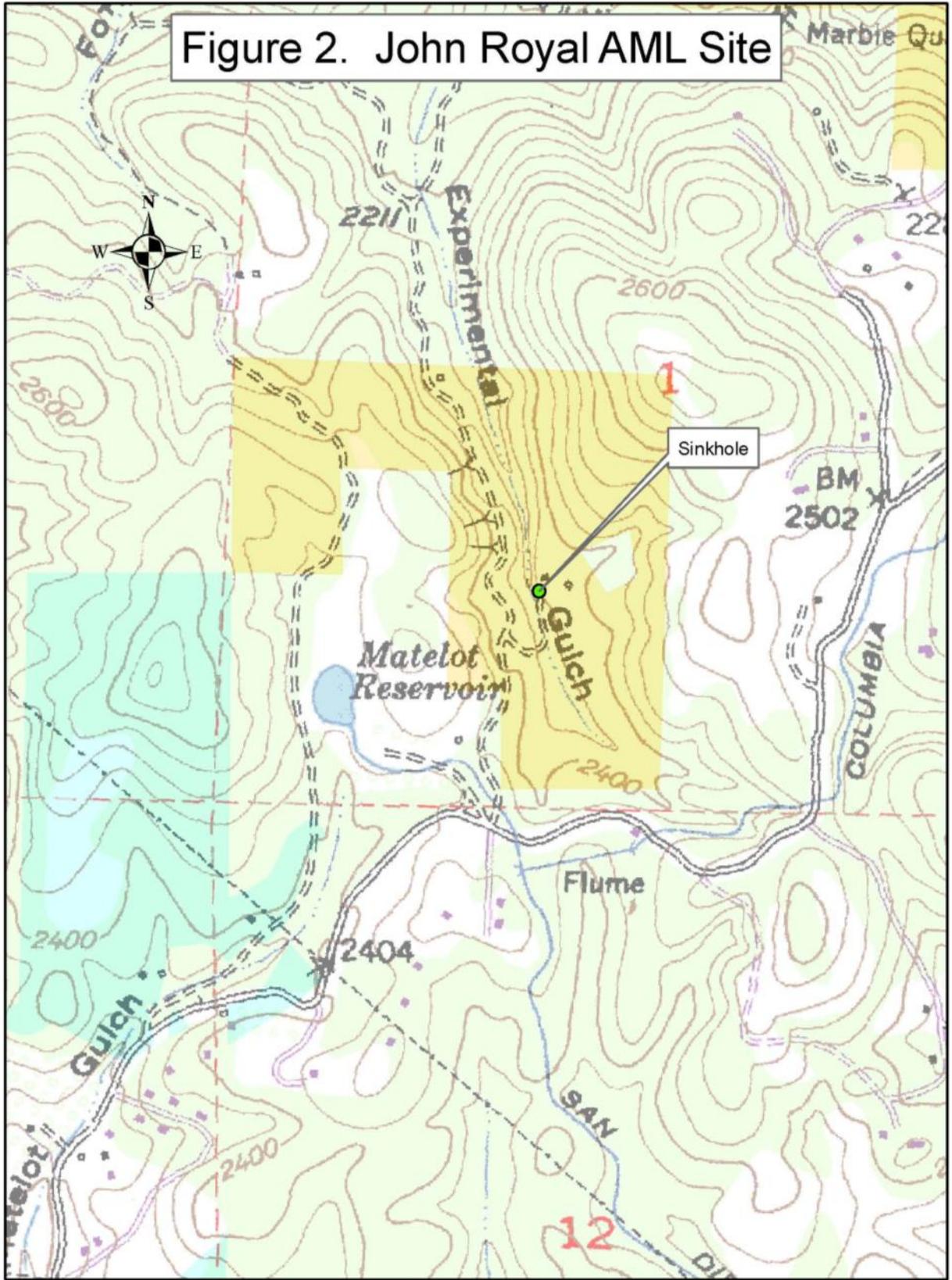
Figure 1. Map of AML Backfill Projects



0 0.5 1 2 Miles

1:100,000

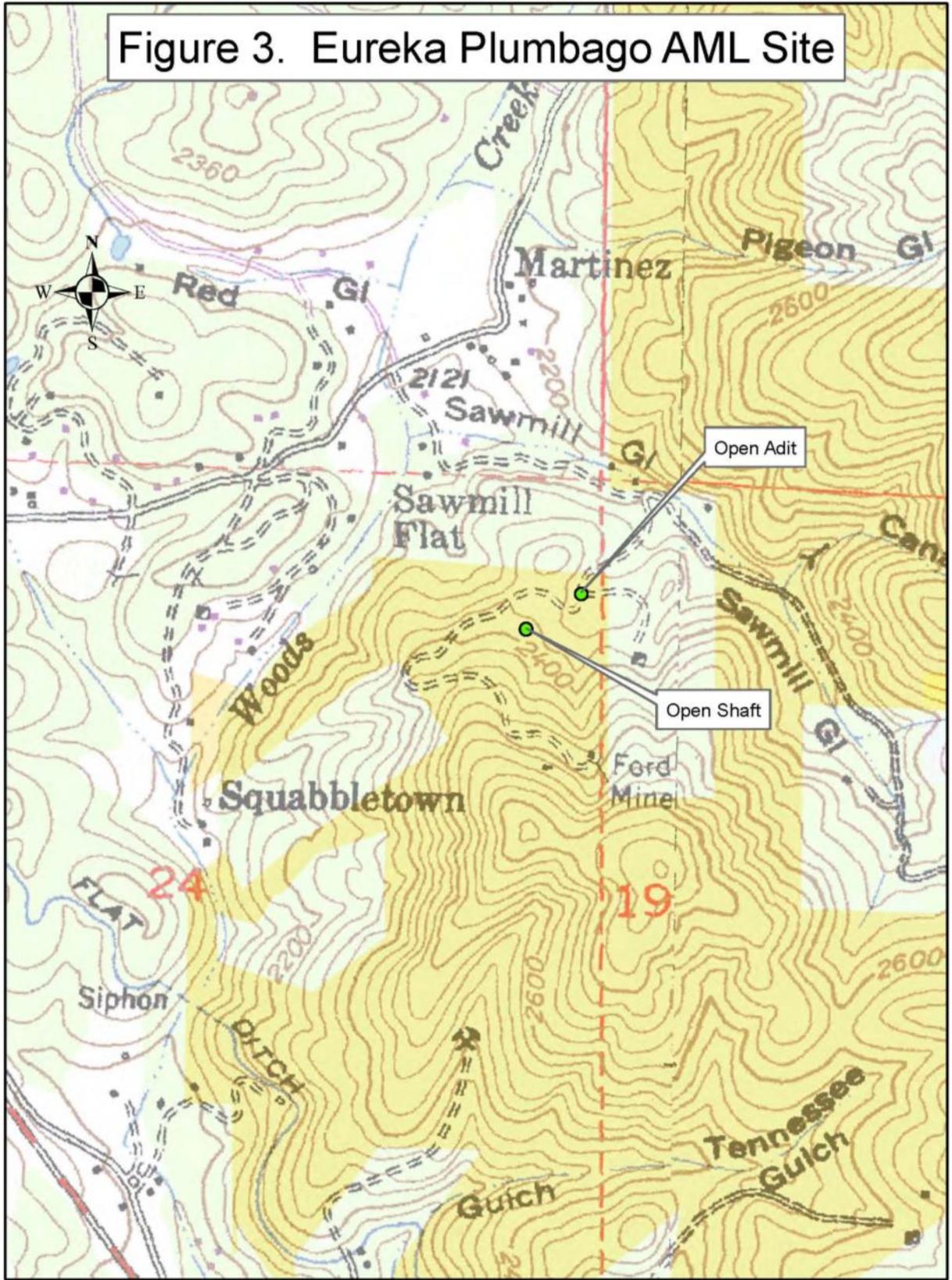
Figure 2. John Royal AML Site



0 495 990 1,980 Feet 1:10,000

10 Feb 2011

Figure 3. Eureka Plumbago AML Site



0 495 990 1,980 Feet 1:10,000

18 Nov 2010

Figure 4. John Donkey SE AML Site

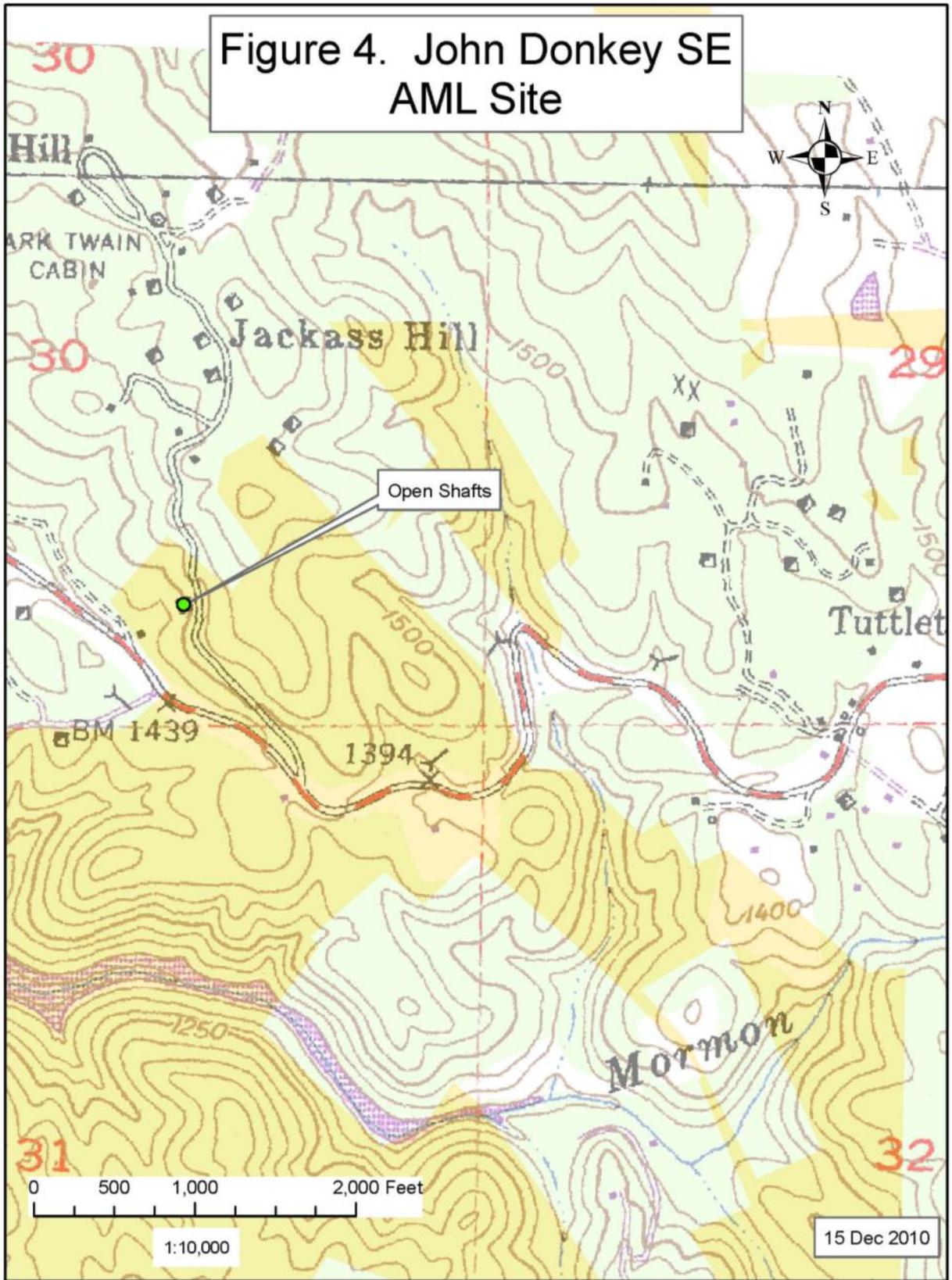


Figure 5. Olsen AML Site

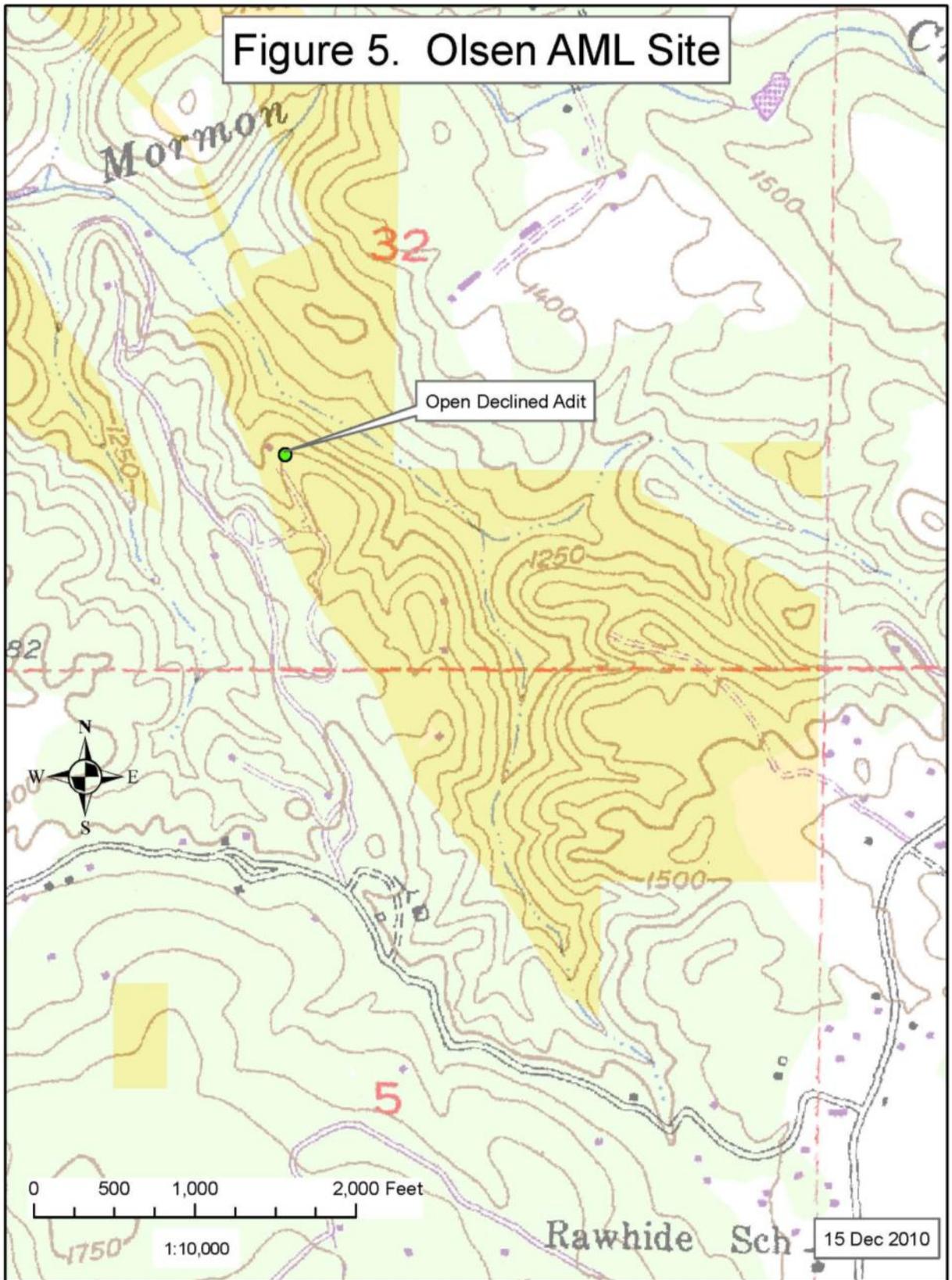
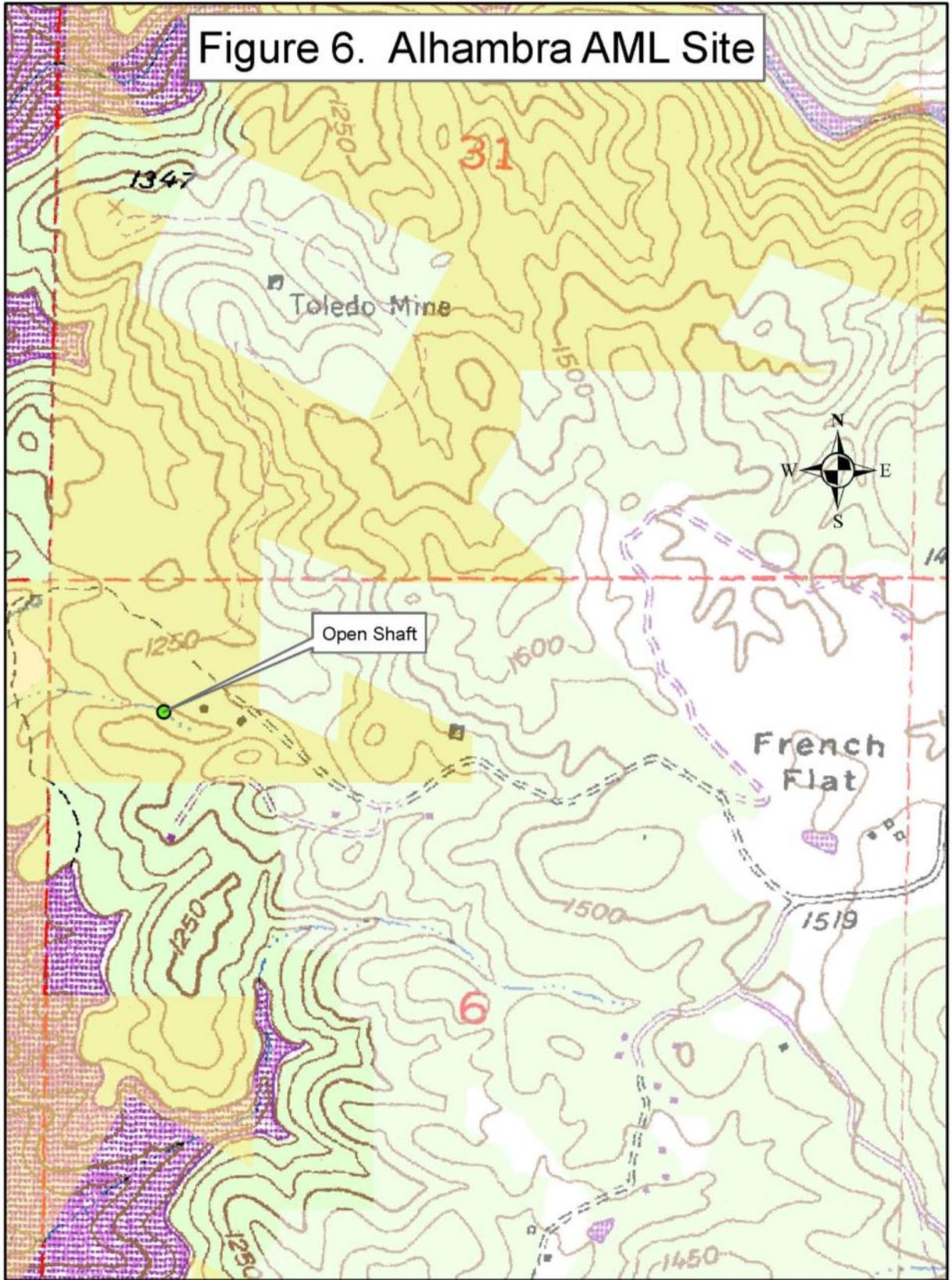


Figure 6. Alhambra AML Site



0 500 1,000 2,000 Feet

1:10,000

15 DEC 2010

Table 1.
AML Physical Hazards Abatement – 2011 Backfill Projects
BLM Mother Lode Field Office

AML Site	Location (M.D.M.)	Hazardous Features	Abatement Work Requiring Use Of Mechanized Earth Moving Equipment
John Royal AMSC 21537	T. 2 N. R. 14 E. Sec. 1	Sinkhole caused by subsidence from collapse of underground workings about a mile northeast of Columbia. The hole is 15 feet wide, 26 feet long and 15 feet deep.	About 200 cubic yards of material would be used to backfill the sinkhole using a dump truck and earth-moving equipment such as a dozer, a tracked or rubber tired excavator and/or a front-end loader. The main source of fill material would be rock hauled in from a certified weed-free commercial off-site source (i.e., a rock yard not on BLM land) which would then be covered by surface soils and regolith adjacent to the collapse feature. The soil cover would be about two feet deep. From Experimental Mine Road and a spur road to a residence on adjacent private property, a short off-road route provides access to the sinkhole. No new roads would be constructed. Less than a quarter of an acre of surface disturbance would result from this project.
Eureka Plumbago AMSC 32669	T. 2 N. R. 14 E. Sec. 24	A shaft and an adit were abandoned two miles north of Sonora. The shaft has an 8 foot by 20 foot portal and is 15 feet deep. The adit has a partially collapsed portal and is 10 to 20 feet deep.	About 100 to 200 cubic yards of material would be used to backfill the shaft and block the adit portal using earth-moving equipment such as a dozer, a tracked or rubber tired excavator and/or a front-end loader. The source of fill material would be the surface soils, regolith and waste rock adjacent to the portals. From Marcus Lane, existing dirt roads provide access plus a short off-road route to the shaft. No new roads would be constructed. About a quarter of an acre of surface disturbance would result from this project.
John Donkey SE AMSC 32462	T. 2 N. R. 14 E. Sec. 30	Two shafts have been abandoned near Jackass Hill Road about a mile west of Tuttletown. Portal openings are six to eight feet wide and the shafts are 20 to 30 feet deep.	About 200 cubic yards of material would be used to backfill the shafts using earth-moving equipment such as a dozer, a tracked or rubber tired excavator and/or a front-end loader. The source of fill material would be the surface soils, regolith and waste rock adjacent to the portals. A spur road to one shaft and a short off-road route to the other provide access from Jackass Hill Road. No new roads will be constructed. About a quarter of an acre of surface disturbance would result from this project.

Table 1. (continued)

AML Site	Location (M.D.M.)	Hazardous Features	Abatement Work Requiring Use Of Mechanized Earth Moving Equipment
Olsen AMSC 33317	T. 2 N. R. 14 E. Sec. 32	One declined adit was abandoned about one mile south of Tuttle town. The adit is completely filled with water during the winter rainy season. The portal is five feet wide and seven feet high. Depth is unknown but likely more than 25 feet.	Up to 100 cubic yards of material would be used to backfill the declined adit using earth-moving equipment such as a dozer, a tracked or rubber tired excavator and/or a front-end loader. The source of fill material would be the surface soils, regolith and waste rock adjacent to the portal. From Shea Road, existing dirt roads provide access to the adit. Less than a quarter of an acre of surface disturbance would result from this project.
Alhambra AMSC 33318	T. 1 N. R. 14 E. Sec. 6	One water-filled shaft was abandoned about a mile and a half southwest of Tuttle town. The portal is six to seven feet square and depth is unknown but likely more than 20 feet.	About 100 cubic yards of material would be used to backfill the shaft using earth-moving equipment such as a dozer, a tracked or rubber tired excavator and/or a front-end loader. The source of fill material would be the surface soils, regolith and waste rock adjacent to the portal. From French Flat Road a short off-road route provides access to the shaft. No new roads would be constructed. Less than a quarter of an acre of surface disturbance would result from this project.

The heavy equipment would access the AML sites using existing routes or by walking the equipment overland from existing roads. Any dozer or excavator cuts/fills needed to enable safe access would be kept to a minimum. There would be no construction of new roads. The work is scheduled for completion by September 30, 2012.

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 front-end loader; however, the sources of fill material must be inspected and be certified weed-free. The following site-specific measures would be taken to minimize the likelihood of weed spread:

Eureka Plumbago

Disturbance to the Scotch broom patch just south of the shaft would not be allowed. Because a dozer operator may not be able to avoid disturbing Scotch broom while backfilling the shaft, an excavator should be used to lay back the walls and fill in the shaft leaving slopes no steeper than 1:1. Patches of Scotch broom occur along the access road. 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. After backfill operations are completed and before transporting equipment through the gate at Marcus Lane, where the access road widens just south of the gate the equipment would be brushed down to remove adhering vegetation and soil.

John Donkey SE

This area is moderately infested with Italian thistle. Equipment used to backfill shafts would be brushed down to remove adhering vegetation and soil before leaving BLM public lands.

Olsen

Ailanthus (Tree of Heaven) grows on a waste rock backfill source near the adit. Backfill operations would remove many of these invasive plants. Bulbous bluegrass grows on site and along the access road. To prevent the spread of vegetative propagules of this increasingly prominent weed species, equipment used on site would be brushed down to remove adhering vegetation and soil before leaving BLM public lands.

Alhambra

Bulbous bluegrass grows in this project area. Equipment used on site would be brushed down to remove adhering vegetation and soil before leaving BLM public lands. The cul-de-sac at the western end of French Flat Road is a suitable location for the cleaning of equipment used in the project.

2.2.3 Wildlife Protection Measures

Based on field examinations, the shafts, adits and sinkhole do not have habitats that are suitable for use by bats. Although minor whitewash was seen in the southern shaft at the John Donkey SE site, no use of these features by owls or swallows was observed. No wildlife protection measures are proposed.

2.2.4 Timber Resources

To minimize the impact on trees within the project areas, no dozer or excavator work that would cause surface disturbance inside the drip-lines of trees having a diameter of six or more inches would be allowed except where a tree of this size is immediately adjacent to an adit or shaft portal or a source of backfill material. When surface disturbance inside the drip line cannot be avoided, care would be taken to minimize disturbance to the root system during the backfill operation. Some limbs and trunks of the interior live oak growing at the portal of the northern shaft of the John Donkey SE site would need to be cut down in order to enable access by dozer or excavator. For safety reasons, the ponderosa pine growing at the portal of the Eureka Plumbago adit may need to be removed before backfill operations begin.

2.2.5 Cultural Resources

At the Eureka Plumbago project area, a cultural resource is located just west of the shaft. No disturbance to this site is allowed. The resource would be flagged for avoidance. To minimize impacts to potential cultural resources at the Alhambra shaft, only the hillside east of the shaft would be used as a source of backfill material. Heavy equipment would operate only in areas examined and cleared by the BLM archaeologist

2.2.6 Erosion Control Measures

Improvements to the existing access road to the southern shaft at the John Donkey SE site may be required, such as cut and fill excavation work near Jackass Hill Road. The source of backfill material for the Alhambra shaft is on a moderately steep hillside. Erosion control measures such as water bars or installation of straw wattles would be required as needed for these and other areas of surface disturbance where moderately steep slopes are involved.

2.3 No Action

Under the no action alternative, the shafts, adits and sinkhole 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, installing bat gates or bat culverts and constructing fence enclosures. Although less surface area would be disturbed, the installation of PUF, geomesh or bat gates/culverts would cost substantially more than backfilling with a dozer or excavator. These options are less permanent than a backfill closure and can be vandalized. Bat gates or culverts would not be necessary due to the lack of

bat habitat. Fencing would require monitoring and maintenance, would not prevent entry by determined individuals, and 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 five AML sites in March and April of 2011. Refer to the Abandoned Mine Site Cleanup (AMSC) files for site-specific descriptions of soils and vegetation contained in her Botanical Resource Inventory Reports. Scotch broom, Italian thistle, Ailanthus and bulbous bluegrass grow at the Eureka Plumbago, John Donkey SE, Olsen and Alhambra sites (respectively). These are invasive, non-native plant species (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 with the exception of the ponderosa pine at the Eureka Plumbago adit, merchantable trees would be avoided (EA section 2.2.4). The minimum diameter at breast height (DBH) for merchantable conifers is twelve inches. Merchantable oak for firewood has an DBH of at least six inches. Smaller trees may be downed during dozer and excavator operations. Trees of four to six inches DBH diameter to three inches at the top may also be a firewood resource.

In 2009 and 2011 the AML sites were examined by BLM biologists. The features are not suitable for bat habitat and no migratory birds (swallows or owls) were observed within or in the vicinity of the adits or shafts. No special status animal species occur in areas that would be affected by the proposed action.

In 2010 and 2011 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 historic communities such as Columbia, Stent, and Tuttle town. 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, adits and sinkhole. The total area of disturbance at the five sites would be less than two acres. Trees located at the AML sites may be adversely impacted by dozer/excavator operations. The ponderosa pine at the Eureka Plumbago adit would be removed. The dozer blade or excavator bucket may cut tree roots and some branches hanging over excavation sites may be removed or damaged. However, no significant loss of trees having a diameter of six or more inches is anticipated. Less than 1,000 cubic yards of material would be excavated from waste rock piles and from lands immediately adjacent to the shafts, adits and sinkhole targeted for hazard abatement at the five AML sites. Natural re-vegetation would be expected within a few growing seasons. Because these sites are located on gentle to moderately steep slopes and erosion control measures would be implemented as needed, no increase in sediment load in nearby streams would result from the proposed action.

In 2009, 2010 and 2011 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.

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, Italian thistle, Ailanthus and bulbous bluegrass were found at the Eureka Plumbago, John Donkey SE, Olsen and Alhambra sites (respectively). Weeds were not observed in the area of concern at the John Royal site. In order to prevent the introduction to or spread of weeds from these project areas, 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 would not have a significant effect on the spread of weeds in this region.

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. At the Eureka Plumbago project area, a cultural resource is located just west of the shaft. No disturbance to this site is allowed. The resource would be flagged for avoidance. This project design feature (2.2.5) is built into the proposed action. As long as it is followed, 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

California Department of Conservation, Office of Mine Reclamation
Tuolumne County Department of Public Works

5.2 BLM Interdisciplinary Team

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

5.3 Adjacent Land Owners and Residents

- James Boone
- Perry Puccinelli
- Jimmie and Elizabeth Bennett

5.4 BLM Reviewers

<i>/s/ Timothy Carroll</i>	<i>5-16-11</i>
EA Author/AML project lead	Date
<i>/s/ Lauren Fety</i>	<i>5-16-11</i>
Botany	Date
<i>/s/ Peggy Cranston</i>	<i>5-16-11</i>
Wildlife	Date
<i>/s/ James Barnes</i>	<i>5-16-11</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: tcarroll@blm.gov.

Appendix A.

Refer to Cultural Resources Inventory Reports in the Abandoned Mine Site Cleanup (AMSC) files AMSC 21537 (John Royal), AMSC 32462 (John Donkey SE), AMSC 32699 (Eureka Plumbago), AMSC 33317 (Olsen) and AMSC 33318 (Alhambra).