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

Pine Grove and Buckhorn Ridge Road Understory Thin Project
(CA-180-15-24)
Finding of No Significant Impact
July 2015

It is my determination that this decision will not result in significant impacts to the quality of the human environment. Anticipated impacts are within the range of impacts addressed in the Sierra Resource Management Plan/Final Environmental Impact Statement. The proposed action does not constitute a major federal action having a significant effect on the human environment; therefore, an environmental impact statement is not necessary and will not be prepared. This conclusion is based on my consideration of CEQ's following criteria for significance (40 CFR §1508.27), regarding the context and intensity of the impacts described in the associated Environmental Assessment (EA) CA-180-15-24, and based on my understanding of the project:

1) Impacts can be both beneficial and adverse and a significant effect may exist regardless of the perceived balance of effects. Potential impacts of the proposed action include vegetation removal and temporary dust and smoke caused by pile burning and prescribed fire. However, none of these impacts would be significant at the local level or cumulatively because of the small scale of the proposed action.

2) The degree of the impact on public health or safety. No aspects of the proposed action have been identified as having the potential to significantly or adversely impact public health or safety. In fact, the proposed action is designed to help protect private property from wildfire, therefore, protecting public health and safety.

3) Unique characteristics of the geographic area. Environmental resources and visual resources are all typical for BLM-administered land within the west-central Sierra Nevada. Overall, implementation of the proposed action will enhance forest health.

4) The degree to which the effects on the quality of the human environment are likely to be highly controversial effects. No anticipated effects have been identified that are scientifically controversial. As a factor for determining whether or not to prepare a detailed environmental impact statement within the meaning of 40 C.F.R. § 1508.27(b)(4), "controversy" is not equated with "the existence of opposition to a use." *Northwest Environmental Defense Center v. Bonneville Power Administration*, 117 F.3d 1520, 1536 (9th Cir. 1997). "The term 'highly controversial' refers to instances in which 'a substantial dispute exists as to the size, nature, or effect of the major federal action rather than the mere existence of opposition to a use.'" *Hells Canyon Preservation Council v. Jacoby*, 9 F.Supp.2d 1216, 1242 (D. Or. 1998).

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. Fuels treatment using hand crews, a masticator, and/or prescribed burning within BLM-administered parcels in the west-central Sierra Nevada foothills is not precedent setting.

7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. No significant cumulative impacts have been identified. The proposed action is consistent with the actions and impacts anticipated in the Sierra Resource Management Plan and the Mother Lode Field Office Fire Management Plan.

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 proposed action will not affect cultural resources listed on or eligible for the National Register of Historic Places and would not cause 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) would be affected by the proposed action.

10) Whether the action threatens a violation of environmental protection law or requirements. There is no indication that the decision to move forward with the proposed action would result in actions that will threaten such a violation.

_____ _____

William S. Haigh Date
Field Manager, Mother Lode Field Office

United States Department of the Interior

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EA Number: CA-180-15-24

Project Name: Pine Grove / Buckhorn Ridge Road Understory Thin Project

Location:

Pine Grove project area: T. 7 N., R. 12 E., within sections 33 and 34, MDBM. Located on the BLM parcels along portions of Pine Grove Volcano Road, Crest View Drive, Moonlight Ridge Road and Mitchell Mine Road surrounding the community of Pine Grove within Amador County, CA (see attached project area map)

Buckhorn Ridge Road project area: T. 7 N., R. 13 E., within sections 20, 21 and 29, MDBM. Along Buckhorn Ridge Road and on the BLM parcel that is located north of Creekside Land and south of Sugar Pine Drive surrounding the community of Pioneer within Amador County, CA (see attached project area map)

1.0 Purpose of and Need for Action

1.1 Need for Action

The Bureau of Land Management's Mother Lode Field Office (BLM) administers scattered public lands throughout Amador County. Both the Pine Grove and the Buckhorn Ridge Road project areas were identified in 2014 as areas in need of fuels reduction by local residents and the local Amador Fire Safe Council (FSC). Forest fuel loads in the area have been untreated in the past leaving a high density of fuels. Rural homeowners rely on urban fire organizations such as the volunteer fire departments, and Cal-Fire for fire protection.

Many of the lands identified for treatment are adjacent to BLM managed parcels. Neither Pine Grove nor the Buckhorn Ridge project areas have experienced a natural fire regime for 100 years or more, and have missed several fire return intervals. Due to this both project areas contain aged shrub stands and large proportions of dead fuels. In many forest stands understory fuels have increased markedly, creating unhealthy forest conditions and making the probability that the areas will experience a catastrophic wildfire more likely. At the same time, the local communities have grown. There are numerous private residences in the area, some of them located in close proximity to or adjacent to the BLM parcels containing dense fuels.

In areas of dense rural residential settlement, homes can actually add to the fuel load available to a wildfire, increasing the size and magnitude of the fire. The private developments in the Pine Grove and Pioneer communities are surrounded by a scattered urban interface where parcels

range from 2.5 to 20 acres in size, much of which contains residential and some light commercial development.

Both project areas are considered to be wildland-urban interface (WUI) communities. WUI refers to the zone of transition between unoccupied land and human development. Communities that are within 0.5 miles (0.80 km) of the zone are included. These lands and communities adjacent to and surrounded by wildlands are at an increased risk of wildfires. This mix creates a true WUI problem where even the smallest fires with the most prompt emergency response could be catastrophic and result in structure loss. The increase in the WUI threat has been steep because of continued development and exposure of the communities. Members of the local communities and local state and county agencies are concerned about this situation and have been working with the BLM and Cal-Fire to improve forest health and reduce hazardous fuels within Amador County.

The Pine Grove project area is also of special concern because the proposed lands surround Pine Grove Volcano Road. Pine Grove Volcano Road is the primary corridor connecting the communities of Pine Grove and Volcano to the north. The road also provides critical access and egress for numerous community residents within the WUI boundary. A fire occurrence on these lands could cut off access for emergency responders and evacuees should the road be compromised. Due to limited firefighting resources, especially during the early stages of an expanding wildfire incident, high home density, and/or long response times, individual firefighting resources may not be able to reach the community in a timely manner should the road and the areas around it become compromised with fire. Dense fuels on the lands surrounding the road increase the risk of fire igniting along the road which could potentially cut off essential community access and evacuation.

As with the Pine Grove project area, the Buckhorn Ridge Road area is also of special concern because these lands surround numerous private residences. Buckhorn Ridge Road provides critical access and egress for numerous Pioneer community residents within the WUI boundary. As in the Pine Grove project area a fire occurrence on these lands could cut off access for emergency responders and evacuees should the road be compromised. Due to limited firefighting resources, especially during the early stages of an expanding wildfire incident, high home density, and/or long response times, individual firefighting resources may not be able to reach the community in a timely manner should the road and the areas around it become compromised with fire.

The proposed action to be analyzed in this EA would expand on, support and link past and current landscape projects in the Pine Grove and Pioneer areas to reduce hazardous fuels for local residents' safety. With this need in mind, the primary purpose of the proposed action is to reduce the fire danger on the public lands within the Amador County WUI through treatment of the lands on a landscape level.

1.2 Conformance with Applicable Land Use Plans

The proposed action—to reduce hazardous fuels on public land within the Amador County WUI—is consistent with the Sierra Resource Management Plan, approved in February 2008. The Sierra Resource Management Plan's Record of Decision (pages 15-16) gives BLM the goal of

establishing a cost-efficient fire management program commensurate with threats to life, property, public safety, and environmental resources. BLM's objectives for meeting these goals are to:

1. Reduce the risk of wildfire in WUI communities;
2. Reduce the risk of catastrophic wildfire through fuels management;
3. Use prescribed fire, mechanical, and biological treatments to reduce fuels and promote ecosystem diversity and resilience, control invasive species, reduce fuel hazard, improve wildlife habitat, increase water yield, and enhance watersheds.

The Mother Lode Field Office Fire Management Plan, approved in March 2011, gives the BLM various fire and fuels treatment objectives and strategies for specific lands under the BLM's administration. Specific objectives and strategies for this plan are the same as those listed above. The proposed action is consistent with these objectives and strategies.

2.0 Proposed Action and Alternatives

2.1 Proposed Action

Implementation would be carried out by the BLM and its partners through consultation with the Amador – El Dorado Unit and the Amador County FSC. The proposed BLM action is part of an ongoing large-scale fuels reduction project focusing on lands previously treated. The proposed action to be analyzed in this EA is to expand on, support and link past and current landscape projects in the areas. Treatments would take place between 2015 and 2025 and would ideally be conducted every three to five years. However, treatment may occur in any given year through 2025, based on prioritization of values at risk (such as private and personal property) and the ability to secure funding.

The objective of the proposed project is to reduce vegetative fuels within the identified units. There will be a phased approach on each of the project areas but each area will be treated individually and phases may occur at different times. Each project area has been broken into two areas of probable treatment methods including hand clearing and the possible use of mastication equipment. Phase/area priorities would be based on risk factors and available funding for work. See the attached map for the breakdown of treatment areas. In total, there would be 105.3 BLM acres treated in the Pine Grove area and 177.3 acres of treated BLM acres in the Buckhorn Ridge Road/Pioneer area. The total acre treated for both projects is 282.6. The proposed action would be followed by continued maintenance through 2025.

The objective for the first phase of work in each area would be to change the arrangement of fuels by cutting and thinning select vegetation using one of two methods. The first method of implementation would be the utilization of a hand crew (e.g., a BLM fuels crew, a Cal-Fire crew, a Hotshot crew, a BLM-selected contractor, etc.). Hand treatment would be accomplished by crews using chainsaws and other hand tools. Hand treatment is the preferred method of clearing/thinning.

In addition (or as an alternative) to hand treatments, mechanical treatments may be used in areas that are 150 feet from the centerline of any existing roads and would involve the use of

mechanized equipment to either cut or chip onsite. The mechanical equipment would be either rubber tired/tracked or steel track mounted chipper or masticator. Mechanical treatments would only be used on slopes less than 40 percent and only in the following parcels: the large Buckhorn parcel off Buckhorn Ridge Road and in the small parcel along Pine Grove Volcano Road as shown on the attached maps. Methods would be chosen and used solely or jointly based on changing topography and site specific features. The BLM Fuels Management Specialist would determine the specific treatment to be used.

During the first phase, dead and decadent stands of whiteleaf manzanita, buckbrush, deerbrush, and other shrubby vegetation would be cut and placed in piles to dry. Black and live oaks would be retained regardless of canopy position unless they constitute a potential ladder fuel. In these areas, nearly all black oaks less than 8 inches diameter at breast height (DBH) would be cut and placed in burn piles or offered up as woody biomass. Other broadleaf tree species such as madrone, tan oak, and dogwood would be left to create diversity unless they constitute a potential ladder fuel.

Douglas fir, ponderosa pine, incense-cedar, and other conifers less than 12 inches DBH would be cut and placed in piles or removed for woody biomass. The USDA Forest Service (FS) defines woody biomass as "the trees and woody plants, including limbs, tops, needles, leaves, and other woody parts, grown in a forest, woodland, or rangeland environment, that are the by-products of forest management." Some conifers less than 8 inches DBH would be retained to ensure species diversity and a full range of size and age classes are represented. Large conifers and groups of large conifers would be retained, with strategic clearing of potential ladder fuels around them to give them additional protection and to create some open gaps in the canopy. No conifers or other trees greater than 12 inches DBH would be removed to decrease overall stand density even if they are potential ladder fuels. They may be trimmed or pruned instead of removal to reduce the potential hazard.

A higher density of tree stems and canopy cover would be retained in moist drainages to prevent erosion. Moist drainages in the project include Pioneer Creek in the Buckhorn Ridge Road project area and the Grass Valley Creek in the Pine Grove project area. Defect trees (trees with flaws that reduce its structural strength), snags, and downed logs would be retained for wildlife to the extent feasible. In particular, snags greater than 24 inches DBH provide hiding, denning, nesting, and food storage sites for a variety of wildlife. These large snags would be retained unless to do so would create an unsafe concentration of fuels.

Piles from hand and/or mechanical cutting would generally be small, up to 5 feet in diameter, and would be placed in the immediate area of the cutting. The number of piles per acre would vary based upon vegetation density but would be expected to be in the range of 10 to 30 piles per acre.

The second phase would involve the use of prescribed fire either to burn piles, or in areas where appropriate, to introduce a low intensity understory prescribed fire in accordance with a BLM-approved burn plan, other BLM policy, and state of California rules and regulations. Fire control lines would be constructed through the use of hand crews cutting with chainsaws around areas to

be burned. Fire lines would occur on the large parcel along Buckhorn Ridge Road as shown in the project area maps attached. Prescribed fire would aid in fuel load reduction.

Understory burning would be used where enough fuel exists to carry a fire, where a fire can be managed safely, and where conditions are suitable for achieving the objective of safely and efficiently reducing the fuel hazard. Pile burning would take place in areas where slash is generated from hand cutting with chainsaws or mechanized cutting. Piles would be burned in late fall through late spring when conditions are suitable to reduce the risk of burn piles igniting a wildfire. If conditions are favorable and necessary procedures can be maintained, the prescribed burn would be allowed to "creep" on the forest floor around the piles to emulate a low intensity surface fire. This would potentially reduce the one-hour fuels built up over time within the conifer stands and leave a "mosaic" pattern across the forest floor.

During the construction of piles, bark and branches around the basal area of the larger conifers would be reduced by 50 percent; this would be done in order to lower the likelihood that these trees would be killed during low-intensity, low-severity wildfire. All work would be done by a hand crew (e.g., contracted fuels crew, Cal-Fire crew, Hotshots, etc.) who would be under the close supervision of BLM's fuel/fire management specialists. The location and extent of use of understory burning would be determined by community protection/safety requirements and other specifications outlined within approved agency burn plans. Vehicle barriers such as cables, berms, and large boulders may be placed at strategic locations to prevent dirt bikes and other off-highway motorized vehicles from driving within the treated areas.

The objective of the proposed project is to remove 50% of vegetative fuels within the identified units. This objective would be achieved through multiple understory burn treatments over a ten-year period. The method of implementation used and/or combination of methods used on a specific piece of forested landscape can change from acre to acre and often changes several times throughout a project area based on adaptive management. The quality and the end product of the treatment depend on where and how techniques are implemented. The BLM Fuels Management Specialist would pre determine the best treatment or combination of treatments to obtain the best ecological outcome during implementation.

2.2 Project Design Features

All treatment work would be subject to the following stipulations:

1. Erosion and Sedimentation Control - Erosion and sedimentation are potential issues affecting drainages within the project area. To prevent potential degradation, streamside buffers (100 ft minimum from the centerline of creeks) would be established near all drainages. No equipment operation would be allowed on slopes greater than 40% as shown on the map. In areas greater than 40% only hand work would be allowed. A higher density of tree stems and canopy cover would be retained in moist drainages. Masticated brush and other fuels would be dispersed throughout the project area or piled for burning. This layer of mulch would help prevent erosion. Vehicle barriers such as cables, berms, and large boulders may be placed at strategic locations to prevent dirt bikes and other off-highway vehicles from driving within the treated areas and causing erosion problems.

2. Rare Plants – No mechanical mastication would occur in the parcels which contain the BLM sensitive species, Red Hills soaproot (*Chlorogalum grandiflorum*). These parcels include the large Buckhorn parcel off Buckhorn Ridge Road and the larger Pine Grove parcel along Moonlight Ridge Road. The smaller BLM parcel in Pioneer south of Sugar Pine Road also contains Red Hills soaproot. In this parcel, it was mainly found along the old two-track road leading into the parcel from the northeast corner. No mechanical mastication would occur in this area (see maps).

3. Weed Control - To minimize the potential for introduction or spread of invasive weeds, equipment used for the proposed action would be cleaned prior to entering the area and, where possible, would avoid operating within weed-infested areas.

4. Cultural Resources - Flagging-tape buffers would be established around identified cultural resources that could be affected by the proposed action.. These cultural resources would be avoided during project implementation.

5. Wildlife – Wood rat nests and large woody debris will be avoided when creating burn piles. If a potential nest cannot be avoided, the pile will be checked for signs of wildlife before lighting. If nests or dens are found, the pile will be avoided. If the pile must be burned, the nest will be restacked nearby or the animal will be given an escape route from the fire.

6. Wildlife - Leave an uncut patch (minimum of 0.25 acres) for every 10 acres harvested, with patches totaling 5 percent of the area. Use "leave-trees" as the center for uncut patches. Riparian and other buffers can help to satisfy this goal.

7. Wildlife - Retain live trees with existing cavities when possible.

8. Wildlife - Retain large trees, defect trees, snags and downed logs for wildlife to the extent feasible. Large snags in particular provide hiding, denning, nesting, and food storage sites for a variety of wildlife. Retain all snags 24 inches and greater in diameter at breast height unless to do so would create an unusual unsafe concentration of fuels.

9. Wildlife. Avoid damaging existing downed woody debris, especially large (18+ inches) hollow or rotten logs and rotten stumps. Leave all existing coarse woody material (more than 6 inches in diameter at the large end) as possible.

10. Wildlife. Retention of coarse woody debris in managed stands should more closely model coarse woody debris found in natural stands. Retain and scatter tops and limbs from 20 percent of the trees harvested.

11. Wildlife. Avoid treatment during the bird nesting season.

2.3 No Action

Under the no action alternative, the BLM would not conduct the planned fuels reduction within the project area. Fuels would continue to build up, increasing the likelihood of a high severity fire. Ladder fuels could carry wildfire into the tree canopy creating crown fire conditions. These conditions could be devastating to the environment, not to mention lives and property. Without the treatment, even a low intensity surface fire has the potential to move into the canopy of larger conifers, potentially killing these trees and causing a relatively small fire to intensify and grow into a catastrophic crown fire. The potential would remain for a catastrophic fire to cut off access for emergency responders and evacuees.

3.0 Affected Environment

The Buckhorn Ridge Road project area is located within portions of BLM administered parcels surrounding the community of Pioneer. Pioneer is located 5 miles east-northeast of Pine Grove, at an elevation of 2986 feet, along State Route 88. The 2010 United States Census reported that Pioneer had a population of 1,094. The Pioneer area has a climate that can be classified as a dry-summer subtropical climate often referred to as "Mediterranean". Pioneer Creek runs though the northern portion of the BLM parcel located off of Buckhorn Ridge Road. Roads where mechanical treatments would occur are along Buckhorn Ridge Road, Peyus Road, Calypso Court, Sunny Drive and any other small existing residential roads located off the portions of Buckhorn Ridge Road that cross the BLM managed parcels.

The Pine Grove project area in located within portions of BLM administered parcels surrounding and adjacent to the community of Pine Grove. The current boundaries of Pine Grove include the former mining towns of Clinton and Irishtown. The BLM parcels in Pine Grove are adjacent to Indian Grinding Rock State Historic Park. Pine Grove lies at an elevation of 2513 feet (766 m). The population was 2,219 at the 2010 census. The Pine Grove area has a climate that can be classified as a dry-summer subtropical climate often referred to as "Mediterranean". Grass Valley Creek runs though the BLM parcels. Roads where mechanical treatments would occur are along the BLM portions of Pine Grove Volcano Road and Crest View Drive.

Vegetation - In April 2015, the BLM Botanist surveyed and inventoried the vegetation of the project area. Areas with potential plant habitat were surveyed in transects by methodically spacing out surveyors along the slope. The dominant vegetation type is mixed conifer forest. The mature over story canopy consists of Ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*), Douglas fir (*Pseudotsuga menziesii*), incense cedar (*Calocedrus decurrens*), madrone (*Arbutus menziesii*) and black oak (*Quercus kelloggii*). Understory tree species include canyon live oak (*Quercus chrysolepis*), dogwood (*Cornus nuttallii*) and hazelnut (*Corylus cornuta*). Shrubs consist of dense patches of whiteleaf manzanita (*Arctostaphylos viscida*), deerbrush (Ceanothus integerrimus) and mountain misery (*Chamaebatia foliolosa*).

A BLM sensitive plant, Red Hills soaproot (*Chlorogalum grandiflorum*), was found in the project area. The Pine Grove parcel along Moonlight Ridge Road contained numerous occurrences of the plant throughout the eastern side of the parcel and also along the northern edge of the west side of the parcel. The smaller BLM parcel in Pioneer south of Sugar Pine Road also contained Red Hills soaproot. In this parcel, it was mainly found along the old two-track road leading into the parcel from the northeast corner.

Wildlife - The vegetation in the project area provides habitat for a variety of wildlife. The project area is composed primarily of mixed conifer. The mixed conifer forest supports some 355 species of animals (Verner and Boss 1980), including sensitive species such as California spotted owl. Variety in plant species composition provides diversity in food and cover. Black oak acorns, berries from a variety of shrubs (e.g., deerbrush), and a great number of grasses and forbs provide the forage resource essential for wildlife (Kosco and Bartolome 1983). Several projects have occurred over the years in the areas including R.O.W.s, phone lines, mining, and fuels treatments. Based on review of the wildlife reports related to these projects and a site visit in April 2015, during which all the areas were observed, it was determined that no special status wildlife species or habitat to support special status wildlife species is present within the project area.

Recreation - The Pine Grove project area is near the boundary of the Indian Grinding Rock State Historic Park. Both project areas are surrounded by residences on private land in the general area and the parcels surround the towns of Pine Grove and Pioneer. The level of recreational use in the project area is quite high. The project areas are used by hunters, hikers and wildlife enthusiasts.

Visual Resources - The BLM manages this area in accordance with class III visual resource management (VRM) standards. The BLM's objective for class III is to retain the existing character of the landscape. The level of change to the characteristic landscape should be Moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Cultural – Both project areas, including the Pine Grove and Buckhorn Ridge Road areas, have been inventoried by BLM archaeologists. Intensive inventories specific to the proposed action were conducted by a BLM archaeologist in 2013-14 (Pine Grove) and 2015 (Buckhorn Ridge Road). Numerous cultural resources have been identified within the project areas (area of potential effects). These resources are typical for the west central Sierra Nevada, and include mining ditches, placer and hardrock mining areas (prospects and other topographic evidence of exploration and production), and other mining-related features.

4.0 Environmental Effects

The following critical elements have been considered in this environmental assessment and have been determined to be unaffected by the proposal: areas of critical environmental concern, prime/unique farmlands, floodplains, wilderness, and environmental justice.

4.1 Impacts of the Proposed Action and Alternatives

Air quality – The proposed action would produce smoke from prescribed fires and to a lesser degree particulate matter from mechanical treatments. Potential effects to air quality from prescribed fire and pile burning could range from reduced visibility to potential pneumonic irritation, as well as the smell of smoke affecting people in proximity to the project area when such treatments are underway. However, the duration of these effects is expected to be short with the greatest impact occurring during the actual ignition or active burning phase, and lasting from

one to a few days depending on the size or number of actual burn units or number of piles to be ignited. Residual smoke produced from the burnout of large fuels, or slower burning fuel concentrations could also occur, and may last between one to three days following the ignition phase. Effects to air quality from mechanical treatments and wood cutting would be dominated by airborne particulate matter generated during the operation of mechanical equipment and transport vehicles and could temporarily reduce visibility in the immediate project area; however, these impacts would quickly upon the completion of operations.

The short-term effects on air quality resulting from the smoke generated from prescribed fire would be temporary and should last less than five days. Potential air quality impacts would be monitored and controlled through existing regulatory processes. Potential adverse impacts would be eliminated using adaptive management and authorizations would not be issued for prescribed fires proposed under conditions conducive to adverse effects. Mechanical treatments causing temporary short-term impacts from dust and exhaust emissions would be very short-lived. No long-term air quality effects would result from implementation of the proposed action. The long-term beneficial effects from fire use and mechanical treatments would reduce the magnitude of smoke and other negative effects caused from potential large wildfires should these treatments not occur.

Water and soil resources – The proposed action would have negligible impacts on water and soil resources; however, proposed treatments could result in short-term adverse effects to soil resources, including compaction and decreased infiltration, erosion and sediment loss. In addition, removal of vegetation through prescribed burning could lead to erosion and sediment loss. However, under prescribed conditions and over relatively small areas during any one prescribed burning event, fire intensity and vegetation mortality are anticipated to be low to moderate. Some vegetation will remain to assist in reducing soil erosion after a prescribed burn treatment. A wildfire event would potentially burn at a greater intensity over a much larger area and produce severe vegetation mortality, leading to more extensive soil erosion as compared to a prescribed burn**.** Implementation of the Project Design Features for erosion and sedimentation would prevent negative impacts to water and soils. Erosion of sediments into local streams should not occur. Masticated brush and other fuels would be dispersed throughout the project area or piled for burning. This layer of mulch would help prevent erosion.

Vegetation – The BLM Botanist analyzed the impacts of the proposed action on vegetation, particularly special status plants. The analysis is designed to help the BLM meet its obligations under the Endangered Species Act and other BLM policies with respect to special status species. The analysis included a background records search through the California Natural Diversity Database as well as an internal BLM natural resources geodatabase. Information was also collected in the field during rare plant surveys conducted in April 2015.

Project area plant communities including riparian zones and mixed conifer forests are adapted to periodic wildfire. The proposed treatments of mechanical mastication and prescribed fire would mimic the effects of a low intensity wildfire. The project area has experienced natural wildfire events in the past (as well as broadcast burning) and has recovered after the removal of shrubs and other understory vegetation. Likewise, the common woody species (e.g., deerbrush, small

black oak, whiteleaf manzanita, etc.) that would be cut in the course of the proposed action would reestablish within the project area over time.

Red Hills soaproot was found in two parcels of the project area. This species seems to prefer areas with less dense canopy cover. In the Pioneer parcel, the Red Hills soaproot is only found along the two-track road on BLM land where the canopy cover is more open. As the canopy gets thicker on each side of the road the Red Hills soaproot quickly disappears. Similarly in the Pine Grove parcel the soaproot is found in areas where the overstory cover is less dense. Using hand-thinning to open up the dense overstory canopy may provide more suitable habitat for this species. Because the Red Hills soaproot evolved in a fire adapted ecosystem, prescribed fire should not cause negative impacts but should remove accumulated understory litter to open up habitat for this species. Mastication would not be permitted in the two parcels where this species occurs because it could cause compaction and crushing of the plants.

Wildlife - The BLM wildlife biologist analyzed the impacts of the proposed action on wildlife, especially on special status wildlife with an on the ground survey on April 2015, and through the use of Geographical Information Systems (GIS) databases. She reviewed the California Natural Diversity Database, as well as an internal BLM natural resources geodatabase. She also reviewed wildlife reports from several projects over the years in the Pine Grove and Pioneer areas. Her analysis was designed to help BLM meet its obligations under the Endangered Species Act and other authorities and BLM policies. The biologist recommended that the proposed action would not affect threatened and endangered wildlife or other BLM special status wildlife.

While fuel treatments can decrease the risk of catastrophic fire, they do not provide the ecosystem benefits of low intensity low severity fire, and they alter habitat needed by wildlife. In general, fire-dependent species, species preferring open habitats, and species that are associated with early successional vegetation or that consume seeds and fruit appear to benefit from mechanical fuel reduction activities. Increasing understory light for shrub patch development can increase habitat for some small mammals and birds. In contrast, species that prefer closed-canopy forests or dense understory, and species closely associated with those habitat elements that may be removed or consumed by fuel reductions, would likely be negatively affected by fuel reductions. Some habitat loss may persist for only a few months or a few years, such as the loss of shrubby understory vegetation which can recover quickly. The proposed retention of several important wildlife habitat features such as large snags, large woody debris, riparian buffer zones, and live trees with cavities should mitigate for some of the potential impacts to wildlife.

Overall, direct mortality of wildlife owing to crushing from heavy equipment during fuel reduction is considered to be low, but this is mostly based on anecdotal information. It is believed that most species are able to find refuge microsites (e.g., inside burrows or under surface objects) or move away from approaching equipment. However, spring-season thinning during the breeding season may result in mortality of ground- and shrub-nesting bird nestlings and species living within litter such as small mammals, reptiles, amphibians, and invertebrates. The proposed limited operating period will reduce impacts to ground- and shrub-nesting birds, as well as species living within the litter layer.

Wildlife populations may be affected by fire either directly by heat and flames, or indirectly through modification of the habitat. Most animals can escape fire, particularly low-intensity fire under prescribed conditions. However, relatively immobile animals, such as salamanders, some small mammals, turtles, and snakes may be killed. Dusky-footed woodrat (*Neotoma fuscipes*) are particularly vulnerable species because its houses are made of dry twigs. In addition, woodrats are reluctant to leave their homes even with approaching fire (Lawrence, 1966). Small animals and insects have also been observed being predated upon while attempting escape from a prescribed fire (Lawrence, 1966).

In addition, ground-nesting or shrub-nesting birds and young mammals (thus less mobile) may be directly impacted by prescribed burning during the spring season. Another short-term impact of spring and early summer burns is a temporary drop in food availability or cover because understory vegetation may not re-sprout until the following year. This could lead to a reduction in reproductive success. Reduced cover exposes animals to increased likelihood of predation. Prescribed burning outside of the breeding season would eliminate the impacts to nesting birds and young mammals.

Early successional wildlife species are favored by fire, while those associated with climax communities may be reduced in number or displaced. However, uneven burning which leaves a diversity of habitats and patches of unburned vegetation would mitigate for impacts to species preferring climax communities or species with narrow ecological niches. Prescribed burning commonly results in a mosaic of burned and unburned vegetation and therefore increases habitat diversity, which is reflected in the species composition and diversity of associated animal communities.

Once it sprouts, new vegetation is highly palatable and nutritious. Populations of small mammals, as well as animals such as deer and quail, build up rapidly after the start of new growth. During the first year after a fire, deer generally forage on the new sprouts that are within 300 feet of unburned cover. During the second post-year burn, vegetation growth meets and exceeds the cover needs for deer. Herbaceous forage benefits for deer last about seven years. The forage benefits translate into increased fawn production and survival (Ashcraft, 1979).

Prescribed burns can create small isolated islands of shrubs and trees which can lead to habitat fragmentation (National Wildfire Coordinating Group, 1994). Adequate linkage of habitat components (e.g., a stringer of cover connecting larger areas of escape cover) would most likely still be in place with the proposed prescribed burn. This unburned connector habitat would mitigate for the potential of habitat fragmentation.

Cultural Resources – A BLM archaeologist has conducted cultural resource studies for the project areas (the area of potential effects) to determine whether significant cultural resources could be affected by the proposed action. The study included a background records search, intensive field inventories, tribal consultation, and other efforts. The studies were designed to help BLM meet its obligations under Section 106 of the Historic Preservation Act and other authorities. Numerous cultural resources, almost all related to placer and hardrock gold mining, have been identified within the project areas. It is anticipated that the proposed actions would not affect significant cultural resources. All potentially significant cultural resources that could be

affected by the proposed action would be flagged for avoidance. Consultation with Native Americans has been ongoing. All Native American input will be carefully considered. We do not anticipate that any places of traditional religious and cultural significance to Native Americans would be affected. If such places are identified we will work with the affected Native Americans to modify the proposed action to avoid negative effects. Project design features address cultural resource protection.

Recreation - The proposed action could have negligible short-term negative impacts on recreational use. Hunters and motorists on designated routes might be inconvenienced temporarily during project implementation due to the noise and dust caused by cutting and chipping fuels, and the use of the roads in the area by project-related vehicles. Recreationists would continue to use the project area after the proposed action is implemented with no additional inconvenience.

Visual Resources - The proposed project would not have a negative impact on visual resources. Vegetation would be removed from the understory of forested stands only. Some might consider this an improvement to the scenery. Most importantly, the proposed action would be consistent with BLM's VRM class III management objective under the 2008 Sierra RMP, which is the level of change to the characteristic landscape should be Moderate.

4.2 Impacts of the No Action Alternative

Though highly variable and difficult to predict with certainty, not implementing the proposed action could lead to detrimental impacts to forest health, firefighting efforts, and adjacent private properties. If a fire were to occur within the project area during a high fire season it would likely move into the upper story, creating a crown fire and burning virtually all the trees and vegetation. A wildfire within the project area could cut off access for emergency responders and evacuees should the road be compromised. A catastrophic wildfire would remove large areas of vegetation, leading to increased erosion and very limited habitat and forage for wildlife. Implementing the proposed action would move this stand to a healthier, more resilient condition so if a fire were to occur, it would only kill the smaller trees and the shrub and forb understory which is what likely occurred historically.

4.3 Cumulative Impacts

Negative cumulative impacts on the larger watershed scale are not anticipated. The proposed action would have negligible negative impacts on plants and wildlife. The current condition of the vegetation has been influenced by decades of wildfire suppression. There is not at present a better way to reduce dense understory vegetation that would have been reduced by wildfire in the past, before fire suppression was practiced. The proposed action is expected to have a beneficial cumulative impact on wildfire suppression in the area, as long as the BLM maintains the treatment area.

5.0 Agencies and Persons Consulted
Amador County Unit Cal-Fire
Amador County Safe Council

5.1 Authors
Heather Daniels, Realty Specialist

5.2 BLM Interdisciplinary Team/Reviewers:

/s/ Heather Daniels	*6.24.2015*
Heather Daniels NEPA Coordinator	Date
/s/ James Barnes	*6/23/15*
James Barnes Archaeologist	Date
/s/ Jerry Martinez	*6/15/15*
Gerald Martinez Fire Management Officer	Date
/s/ Peggy Cranston	*6/23/15*
Peggy Cranston Wildlife Biologist	Date
/s/ Beth Brenneman	*6/17/15*
Beth Brenneman Botanist	Date
/s/ Jeff Horn	*6/24/15*
Jeff Horn Outdoor Recreation Planner/VRM Specialist	Date

5.3 Availability of Document and Comment Procedures
This EA will be posted on Mother Lode Field Office's website (www.blm.gov/ca/motherlode) under NEPA and will be available for a 15-day public review period. The EA is also available by mail upon request during this 15-day public review period. Comments should be sent to Heather Daniels, Bureau of Land Management, Mother Lode Field Office, 5152 Hillsdale Circle, El Dorado Hills, California 95762 or emailed to hdaniels@blm.gov.

6.0 References

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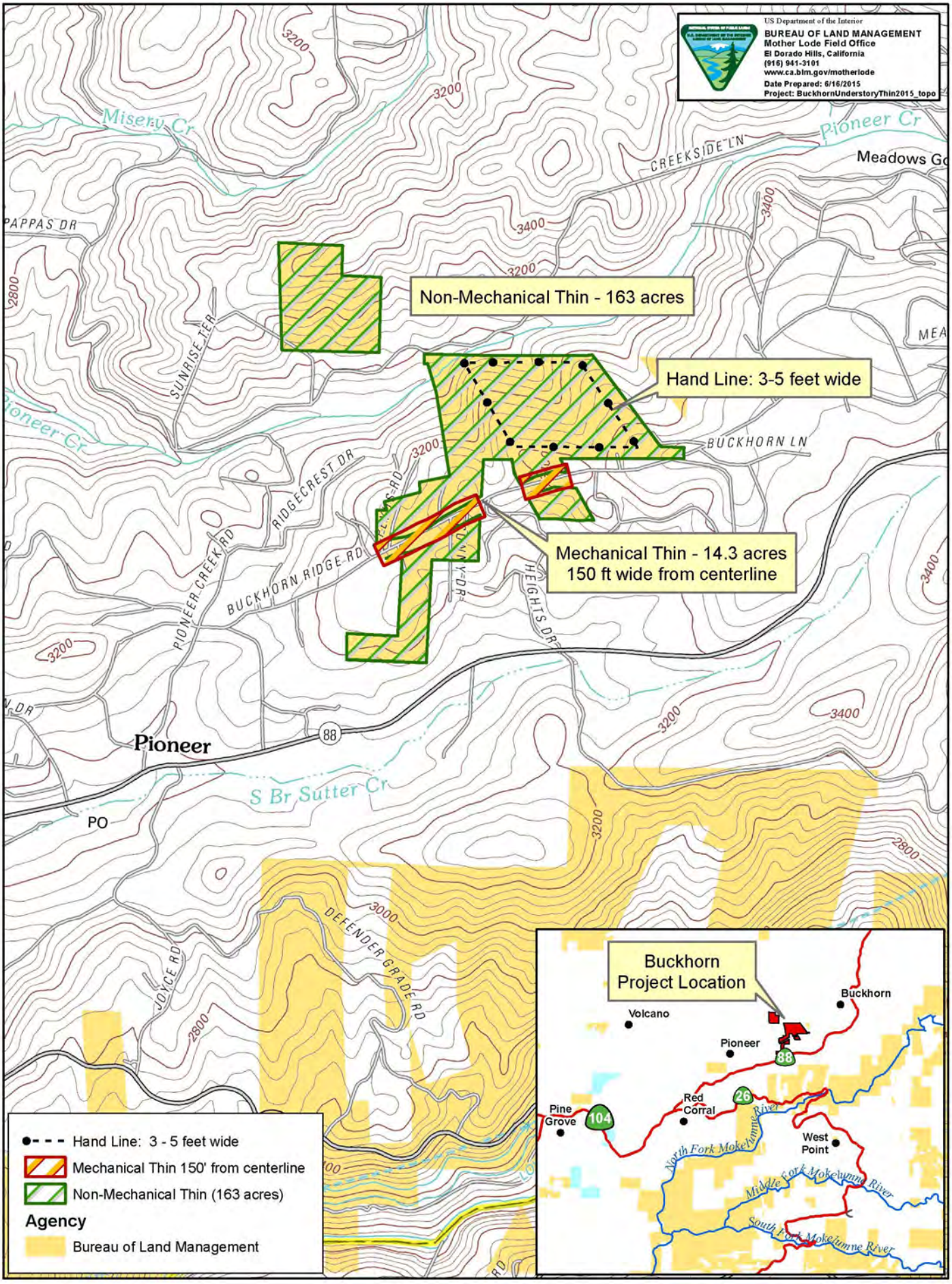
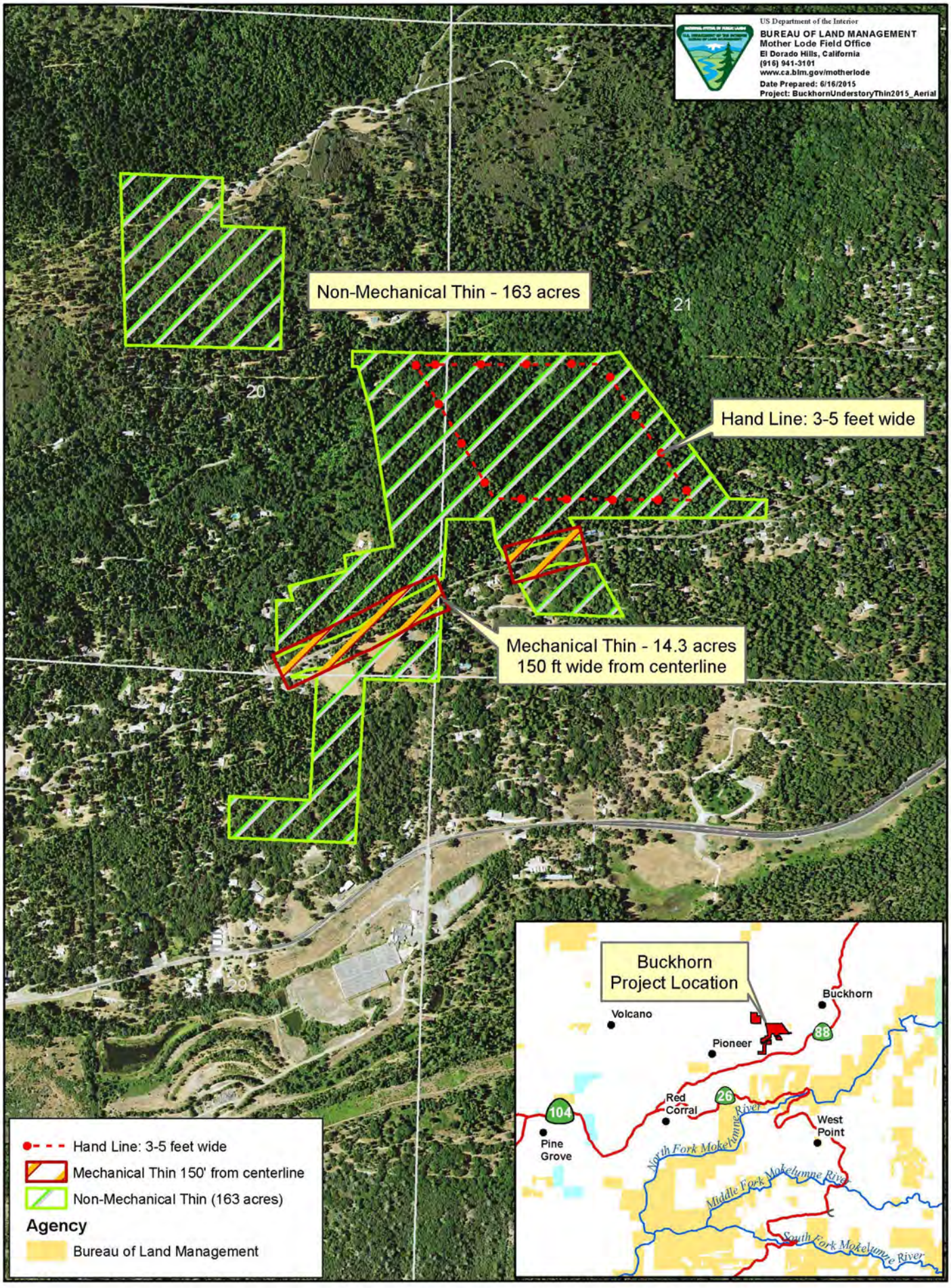
APPENDIX: Photos of Red Hills Soaproot

Buckhorn 2015 Understory Thin



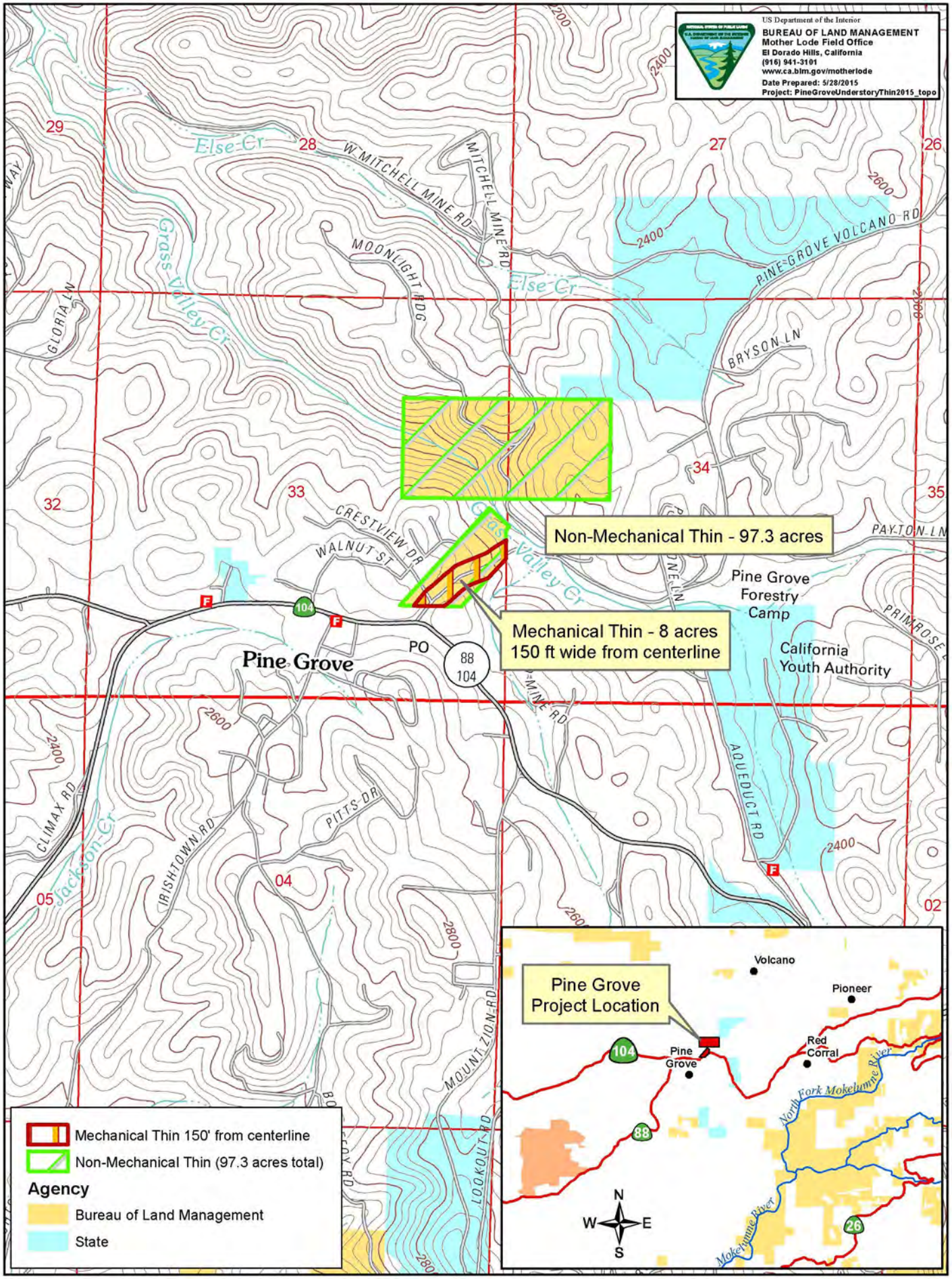
1:20,000 R13E 1 inch = 1,667 feet

Buckhorn 2015 Understory Thin



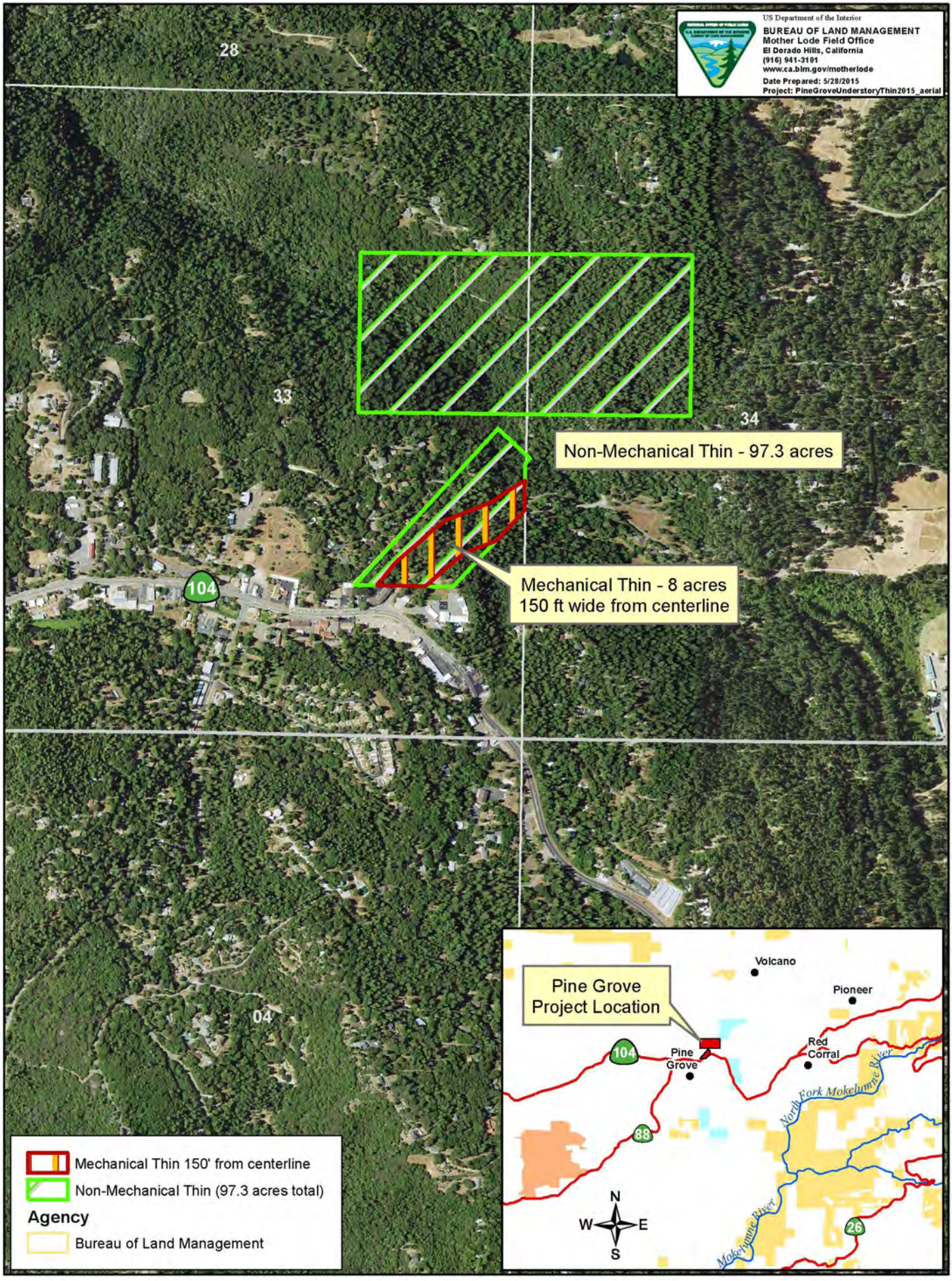
1:12,500 R13E 1 inch = 1,042 feet

Pine Grove 2015 Understory Thin



1:20,000 R12E 1 inch = 1,667 feet

Pine Grove 2015 Understory Thin



1:12,500 R12E 1 inch = 1,042 feet