

# **FINAL ENVIRONMENTAL ASSESSMENT**

EA No. DOI-BLM-ID-T020-2012-0015-EA

## **Middle Mountain Plans of Operations**

Serial/Project No.: IDI-33744, IDI-36013

Field Office: Burley



## **BUREAU OF LAND MANAGEMENT**

### **Burley Field Office**

15 East 200 South

Burley, ID 83318

Project Applicants:

Oakley Mountain Corporation

Gillette Sharp Corporation

# CHAPTER 1, PURPOSE AND NEED FOR ACTION

The Bureau of Land Management (BLM) Burley Idaho Field Office is considering approval of two Mining Plans of Operations (POOs) submitted by Gillette Sharp Corporation (Gillette) and Oakley Mountain Corporation (Oakley Mountain) to quarry “Oakley Stone,” a micaceous quartzite that is used for decorative surfaces and exterior fascia on buildings and other structures by the construction industry. Uses for Oakley Stone include poolside non-slip surfaces, footpaths, exterior building veneer, and other exterior applications. The proposed quarrying project would be located on public lands within Cassia County, Idaho. Gillette is proposing to quarry, split, palletize, and transport Oakley Stone from an open pit quarry. Oakley Mountain is proposing to quarry and split Oakley Stone from an open pit quarry, and transport it to a mill-site approximately two miles west of the quarry. The mill-site would be used to split, palletize, and store the stone until it is hauled off-site. Gillette’s quarry and Oakley Mountain’s quarry are immediately adjacent to each other and Oakley Mountain’s mill-site is approximately 2 miles west of the quarries (Project Area).

The Project Area is generally situated in southern Idaho in unincorporated Cassia County roughly 7 miles south of Oakley and 9 miles north of the Utah-Idaho border (See Map 1). Access to the project area is from a gravel road that intersects the Goose Creek Road in the NWNW Section 9, T. 15 S. R. 22 E. BM. This gravel quarry access road travels east and crosses both public and private lands. Gillette and Oakley Mountain have established agreements for access with private land owners. The BLM-Burley Field Office administers the public lands in which quarrying operations take place.

Oakley Stone is a mineral resource in which rock qualities; such as foliation, layering, coloring, and strength; give the stone an intrinsic value as a construction material. Adding to its value as a construction material is the ability to split Oakley Stone in a relatively controlled manner. A common variety determination of Oakley Stone was performed in 2002 and was found to be locatable within the Project Area.

## **Purpose and Need**

In recent years the commercial and residential building industry has incorporated more natural materials in construction. The use of slates, marbles, granites, flagstones, and other building stones and quarried materials is growing worldwide. The need for the Proposed Action arises from the national and international demand by the construction industry for Oakley Stone. As a result of this demand, the Burley Field Office of the BLM has received an application to quarry Oakley Stone on BLM lands. Middle Mountain is one of three known areas where Oakley Stone occurs and can be quarried. Other areas include the Sawtooth Mountains of southern Idaho and an area of Northern Nevada. Oakley Stone occurs near the surface of Middle Mountain in areas accessible for quarrying. Middle Mountain is also accessible via existing roads. The purpose of the Proposed Action is to address the applicant’s proposals to quarry Oakley Stone within the Project Area to meet the current and anticipated future demands for this product.

## **Conformance with Applicable Land Use Plans**

The Proposed Action is consistent with the Geology, Energy, and Minerals Management guidelines of the Cassia Resource Management Plan (RMP) approved January 24, 1985. The RMP states that:

*“The BLM will manage geological, energy and minerals resources on public lands. Geological resources will be managed so that significant scientific, recreational and educational values will*

*be maintained or enhanced. Generally, the public lands are available for exploration and development, subject to applicable regulations and Federal and State law.”*

The Proposed Action is also consistent with the Resource Management Objectives of the Management Area 4-Middle Mountain Area Plan, specifically with respect to:

*“Facilitate the orderly development of the building (Oakley) stone resource.”*

Furthermore, the Proposed Action is consistent with the Required Actions of the Management Area 4-Middle Mountain Area Plan that the Middle Mountain area is, “open to mining, mineral leasing, and sale” and limiting wheeled vehicles to existing roads and trails.

The Proposed Action is consistent with Federal, State and local laws.

### **Relationship to Statutes, Regulations, or Other Plans**

The 1872 Mining Law [30 United States Code (U.S.C.) 22 *et seq.*] states that a person has a statutory right consistent with other laws and departmental regulations to go upon the open (unappropriated and unreserved) public land for the purpose of mineral prospecting, exploration, development, and extraction.

The Federal Land Policy and Management Act (FLPMA) of 1976 (Public Law 94-579) requires that the Secretary of the Interior regulate mining operation to prevent undue or unnecessary degradation of the public lands.

This Environmental Assessment (EA) has been prepared for compliance with the National Environmental Policy Act of 1969 (NEPA). The EA analyzes the potential environmental effects that may be associated with proposed quarrying activities detailed in the Mining Plans submitted to the BLM. The EA will also assist the BLM, in determining whether an Environmental Impact Statement (EIS) would need to be prepared if a Finding of No Significant Impact (FONSI) cannot be reached.

Idaho Instruction Memorandum (IM) 2012-43, Greater-Sage Grouse Interim Management Policies and Procedures, outlines the interim conservation measures to be implemented while BLM develops and decides how to best incorporate long-term conservation measures for the Greater Sage-Grouse into applicable Land Use Plans (LUP). Specifically regarding locatable minerals, the IM states:

*Require that new notices and plans of operation include measures to avoid or minimize adverse effects to Greater Sage-Grouse populations and its habitat.*

### **Scoping, Public Involvement, and Issues**

This project has been listed on the NEPA Register since May 2, 2012. On July 3, 2012 scoping packages were mailed to 6 interested organizations and 15 interested member of the public. The scoping package solicited comments for a 30 day period. BLM received comments from two organizations during this period. These comments were reviewed and several issues and one additional alternative was identified (Alternative C). Issues identified through scoping which were determined to be important for analysis of effects or were incorporated as design features to refine alternatives are discussed below.

Idaho Department of Fish and Game expressed concern that blasting would occur during sage-grouse lekking and nesting season. This is addressed in the mitigation measures.

A number of comments related to siting of facilities and designing project features to certain specifications. Much of the project area has already been disturbed, and most facilities such as access roads, power lines, water lines, and quarry areas are in place so there is little opportunity for micrositing facilities.

Also, several comments reflect the recommendations of the Idaho sage-grouse Task Force. Idaho BLM is in the process of amending RMPs statewide and the Idaho sage-grouse task force recommendations were submitted to BLM as an alternative. Currently the BLM has similar guidelines for decisions on public lands that have been applied through this analysis as described in the *Relationship to Statutes, Regulations, or Other Plans* section of this EA. Effects to sage-grouse habitat and their populations are discussed in the *Threatened/Endangered Animals; Sensitive Animals; Migratory Birds* section of this EA.

Several comments described concern over temporary cessation of activities. Temporary cessation measures are discussed in the *Interim Management* section of the EA.

One comment asked that hours of operation should be limited and measures taken to reduce impacts of light and noise pollution on recreationists and sage-grouse. While the BLM is concerned with the effects of light and noise disturbances to sage-grouse, the vicinity which is adjacent to similar operations on nearby private land and major roads renders such restrictions of little value for sage-grouse because the noise and light disturbance would still be occurring in the same general areas.

Comments expressed concern regarding reclamation of the sites after mining is completed; the reclamation plan describes in detail how the site would be reclaimed.

One comment expressed concern regarding the bonding of the project. According to 43CFR3809.412, operators may not operate until a satisfactory financial guarantee (bond) is provided for the reclamation of the site. According the BLM 3809 Handbook, reclamation cost estimates are to be reviewed at least every three years for plans of operations. Reclamation cost estimates are to include the amount it would cost BLM to contract the work.

One comment requested BLM to adjust allowed quarry operations seasonally to avoid conflicts with sage-grouse. Because the operations occur immediately adjacent to operations on private and public land, and the proximity of the operations in relation to the locations of sage-grouse leks, the BLM does not view seasonal adjustments to the operations as having a benefit to sage-grouse.

One comment expressed concern regarding the control of noxious weeds. Noxious weeds are addressed in this EA under the *Plan of Operations* section, the *Interim Management* section, and the *Plan of Operation Mitigation* section.

One comment expressed concerns about the monitoring of the project. The sites will be monitored in accordance with BLM Policy including the 3809 Handbook and the regulations at 43CFR3809.600. The handbook specifies that Plans be inspected a minimum of twice annually. This is discussed in the *Monitoring* section of the EA.

One comment pertained to hazardous materials storage. All hazardous materials would be stored in approved containers as specified in the *Project Area Preparation and Operations* section of the EA as well as the *Water and Other Lubricants* section.

One comment stated that speed limits may need to be adjusted to reduce potential vehicle-wildlife collisions. The road from the mill-site to the mine is rough and has switchbacks, it is unsafe to drive above 10 MPH therefore collision potential is remote.

A Draft EA was posted through BLM's E-Planning Website on November 21, 2012. Letters were mailed out to 18 individuals, 1 Government Agency, and 2 Non-Governmental Organizations soliciting comments regarding the project and the Draft EA for a 30 day period. No comments were received.

## **Chapter 2, PROPOSED ACTION AND ALTERNATIVES**

The BLM-Burley Field Office is considering approval of a mining plan on the Freeman-Whittle #19 and Rock Garden #6 mining claims by Gillette, and the Rock Garden #1-6 and Lion #1-5 and 8 by Oakley Mountain. A decision to approve or deny one or both POOs would be made by the BLM-Burley Field Office. Mining regulations require that BLM review submitted POOs to identify and mitigate impacts to ensure that unnecessary or undue degradation to public lands does not occur. A description of the Proposed Action (approval of the POOs) is summarized in this section, as well as a No Action Alternative, and an alternative including measures to avoid or minimize adverse effects on greater sage-grouse and its habitat.

According to 43CFR Sec. 3809.411 (d), BLM has three options upon receipt of a completed POO.

1. BLM may approve the POO as submitted.
2. BLM may approve the POO subject to changes or conditions that are necessary to meet the performance standards of Sec. 3809.420 and to prevent unnecessary or undue degradation.
3. BLM may disapprove or withhold the POO because the plan;
  - a. Does not meet the applicable content requirements of Sec. 3809.401;
  - b. Proposes operations that are in an area segregated or withdrawn from the operation of the mining laws, unless the requirements of 3809.100 are met; or
  - c. Proposes operation that would result in unnecessary or undue degradation of public lands.

Bureau of Land Management disapproval or withholding of the POO would result in selection of the No Action Alternative.

### **Alternatives Considered But Not Analyzed in Detail**

#### *Issuing a Ten Year or Similar Length Permit*

According to 43 CFR 3809.423, POO's remain in effect as long as the operator is conducting operations, unless the BLM suspends or revokes the POO for failure to comply with BLM regulations. A permit is not issued for a POO. If approved, BLM will issue an authorization for the POOs.

### **Proposed Action**

The Proposed Action would involve authorizing the POO's as submitted and extracting Oakley Stone on an annual basis for roughly 30 years in Gillette's quarry and 40 to 50 years in Oakley Mountain's Quarry.

### *Overview & Location of Proposed Action*

#### Gillette Sharp

Gillette's quarry would be located in the E2W2SE of Section 10, T. 15 S., R. 22. E, Boise Meridian in Cassia County Idaho (See Maps 1-3).

#### Oakley Mountain

Oakley Mountain's Quarry would be located in the SE of Section 10, T 15 S., R. 22 E., Boise Meridian and the Mill-site would be in the NW of Section 9, T. 15 S., R. 22 E., Boise Meridian in Cassia County, Idaho (see Maps 1 and 5-7).

### *Schedule of Proposed Action Activities*

#### Gillette Sharp

Gillette proposes to initiate activities as soon as the required project permits and approvals are obtained. In addition to obtaining the approval of the BLM-Burley Field Office for the Plan of Operations, Gillette would acquire applicable state and local permits and authorizations necessary to support the Proposed Action.

#### Oakley Mountain

Oakley Mountain proposes to initiate activities as soon as the required project permits and approvals are obtained. In addition to obtaining the approval of the BLM-Burley Field Office for the Plan of Operations, Oakley Mountain would acquire applicable state and local permits and authorizations necessary to support the Proposed Action.

### *Access Roads*

#### Gillette Sharp

Access to Gillette's quarry would be achieved by traveling in an easterly direction on a gravel road, from an intersection on Goose Creek Road located seven miles south of Oakley. This road switches back as it climbs the western flank of Middle Mountain, and enters the project area after approximately 2.25 miles.

All access roads would be improved and maintained in accordance with established standards. Drainage systems would be installed as necessary to protect property and ensure adequate road drainage (such as drainage dips, water bars, ditches, road crossings and culverts) in accordance with the established standards.

#### Oakley Mountain

Access to Oakley Mountain's Mill-site is directly off the Goose Creek Road Approximately 7 miles south of Oakley. Access to Oakley Mountain's quarry would be achieved by traveling in an easterly direction on a gravel road, from an intersection on Goose Creek Road located seven miles south of Oakley. This road switches back as it climbs the western flank of Middle Mountain, and enters the project area after approximately 2.25 miles.

All access roads would be improved and maintained in accordance with established standards. Drainage systems would be installed as necessary to protect property and ensure adequate road drainage (such as drainage dips, water bars, ditches, road crossings and culverts) in accordance with the established standards.

*Project Area Preparation and Operations*

Gillette Sharp (Map 4)

The quarrying operation would use heavy equipment such as track excavators, front-end loaders, one or more flat bed or dump trucks for transportation of palletized stone downhill, pick-up trucks for transportation of quarry workers and supplies, and occasionally a Caterpillar D-8 or similar bulldozer.

Mining would be completed on a seasonal basis; in general, beginning in March and ending in November of each year, weather dependent. Oakley Stone would be removed from the quarry face and moved to the staging/palleting area where it would be placed in mounds to be graded, split, stacked, and palletized for transportation off-site. Quarrying operations would initially encompass about 16 acres and would be expanded to approximately 22 acres by the end of the quarry life. When fully completed, roughly 17.9 acres would be devoted to the quarry, 2.7 acres for a staging/palleting area, 0.2 acres for a soil and material stockpile area, and 1.8 acres of waste dumps (See Map 2).

**Table 1: Gillette Sharp Proposed Disturbance**

<b>Gillette Sharp Corporation Total Disturbance (Acres)</b>	
	Maximum Development
Quarry Area	17.4
Staging/Palleting Area	2.6
Soil Stockpile	0.2
Waste Dumps	1.8
Employee Trailers	0.2
<b>Total Acres Disturbed</b>	<b>22.2</b>

Activities within the staging/palletizing area/workers camp area would include:

- Storage of palletized stone until shipped off-site,
- Storage of supplies used to support quarry operations including; pallets, wire, banding, and hand tools; and
- Storage of consumables necessary for vehicle and equipment operation and maintenance including diesel fuel, lubricants, oil, hydraulic and transmission fluids, and spare parts.

No permanent buildings are planned to support quarrying operations. Mobile homes would be brought to a stone storage/workers camp area for quarry workers. Up to 7 mobile homes may be necessary to support operations. Household wastes from mobile homes would be collected routinely and transported to an approved waste transfer station/landfill. Pit toilets would be dug and permitted through the county health district.

## Oakley Mountain (Maps 6-8)

The quarrying operation would use heavy equipment such as track excavators, front end loaders, one or more flatbed 10-wheel trucks for transportation of palletized stone downhill an off-site, heavy dump trucks, pick-up trucks for transportation of quarry workers and supplies, and occasionally a Caterpillar D-8 or similar bulldozer.

Oakley Stone would be removed from the quarry face and transported by heavy haul trucks to the mill-site or the landing area where it would be placed in mounds to be graded, split, stacked, and palletized for transportation off-site. The mill-site would occupy 23 acres and would not expand over the life of the quarry. Quarrying operations would initially encompass (early development) about 25 acres and would be expanded to (maximum development) approximately 28 acres by the end of the quarry life. Initially, during early development, roughly 10.8 acres would be devoted to the quarry area (working faces and benches), 2.9 acres for the landing, 0.8 acres for a soil stockpile area, and 10.1 acres for waste dumps. At maximum development, roughly 7.4 acres would be devoted to the quarry area (working faces and benches), 4.2 acres for the landing, 1.7 acres for a soil stockpile area, and 14.9 for waste dumps (See Map 5). Oakley Mountain is proposing to close the current access road that skirts the south and east sides of the quarry and opening a new road that would provide access along the north and east sides of the quarry. The new road would be a total of 1873 feet and 0.6 acres of disturbance. The new road would be 744 feet of upgraded road (existing two track), and 1129 feet of new road (See Map 6).

**Table 2: Oakley Mountain Proposed Disturbance**

<b>Oakley Mountain Corporation - Total Disturbance (Acres)</b>		
	<b>Early Development</b>	<b>Maximum Development</b>
Mill-site	23	23
Quarry Area	10.8	7.4
Landing	2.9	4.2
Soil Stockpile	0.8	1.7
Waste Dumps	10.1	14.9
<b>Total Disturbed Acres</b>	<b>47.6</b>	<b>51.2</b>

Activities within the mill-site area/workers camp area would include:

- Storage of palletized stone until shipped off-site,
- Storage of supplies used to support quarry operations including; pallets, wire, banding, and hand tools; and
- Storage of consumables necessary for vehicle and equipment operation and maintenance including diesel fuel, lubricants, oil, hydraulic and transmission fluids, and spare parts.

No permanent buildings are planned to support quarrying operations. Mobile homes would be brought to the mill-site area for quarry workers. A total of 16 housing units on skids, and 2-4 mobile homes (for operational purposes) would be necessary to support operations. Household wastes from mobile homes would be collected routinely and transported to the an approved waste transfer station/landfill Pit toilets would be dug and permitted through the county health district, or temporary enclosed toilet facilities would be used.

## *Water & Other Lubricants*

### Gillette Sharp

Water would not be used by the operation, except for emergency fire suppression and dust suppression as needed.

Petroleum products would be stored on site. Storage tanks would be constructed with containment berms consisting of impermeable plastic liners and sand containment berms. The containment system will be a minimum of 120 percent of the tank capacity.

### Oakley Mountain

Water would be used on the mill-site for the rock tumbler. The water is piped through an existing pipeline that connects with the City of Oakley's pipeline to the east of the site. Water would also be used for emergency fire suppression and dust suppression.

A fuel storage area would be located at the mill-site. It would be enclosed by a cement containment area lined with an impermeable plastic liner.

## *Interim Management*

Interim management would apply during extended periods of inactivity such as the winter after the operational season each year or if operations are temporarily suspended due to market demand.

### Gillette Sharp

1. At year end operation close out; the pit highwall will be graded to allow for rain and snow water to accumulate within the pit floor.
2. Waste dumps, staging areas, temporary topsoil stockpiles, and the pit floor will be constructed to prevent off-site movement of stormwater.
3. During inactive periods, the mine site will be left in a condition that reduces the potential for accidents by entry into the mine site. Such measures include: locked gates, construction of berms to restrict motor vehicle access into mine areas, construction of berms above the pit highwall to restrict public access to the pit highwall, signage posted, and yearly close-out work to remove any pit highwall hazards such as hanging rock blocks, overhanging rock blocks, dangerous pit high wall angle, and shaping of the pit floor to catch and retain stormwater and snow melt.

### Oakley Mountain

1. Safety berms would be placed along the top and bottom of all highwalls to protect from falling rock and prevent access to the pit highwall.
2. Signs would be posted where hazards exist.
3. Roads leading to the highwall area would be closed when quarry is not in operation.
4. Dirt berms would be in place to reduce the risk of soil erosion and transport off-site.
5. Noxious weeds would be sprayed in the spring every year and in the fall if necessary.
6. The pit highwall would be maintained with 25 foot tall lifts and 30 foot wide benches, however bench heights may be increased or decreased based on rock properties and geotechnical considerations.

## *Reclamation*

### Gillette Sharp

1. All equipment, trailers, pallets, and materials would be removed from the site
2. The pit highwall will be re-graded and constructed to form a 2:1 (Horizontal: Vertical) slope, with 40 foot benches. Quartzite waste materials will be used in the pit floor to construct the composite slope along with regrading from the pit highwall top. The composite slope will be 2:1. Overburden and waste quartzite blocks will be placed in the pit floor, and against the pit highwall to construct the final slope, and provide a safety buffer to prevent access to the pit highwall. Topsoil placement will not be possible on the pit highwall slope due to the slope irregularities and lack of access.
3. The pit floor will be left flat with interior drainage to capture storm water and snow melt within the pit. Storm water will be allowed to naturally infiltrate into the groundwater, and by evaporation. Small intermittent ponds would be expected to form after storm events that would be left to stand for wildlife use.
4. Waste dumps one and two will be graded to be flat on top, with gradual contour grading to match the dump profile with the adjacent hillsides. The final downhill waste slopes will be 2:1 (H:V). The waste dump top surface will be graded to provide surface runoff that matches the natural contour as practical. Topsoil will be placed on the waste dump tops as is available.
5. The existing access road will be re-graded, in-sloped, and water barred to minimize erosion potential. The existing access road will be left for the benefit of the adjacent stone quarry. The final location and configuration of the access road will be dependent upon the adjacent pit configuration and depth. The applicant will work with the claimant to achieve the best solution to reclamation issues between the two stone quarries.
6. Marketable quartzite, pallets, equipment, and trailers will be removed from the staging area upon completion of mining. The staging area will be re-graded to match the existing topography of the area; available topsoil will be placed over the staging area, and the disturbed ground will be re-vegetated.
7. In-pit access roads, haul roads, and staging access roads will be incorporated into the final pit floor as practical. Temporary roads outside of the pit will be reclaimed by ripping the surface, regarding the road to match the existing land contour, topsoil placement, and re-vegetation.
8. Available topsoil will be placed over mine disturbance, waste dump tops, the staging area, and the pit floor a minimum of one foot thick. Temporary access roads will be ripped, and re-graded to match the existing topography as practical.
9. Upland disturbed areas will be reseeded with a BLM approved seed mix.

### Oakley Mountain

1. Tailing/waste piles will be spread on the quarry floor and contoured to 4:1 grade.
2. The quarry highwall will be contoured in 25 foot tall lifts and 30 foot wide benches.
3. The area will be prepared so that it conforms to surrounding land contours and provide adequate drainage.
4. Topsoil and overburden will be replaced and the area seeded with a BLM approved seed mix.
5. All structures, the fuel containment area, all equipment, pallets, and material at the mill-site and the quarry would be removed.
6. After all structures are removed and the area cleared the applicant will bring in topsoil where necessary. Once topsoil is replaced and the area contoured for drainage the area will be reseeded.

## *Safety Consideration*

### Gillette Sharp

Geological, geotechnical, and safety considerations would dictate quarry expansion, pit slope, and pit highwall design. However, the quarry is anticipated to be expanded in phases, beginning in the central portion and then proceeding to the east, then west and south. The pit highwall would be angle of repose during active mining operations. The highwall would be maintained to be free of overhanging boulders and unsafe ledges during active mining operations. The depth to which the Oakley Stone may be quarried economically is not known. The quarry is planned as an expansion of an existing quarry established by a previous operator.

Topsoil would be scraped from the earth's surface prior to subsurface mining. Scraped topsoil would be stockpiled in the topsoil stockpile area. Quarrying, stockpiling, splitting, and palletizing activities are anticipated to be conducted from March to November each year, weather dependent. Operations would be conducted typically during daylight hours, up to seven days a week.

### Oakley Mountain

Geological, geotechnical, and safety considerations would dictate quarry expansion, pit slope, and pit highwall design. However, the quarry is anticipated to be expanded from the south to north in the up-slope direction. Quarrying is planned on benches with 25 foot tall lifts and 30 foot wide benches. However, bench heights may be increased or decreased depending upon rock properties and geotechnical considerations. The depth to which the Oakley Stone may be quarried economically is not known. However, it is anticipated the maximum depth from headwall to quarry floor would be around 250 feet. The quarry is planned as an expansion of an existing quarry established by a previous operator.

Topsoil would be scraped from the earth's surface prior to subsurface mining. Scraped topsoil would be stockpiled in the soil stockpile area. Quarrying, stockpiling, splitting, and palletizing activities are anticipated to be conducted from March to November each year, weather dependent. Operations would be conducted typically during daylight hours, up to seven days a week.

## *Plan of Operation Mitigation*

### Gillette Sharp

BLM-Burley Field Office approval of the Plan of Operations would incorporate the following conditions:

- Quarry activities that would involve disturbance to the flora at the Project Area would be limited to the time-frame annually between July 15 and February 28 as a mitigation measure to prevent impacts to BLM sensitive birds and other migratory birds that may nest and/or forage within the Project Area
- In the unlikely event that human remains or any previously unidentified cultural, historical, or archaeological resource or vertebrate paleontological resources are discovered during quarrying activities, Gillette would immediately cease all activities within 200 feet of the discovery, ensure that the discovery is properly protected, and immediately notify the BLM by telephone. Work would not resume until the discovery is evaluated by the BLM and the BLM issues notification that quarrying operations can proceed.
- Land disturbance associated with the Proposed Action could be conducive to infestation of non-native invasive noxious weeds. Noxious weeds would be treated a minimum of once per year or as often as

necessary to control them. For Scotch Thistle, herbicides should be applied in the summer months between the rosette and pre-bud stages. Other noxious weeds, if found would also be treated with herbicides, or as otherwise approved by the BLM.

- Solid waste and wastewater would be generated at the Project Area as a result of the fact that workers would live at the Project Area in mobile homes. Solid wastes should be collected and taken to the Oakley waste transfer station or disposed of in a manner consistent with the POO.
- Gillette agrees to reclaim the Project Area in accordance with the reclamation plan found within the Mining and Reclamation Plan.
- All disturbed areas would be re-seeded with a BLM approved seed mix during final reclamation. Reclamation would not be deemed complete until seeding is deemed successful by the authorized officer. Additional seeding would be required if initial seedings are unsuccessful.

### Oakley Mountain

BLM-Burley Field Office approval of the Plan of Operations would incorporate the following conditions:

- Quarry activities that would involve disturbance to the flora at the Project Area would be limited to the time-frame annually between July 15 and February 28 as a mitigation measure to prevent impacts to BLM sensitive birds and other migratory birds that may nest and/or forage within the Project Area.
- Blasting would be limited to the time frame between July 1 and March 15 as a mitigation measure to prevent impacts to lekking, and nesting sage-grouse.
- In the unlikely event that human remains or any previously unidentified cultural, historical, or archaeological resource or vertebrate paleontological resources are discovered during quarrying activities, Oakley Mountain would immediately cease all activities within 200 feet of the discovery, insure that the discovery is properly protected, and immediately notify the BLM by telephone. Work would not resume until the discovery is evaluated by the BLM and the BLM issues notification that quarrying operations can proceed.
- Land disturbance associated with the Proposed Action would create disturbance areas that could be conducive to infestation of non-native invasive noxious weeds. Noxious weeds would be treated a minimum of once per year or as often as necessary to control them. For Scotch Thistle, herbicides should be applied in the summer months between the rosette and pre-bud stages. Other noxious weeds, if found would also be treated with herbicides, or as otherwise approved by the BLM.
- Solid waste and wastewater would be generated at the Project Area as a result of the fact that workers would live at the Project Area in mobile homes. Solid wastes should be collected and taken to the Oakley waste transfer station or disposed of in a manner consistent with the POO.
- Oakley Mountain agrees to reclaim the Project Area in accordance with the reclamation plan found within the Mining and Reclamation Plan.
- All disturbed areas would be re-seeded with a BLM approved seed mix during final reclamation. Reclamation would not be deemed complete until seeding is deemed successful by the authorized officer. Additional seeding would be required if initial seedings are unsuccessful.

### *Monitoring*

The sites will be monitored in accordance with BLM Policy including the 3809 Handbook and the regulations at 43CFR3809.600. The handbook specifies that POO level operations be inspected at a minimum of twice annually.

## **No-Action Alternative:**

The No Action Alternative is defined as maintaining the existing conditions and not implementing any aspect of the Proposed Action. Since much of the project area is already disturbed, this would include reclaiming existing disturbed areas.

## **Alternative C**

This alternative was developed in accordance with Idaho BLM IM 2012-043. This alternative would be the same as the Proposed Action with the following exceptions:

1. This alternative would limit the disturbed area of Gillette's quarry by 3.5 acres for a total disturbed area of 18.7 acres (See Map 3).
2. New disturbed areas would only occur interior to or between existing disturbed areas.

## **CHAPTERS 3&4, AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES**

The Project Area encompasses a roughly 125-acre portion of land on the western flank of Middle Mountain. Elevations within the Project Area range from 5,500 to 7,200 feet above mean sea level. Two draws flank the quarries, directing runoff generally in a westerly direction. There are also two ephemeral drainages that flank Oakley Mountain's mill-site and drain to the west. The draw to the south of the quarries is the only one that actively carries water year-round. The other draws and gullies described are ephemeral and only flow in response to rainfall or snowmelt. Middle Mountain is comprised almost entirely of micaceous quartzite (Oakley Stone) and is intruded by veins of quartz and underlain by granite. There are currently five additional active quarries within two miles of the project area, two of these quarries are completely or partially on BLM managed lands, while three are on private land. Currently there are approximately 16 acres disturbed at Gillette's quarry, 19 acres disturbed at Oakley Mountain's Quarry, and 23 acres disturbed at Oakley Mountain's mill-site. Oakley Mountain and Gillette have been operating on site for over five years. The Project Area was first mined by the Rodriguez family starting in 1974. Snake River Quartzite (later renamed Scrivanich Natural Stone and later renamed Oakley Mountain Stone) began mining in 1997 in the Rock Garden Quarry and also began using the Lion mill-site in 1997. Gillette has been mining in the Freeman Whittle Quarry since 2007.

Currently Gillette is not operating due to stockpiles of stone they mined in previous years. There are four trailers at the mine site to house workers once operations resume.

At the Lion mill-site there are currently 16 housing units on skids as well as four trailers for housing equipment. There is a rock tumbler on the south side of the mill-site that is used to tumble the stone to give it a roughed up exterior finish. There is a plastic-lined concrete fuel containment basin housing fuel for the equipment. During operational months there are semi-trucks visiting the mill-site on a daily basis to haul stone off site. During operational months there are also heavy haul trucks, 966 or 988 series front end loaders, and pick-up trucks on site at the mill-site.

During operational periods Oakley Mountain typically uses two to three excavators to peel back stone from the working face and move it onto the pit floor. Workers will hand select the best stone and will either split and palletize stone on the landing area, or the excavator will load it onto heavy haul trucks to be hauled down to the Lion mill-site.

The area surrounding the Project Area is predominantly rangeland and agricultural with existing stone quarries. Irrigation water for the portion of the Snake River Valley north of the Project Area is provided by Goose Creek Reservoir, which is situated roughly four miles west of the Project Area. The Project Area is accessed via dirt roads that connect to the city of Oakley, located roughly seven miles to the north. The Project Area is located at the northern portion of Middle Mountain, a more-or-less north-south trending mountain surrounded by flat valleys to the north, east, and west, and a continuing ridge-line to the south.

Cassia County encompasses a land area of 2,566 square miles and possesses a population of roughly 22,000 residents. The economy of Cassia County is driven by agriculture, mining, and manufacturing. Cassia County is one of the leading agricultural counties in both the state and the nation and is known for production from beef cattle, dairy cattle, sheep, potatoes, sugar beets, beans, and cereal crops. Approximately 82 percent of total economical sales in the county are from agricultural production and about 78 percent of direct or indirect employment is tied to agriculture. Cache Peak, with an elevation of 10,339 feet, is the highest peak in Cassia County. Cache Peak is located in the Albion Mountains in the Sawtooth National Forest roughly 11 miles east of the Project Area. Cassia County is bordered by Jerome and Minidoka Counties to the north, Twin Falls County to the west, Power and Oneida Counties to the east, and the state of Utah to the south.

#### *Cumulative Effects Area (Map 8)*

In order to assess the cumulative effects of this project the BLM needed to identify a cumulative effects analysis area. The cumulative effects analysis area was determined to be the northern portion of Middle Mountain, south of Oakley, Idaho, which contains the majority of the similar vegetation that occurs within the project area and the majority of Oakley Stone resources and development in Southern Idaho.

### **Air Quality**

The Clean Air Act requires the Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) to protect human health and safeguard public welfare. The EPA has set standards for six criteria pollutants: ozone, particulate matter, carbon monoxide, sulfur dioxide, lead, and nitrogen dioxide. An air shed must satisfy standards for these six pollutants to ensure compliance with the NAAQS.

The Idaho Department of Environmental Quality (IDEQ) is responsible for monitoring air quality in Idaho. Historically, the two most common criteria pollutants of concern in Idaho are particulate matter and carbon monoxide. In 2009, the IDEQ released the most recent Air Quality Monitoring Data Summary (IDEQ, 2009). According to the 2009 Air Quality Monitoring Data Summary, all areas of the state met the standards for both particulate matter and carbon monoxide.

Particulate matter is widespread throughout Idaho and sources include windblown dust, re-entrained road dust, smoke, industrial emissions, and motor vehicle emissions. There are currently no recording sites in Cassia County; however in 2009 the air quality for Twin Falls County, the nearest county with air monitoring data, was rated good 97 percent of the days and moderate 3 percent of the days.

The air quality of the Project Area is typical of undeveloped expanses of the Basin and Range Physiographic Province. Although air quality in the project area is generally assumed to be good, winds and storms generate airborne dust and local and regional wild fires produce smoke that can create haze that tends to be localized and short-lived. Dust is generated by vehicles traveling on Goose Creek Road, Warm Springs Road, and other dirt access roads in the area. Dust is generated by vehicles traveling to

and from rock quarries on Middle Mountain, and from heavy equipment and rock quarrying activities such as removal and stacking of stone.

#### No Action

Under the No Action Alternative, the Proposed Action would be rejected and the existing disturbances would be reclaimed. Impacts to air quality would occur for the duration of reclamation efforts and would result from emissions from equipment such as bulldozers, excavators, and trucks, as well as dust and particulate matter from the movement of material and machinery. Until seeding is fully established, periods of high winds could periodically result in dust and particulate matter being blown from the site.

#### Proposed Action

Air quality impacts are expected to be confined to the immediate areas of the quarries, the access roads, and the mill-site, resulting primarily from hauling operations. Emissions of carbon monoxide would occur during operations of equipment, trucks and generators. During periods of high winds dust may also be blown from the site. NAAQS standards are not expected to be exceeded due to the duration of emissions and the overall low amount of pollutants emitted in the general area. Since mining is currently ongoing in the project area and the adjacent areas at a similar level of use, implementing the Proposed Action would not result in a substantial decrease in air quality.

#### Alternative C

Impacts would be similar to those under the Proposed Action.

#### Cumulative Effects

Other effects to air quality in the cumulative effects area include fugitive dust from traffic along the Goose Creek Road, dust blowing from surrounding farmland in Cassia County, dust blowing off other existing quarry sites on Middle Mountain, fugitive dust from trucks hauling Oakley Stone from other existing operations, and smoke from regional wildfires in the summer and fall months. Cumulatively, these effects combined with the effects from the Proposed Action or Alternative C would be similar to existing levels.

### **Wastes, Hazardous or Solid**

Both operations have produced waste in the past, and have hauled off all waste to appropriate disposal facilities. Solid wastes have been hauled off as they are produced, and hazardous wastes such as used oil, hydraulic fluid and other lubricants have been hauled to appropriate disposal facilities or reused (used oil for heat). There is no evidence of past spills of hazardous materials (stained soils, empty containers, stressed vegetation, etc.) found during past site inspections.

#### No Action

All existing hazardous waste including petroleum products and lubricants would be removed from the site as the project area would be reclaimed. The removal of these products would eliminate any potential for future contamination.

## Proposed Action

Petroleum products would be stored on site at Gillette's quarry. Storage tanks with containment berms with impermeable plastic liners capable of holding a minimum of 120 percent of the tanks capacity would be sufficient to contain any spills. Solid wastes would be generated and transported to the Oakley Waste Transfer Station.

Petroleum products would also be stored on-site at the Lion mill-site. They are already present and are enclosed by a cement containment area that is lined with an impermeable plastic liner. The cement containment area is sufficient to contain any spills. Solid wastes would be generated and transported to the Oakley Waste Transfer Station.

## Alternative C

Impacts would be similar to those under the Proposed Action.

## Cumulative Effects

Wastes, both hazardous and solid, would continue to be generated throughout the cumulative effects area by other mining operations on both public and private lands. The total effects of production of solid and hazardous wastes from past, present, and future actions is unknown, however a review of aerial imagery and site specific knowledge does not indicate the generation of large amounts of solid or hazardous waste.

**Table 3: Cumulative Effects Acreages**

	Area (Acres)
Total Cumulative Effects Area	28,698
Total Mining Related Disturbance	294
BLM Mining Related Disturbance	103.9
Private Mining Related Disturbance	263.8
Gillette Sharp Existing Disturbance	16
Gillette Sharp Total Proposed Disturbance	22.2
Gillette Sharp Alternative C	18.7
Oakley Mountain Existing Disturbance	42
Oakley Mountain Total Proposed Disturbance	51.2

## Invasive Non-native Species

Scotch Thistle and Black Henbane, both non-native invasive noxious weeds as defined by the State of Idaho Department of Agriculture were observed at the project area. Most of the weeds were located along the edges of roads and some of the disturbed areas within the quarries. Most of the weeds appeared to have been sprayed/treated earlier in the summer, with only a few surviving the treatment. Weed treatment has been ongoing. Cheatgrass, a non-native invasive annual grass was observed at the mill-site.

## No Action

All areas would be reclaimed and would be reseeded. Initially the disturbance of ground and spreading of topsoil would provide an ideal bed for weeds to flourish. Continued noxious weed treatment and

establishment of seeding in disturbed areas would reduce risk of additional noxious weed establishment and persistence.

#### Proposed Action

The Proposed Action would result in a total increase from the existing disturbed area of 58 acres to 73.4 acres. This would increase the likelihood for the establishment of noxious weeds on the additional 15.4 acres of disturbance. Under the Proposed Action, both proponents would be required to spray for weeds yearly and as often as necessary to control them. Weed treatment in the area has been ongoing, and implementing the proposed action would produce impacts similar to the existing condition.

#### Alternative C

Impacts would be similar to those under the Proposed Action, with a total amount of surface disturbance of 69.9 acres.

#### Cumulative Effects

Cumulatively, selecting the Proposed Action or Alternative C would increase the total amount of mining related disturbance from approximately 294 acres to 309.4 acres or 305.9 acres, respectively. Cumulatively, the potential for establishment of new infestations of noxious weeds and invasive plants would remain similar to the potential that currently exists. Ongoing mining activities could result in additional acres of disturbance on private and public lands, however, there are not currently any additional proposed mining related actions on BLM lands in the cumulative effects area. Additional actions that may result in bare ground conducive to establishment of noxious weeds and invasive plants includes transmission line, road, and right of way maintenance, expanding OHV use, use of existing gravel pits, livestock grazing, and the Burley Landscape Juniper Removal Project. BLM authorized uses such as transmission line, road, and right of way maintenance and use of existing gravel pits include measures to prevent or control establishment of noxious weeds and invasive plants. BLM would continue to treat infestations of noxious weeds and would continue to work cooperatively with the Cassia County Weed Superintendent to reduce noxious weeds.

### **Mineral Resources**

The Middle Mountain, area is known for production of micaceous quartzite, near several other active micaceous stone quarries. The Project Area is conducive to quarrying operations due to the fact that stone is located near the surface and the Project Area is easily accessed via Goose Creek Road, near the town of Oakley, Idaho.

#### No Action

The No Action Alternative would require the closing of two producers of Oakley Stone, resulting in an increased demand for Oakley Stone. The reserves of Oakley Stone within the project area would not be removed and would remain on site.

#### Proposed Action

This would result in the removal of Oakley Stone Resources from two open pit quarries. The annual removal rate would depend on the demand for Oakley Stone. Once these resources are removed, they cannot be replaced.

## Alternative C

Selecting Alternative C would result in a smaller mine area for Gillette. It would not allow them to mine the material to the south of the access road and would result in a shorter mine life than the Proposed Action due to a reduced amount of reserves of stone.

## Cumulative Effects

Cumulatively, the two mining operations in this EA, as well as a number of other mining operations, would continue to produce Oakley Stone.

## **Threatened/Endangered Animals; Sensitive Animals; Migratory Birds**

This Section documents the effects of the alternatives on special status wildlife species including threatened or endangered animals, BLM sensitive animals and US Fish and Wildlife Service designated Migratory Birds of Conservation Concern. A review of listed species for the project area determined that there are no threatened or endangered species which could be affected by this project. There are several BLM sensitive species which could be affected including some which are Migratory Birds of Conservation Concern. However, there are no Migratory Birds of Conservation Concern which may be affected which are not already considered sensitive by the BLM. Therefore, all of the Migratory Birds of Conservation Concern will simply be referred to as BLM sensitive species for the remainder of this document.

**Greater Sage-grouse** - Sage-grouse are a sagebrush obligate species. The US Fish and Wildlife Service recently determined that the greater sage-grouse is a candidate for listing under the Endangered Species Act, but listing has been precluded at this time. Range wide, greater sage-grouse currently occupy approximately 56 percent of their historic range (Connelly et al. 2004). Sagebrush is the main component of the adult sage-grouse diet throughout the year, and sagebrush is especially important during winter (Connelly et al. 2000, Wallestad et al. 1975). Forbs are consumed by hens during pre-laying and by all age and sex classes during summer. Insects are critical for juveniles during the first 3-4 weeks of life, with forbs increasing in the diet as the juveniles' age. Areas having better forb and invertebrate availability appear to have better grouse productivity (Drut et al. 1994). The Middle Mountain quarry area contains suitable breeding and brood rearing habitat for sage-grouse. Sage-grouse actively use the surrounding habitat and are occasionally seen along mining roads and within the quarry sites. The mill-site along the Goose Creek Road has marginal habitat for sage-grouse because the road is heavily used, and because this area was previously seeded with crested wheatgrass that competes more aggressively with other grass and forb species. All of the project area and surrounding lands were identified as preliminary priority sage-grouse habitat.

Sage-grouse populations are considered to be on the decline. However, local populations appear stable as evident of a 25 percent increase in male lek attendance during the 2012 monitoring season.

Sage grouse leks do not occur in the project footprint area. There are two leks approximately 1.15 miles from both the quarry and mill-sites.

**Brewer's Sparrow** - This species requires extensive tracts of open shrub lands including sagebrush, plains, alpine meadows, and valleys with low shrubbery. Brewer's sparrows nest in arid sagebrush-grassland habitat; nests are built in sagebrush and other small shrubs, usually near the ground. Brewer's sparrows are known to occur in the project area.

**Sage Sparrow** - This species prefers large patches of sagebrush, and may need patches of continuous habitat of at least 130 hectares (320 acres). However, at least one study has shown that this species will accept the loss of up to 50 percent of the shrubs to wildfire or prescribed fire, provided the landscape pattern is a mosaic of burned and unburned areas (Petersen and Best 1985). Sage sparrows breed almost exclusively in sagebrush (especially big sagebrush), or sagebrush mixed with other shrubs. They prefer semi-open to dense stands of evenly-spaced to clumped, tall sagebrush (Knick and Rotenberry 1995). As ground feeders, they prefer only a modest amount of understory vegetation. Sage sparrows likely occur within the Project Area.

**Loggerhead shrike** - This species prefers open habitat characterized by grasses and forbs of low stature interspersed with bare ground and shrubs or low trees (Dechant et al. 2002). Loggerhead shrikes use prairies, pastures, sagebrush, desert, and fencerows or shelterbelts of agricultural fields, as well as old orchards, riparian areas, open woodlands, farmsteads, suburban areas, mowed road rights-of-way, abandoned railroad rights-of-way, cemeteries, golf courses, reclaimed strip mines, and open juniper savannahs (Woods and Cade 1996). Scattered shrubs or trees, particularly thick or thorny species, serve as nesting substrates and hunting perches. Fences, utility wires, grasses, and forbs also may be used as perches. Thorny shrubs, trees, and barbed wire fences also serve as impaling stations. The loggerhead shrike is expected in the Project Area.

**Pygmy Rabbits** – Pygmy rabbits occur in dense patches of big sagebrush. The winter diet of pygmy rabbits is almost exclusively sagebrush so they are considered a sagebrush obligate species. There are no known pygmy rabbit locations in the project area but it is possible that they use the Project Area based on the availability of suitable habitat.

#### No Action

Effects of the No Action alternative to BLM sensitive animals would occur during the reclamation of the quarries and the mill-site. Heavy machinery would be used to move rock and soil and to seed the ground. BLM sensitive animals could be temporarily disturbed but would not likely suffer any injury. After reclamation, human activity and noise in the area would cease and habitat qualities would slowly improve through re-vegetation such that there would be a slight improvement in habitat quality on the mountain. However, the size of the quarries and mill-site in comparison to the amount of habitat needed by these species suggests there may be little increase in any populations post reclamation.

#### Proposed Action

Effects of the Proposed Action to BLM sensitive animals would be similar to the current condition with the exception of slight increases in acres of disturbance through expansion of the existing pits. Due to the nature of the mining activities, which clear off all soil and vegetation, all of the previously disturbed quarry and mill-site areas are expected to already be void of suitable habitat for BLM sensitive species. Most of the new disturbance that may occur would be interspaced with existing disturbance and would have no effect to BLM sensitive species. The outward expansion into approximately 3 acres of previously undisturbed areas would reduce a negligibly important additional amount of available habitat for sage-grouse, Brewer's sparrows, sage sparrow and loggerhead shrike. Restricting ground disturbing activities during nesting periods would prevent any harm to individuals living in the area. This area is not expected to be suitable for pygmy rabbits because of the rocky soil, so pygmy rabbits are not expected to be affected by the quarries or the quarry expansion.

The continuation of mining at both the quarries and mill-site is expected to continue to disturb BLM sensitive wildlife. Some avoidance by these species is expected, however, mining on this mountain is an

ongoing activity and despite outward expansion by approximately 3 acres, there is not expected to be any increase in the level of activity associated with operations that may result from this Proposed Action.

The effects of the Proposed Action on BLM sensitive wildlife populations through operations have largely already occurred due to the ongoing nature of this project. BLM sensitive animals may have initially been disturbed by the digging activities and noise from heavy machine operation and would likely have dispersed onto surrounding lands or acclimated to ongoing activities. Activity location, timing and seasonality of mining operations may vary from year to year. However periods of inactivity are expected during which animals may move across the area rather than around. This is evident by occasional observations of sage-grouse and other wildlife or their sign on the access road and even within the mining pits. The long-term effect of the mining operations may have initially limited sage-grouse populations in the area but these populations appear stable and are thus able to adjust to the current level of mining activity. BLM sensitive species other than sage-grouse have unknown population status but are likely more resilient to small scale projects such as this because they do not require as much habitat continuity and as large of patch sizes as sage-grouse. The effects of expanding the pit by 3 acres is not expected to measurably affect BLM sensitive species at the population level. As stated early, some habitat would be lost, however it would not be enough to have any effect on any measurable BLM sensitive species.

#### Alternative C

The effects of Alternative C on BLM sensitive wildlife are essentially the same as the Proposed Action with the exception of three less acres of disturbance.

#### Cumulative Effects

Other actions affecting sensitive animals in the cumulative effects analysis area include range development for livestock, ongoing grazing, fire suppression, the Burley Landscape Sage-Grouse Habitat Restoration Project, recreation, other mining operations, existing roads and other Right-of-Ways.

Range developments such as fences, pipelines and troughs can cause small temporary localized soil disturbances which reduce the available forage and cover for sage-grouse, pygmy rabbits and sensitive songbirds. Fences could be potential collision hazards for sage-grouse and sensitive birds. Troughs could have long-term reduced vegetation in the immediate area of the trough, thus reducing the forage and cover used by sensitive animals. This effect is expected to be minimal in comparison to what is available for forage and cover in surrounding areas. However, troughs sometimes provide a water source in an otherwise dry area as a benefit.

Ongoing grazing could affect sensitive wildlife by reducing cover, disturbing animals and potentially trampling nests. Grazing is managed to allow enough cover for wildlife and is expected to meet standards. Disturbances and potential trampling by livestock are expected to be relatively rare to non-existent because most of the sensitive wildlife would be located in dense shrub covered areas livestock tend to avoid.

Fire suppression may employ methods such as dozing or burning (in advance of the fire) to create a break in fuel. This direct effect can reduce the amount of habitat available for sensitive animals, but indirectly this effort can stop fire progression which could inevitably protect adjacent areas of sensitive animal habitat. Areas disturbed through suppression efforts and areas burned by the fire are often rehabilitated through post-fire rehabilitation efforts. These efforts are expected to minimize the effects of fire on sensitive animal habitat.

The Burley Landscape Project involves the removal of Utah juniper from the sagebrush steppe by hand-cutting with chainsaws and mastication. Most of the Burley Landscape project occurring in the cumulative effects analysis area would be cut with chainsaws. There may be some short term disturbance to BLM sensitive wildlife but no harm to individuals is expected. The resulting vegetation is expected to improve in quality for sage-grouse and other sagebrush or shrub obligate species which tend to avoid areas having juniper.

Recreation such as OHV use or concentrated hiking can temporarily displace animals into surrounding areas. However, there is little public access to the public land in the cumulative effects area so very little recreation activity is expected. Sensitive wildlife could be affected by existing transmission lines and their associated maintenance.

Other mining operations which occur on public and private land disturb and remove vegetation, soils and rock, resulting in a total long-term loss of wildlife habitat. Disturbances vary from short-term testing by digging small holes to longer term (10 years or greater) activity. Operations typically minimize disturbance and reclaim soil to replace at a later date. These operations could disturb wildlife; however this effect is expected to be most prominent when operations begin and are expected to be minimal once the vegetation is removed. Overall, the total mining operations in the cumulative effects area only amount to about 1 percent of the total available area (See Table 3).

Other existing Rights-of-Way such as pipelines, roads and existing transmission lines could reduce habitat quality. Roads could increase traffic collision. Transmission lines could be collision hazards for sensitive species and could also increase the predation risk of sensitive species living in the vicinity of the line.

When these other actions are combined with the Proposed Action or Alternative C, there is expected to be little change in the habitat quality for pygmy rabbit, sage-grouse, loggerhead shrike, Brewer's sparrow and sage sparrow in the cumulative effects area because of the small area being used for this activity and the lack of additional projects other than that which is ongoing. Based on the current habitat and levels of disturbance, sensitive animals are expected to continue to thrive in this area.

## **Wildlife**

The Project Area and surrounding lands are occupied by mule deer and rarely by pronghorn antelope. These animals may pass through or nearby mining operations but once the ground has been cleared it would not be considered habitat for these species. However, there is abundant high quality habitat for mule deer on surrounding lands.

### **No Action**

Effects of the No Action alternative to wildlife would occur through the reclamation of the quarries and the mill-site. During the reclamation process, heavy machinery would be used to move rock and soil and to seed the ground. Deer or antelope could be temporarily disturbed but would not likely suffer any injury. After reclamation, human activity and noise in the area would cease and habitat qualities would slowly improve through re-vegetation such that there would be a slight improvement in habitat quality on the mountain. However, the size of the quarries and mill-site in comparison to the amount of habitat needed by these species suggests there will be little increase in any populations.

## Proposed Action

Effects of the Proposed Action to wildlife would be similar to the current condition with the exception of slight increases in acres of disturbance through expansion of the existing pits. Due to the nature of the mining activities, which clear off all soil and vegetation, all of the previously disturbed quarry and mill-sites areas are expected to already be void of suitable habitat for mule deer and pronghorn antelope. Most of the new disturbance that may occur would be interspaced with existing disturbance and would have no effect to wildlife. The outward expansion into approximately 3 acres of previously undisturbed areas would reduce a negligibly important additional amount available habitat for wildlife.

The continuation of mining at both the quarries and mill-site is expected to continue to disturb wildlife. Some avoidance by wildlife is expected, however, mining on this mountain is an ongoing activity and there is not expected to be any increase in mining activity that may result from this proposed action. Also, wildlife is expected to acclimate to the activity which has little potential to cause harm to individuals.

The effects of the Proposed Action on wildlife populations through operations have largely already occurred due to the ongoing nature of this project. Mule deer and pronghorn antelope may have initially been disturbed by the digging activities and heavy machine operation, and would likely have dispersed onto surrounding lands. Activity location, timing and seasonality may vary from year to year. However periods of inactivity are expected during which animals may move across the area rather than around. This is evident by frequent observations of mule deer and their sign on the access road and the mining pits. The long-term effect of the mining operations may have little effect on mule deer or antelope in the area because the populations appear stable and are thus able to adjust to the current level of mining activity. The effects of the expanding the pit by 3 acres is not expected to measurably affect either mule deer or pronghorn antelope at the population level. As stated early, some habitat would be lost, however it would not be enough to have any effect.

## Alternative C

The effects of Alternative C on wildlife are essentially the same as the Proposed Action with the exception of three additional acres of disturbance.

## Cumulative Effects

Other actions affecting non-sensitive wildlife in the cumulative effects analysis area include range development for livestock, ongoing grazing, fire suppression, the Burley Landscape Sage-Grouse Habitat Restoration Project, recreation, other mining operations, existing roads and other Right-of-Ways.

Range developments such as fences, pipelines and troughs can cause small temporary localized soil disturbances which reduce the available forage and cover for wildlife. Fences could be potential collision hazards for ungulates and birds, however, mule deer are skilled at jumping fences and antelope will slide under them. Troughs could have long-term reduced vegetation in the immediate area of the trough, thus reducing the forage and cover used by wildlife. This effect is expected to be minimal in comparison to what is available for forage and cover in surrounding areas. However, troughs sometimes provide a water source in an otherwise dry area as a benefit to wildlife.

Ongoing grazing could affect wildlife by reducing cover, disturbing animals and potentially trampling nests. Grazing is managed to allow enough cover for wildlife and is expected to meet standards. Disturbances and potential trampling by livestock are expected to be relatively rare to non-existent because most wildlife would be located in dense shrub covered areas livestock tend to avoid.

Fire suppression may employ methods such as dozing or burning (in advance of the fire) to create a break in fuel. This direct effect can reduce the amount of habitat available for wildlife, but indirectly this effort can stop fire progression which could inevitably protect adjacent areas of sensitive animal habitat. Areas disturbed through suppression efforts and areas burned by the fire are often rehabilitated through post-fire rehabilitation efforts. These efforts are expected to minimize the effects of fire on wildlife habitat.

The Burley Landscape project involves the removal of Utah juniper from the sagebrush steppe by hand-cutting with chainsaws and mastication. Most of the Burley Landscape project occurring in the cumulative effects analysis area would be cut with chainsaws. There may be some short term disturbance to wildlife but no harm to individuals is expected. The resulting vegetation is expected to improve in quality for wildlife dependent on sagebrush.

Recreation such as OHV use or concentrated hiking can temporarily displace animals into surrounding areas. However, there is little public access to the public land in the cumulative effects area so very little recreation activity is expected. Wildlife could be affected by existing transmission lines and their associated maintenance.

Other mining operations which occur on public and private land disturb and remove vegetation, soils and rock, resulting in a total long-term loss of wildlife habitat. Disturbances vary from short-term testing by digging small holes to longer term (10 years or greater) activity. Operations typically minimize disturbance and reclaim soil to replace at a later date. These operations could disturb wildlife; however, this effect is expected to be most prominent when operations begin and are expected to be minimal once the vegetation is removed. Overall, the total mining operations in the cumulative effects area only amount to about 1 percent of the total available area (See Table 3).

Other existing Rights-of-Way such as pipelines, roads and existing transmission lines could reduce habitat quality. Roads could increase traffic collision. Transmission lines could be collision hazards for sensitive species and could also increase the predation risk of sensitive species living in the vicinity of the line.

When these other actions are combined with the Proposed Action or Alternative C, there is expected to be little change in the habitat quality for wildlife in the cumulative effects area because of the small area being used for this activity and the lack of additional projects other than that which is ongoing. Based on the current habitat and levels of disturbance, wildlife is expected to continue to thrive in this area.

### **Vegetation Types, Communities, Vegetative Permits and Sales**

The predominant vegetation consists of naturally occurring bunchgrasses, big sagebrush, and rabbitbrush. Other common plants are Phlox, Snowberry, and Utah serviceberry. The Lion mill-site is located lower on the ridge (elevation of 5,600') and vegetation is dominated by Wyoming Big Sage, Rabbitbrush, Crested wheatgrass, Sandbergs Bluegrass, Bluebunch Wheatgrass, and Cheatgrass. The quarry sites are both higher in elevation and receive greater rain/snowfall amounts. The dominant vegetation on the perimeters of the quarries are Mountain Big Sage, Serviceberry, Snowberry, Bluebunch Wheatgrass, Sandberg's Bluegrass, Phlox, and other assorted forbs.

There were some patches of noxious weeds including Scotch Thistle and Black Henbane located primarily along access roads. The majority of the weeds had been treated with herbicide but a few persisted.

## No Action

If the No Action Alternative is selected for implementation, the existing 58 acres of disturbed area would be reclaimed. Some areas, including the pit highwalls, would not be able to be seeded due to the steepness of the terrain. Once reclaimed and the seedings have successfully established, the site will consist of mainly native bunchgrasses and shrubs. Shrubs from adjacent undisturbed areas such as Big Sage, Rabbitbrush, and Snowberry will gradually fill in the areas that have been reclaimed.

## Proposed Action

If implemented, the Proposed Action would result in an additional removal of 15.4 acres of vegetation for the life of the quarries. When quarrying operations are complete, the disturbed area would be reclaimed by grading the dumps, spreading stockpiled topsoil, and seeding the areas with an approved seed mixture as described in the Mining and Reclamation Plan. Once reclaimed and the seedings have successfully established, the site will be restored with mainly native bunchgrasses and some shrubs.

## Alternative C

The effects of Alternative C on wildlife are essentially the same as the Proposed Action with the exception of three less acres of disturbance during the life of the mines.

## Cumulative Effects

Within the cumulative effects area, approximately 294 acres of vegetation have been removed due to mining related disturbance. The proposed action would remove an additional 15.4 acres under the proposed action, or 11.9 acres under Alternative C. Under either alternative, approximately 1.1 percent of the cumulative effects area would be disturbed for mining uses. Other actions that could potentially disturb vegetation in the reasonable foreseeable future include; transmission line, road, and right-of-way maintenance, expanding OHV use, use of existing gravel pits, livestock grazing, and the Burley Landscape juniper removal project. The Burley Landscape juniper removal project would remove only juniper trees. Overall the effects to vegetation by the Proposed Action or Alternative C combined with the past, present, and future actions would be minimal and vegetation is expected to persist.

## Soils

According to the Soil Survey Report for Cassia County, Idaho, prepared by the Natural Resources Conservation Service (NRCS) there are four soil map units in the project area. These four map units are: the Povey very stony loam, 35 to 55 percent slopes, the Povey-Middlehill complex, 20 to 55 percent slopes, the Taunton silt loam, 4 to 8 percent slopes, and the Yeates Hollow-Chen-Povey complex, 25 to 55 percent slopes.

The Lion mill-site is on a flat at the base of the western flank of Middle Mountain, the soils at the mill-site are composed entirely of the Taunton silt loam, 4 to 8 percent slopes.

Oakley Mountain's quarry is directly above (east) of Gillette's quarry, and contains Yeates Hollow-Chen-Povey complex, 25 to 55 percent slopes (over the western portion of the quarry area), Povey-Middlehill complex, 20 to 55 percent slopes (over the eastern portion of the quarry area), and a very small portion of Povey very stony loam, 35 to 55 percent slopes (over the very northern portion of the quarry area).

Gillette's quarry is located on a western facing slope that includes primarily Yeates Hollow-Chen-Povey complex, 25 to 55 percent slope (over the southern  $\frac{3}{4}$  of the quarry area) and a very small amount of Povey very stony loam, 35 to 55 percent slopes in the northern-most portion.

Generally soils within the project area are deeper towards the base of the mountain where the Lion mill-site is located and shallow to non-existent on the ridge top where the quarries are located. The areas that have already been disturbed at both quarries have been stripped of topsoil and the topsoil stockpiled for reclamation purposes.

#### No Action

The No Action Alternative would not result in removal or compaction of any additional soils because the existing quarries and mill-site would be reclaimed. Approximately 58 acres of previously disturbed ground would be reclaimed by contouring, spreading existing topsoil stockpiles, and seeding.

#### Proposed Action

If the Proposed Action is selected, soil will be stripped from the 15.4 acres that are proposed to be disturbed at the quarry areas, and stockpiled in the respective soil stockpile areas for reclamation. Once mining is completed at the site, the waste pile will be contoured and the stockpiled topsoil will be spread over the area and seeded. Operations at the mill-site have compacted the soil in some areas; soils would continue to be compacted in those areas.

#### Alternative C

The effects to soils under Alternative C would be similar to those under the Proposed Action, with the exception of 3.5 less acres of soil removed.

#### Cumulative Effects

Within the cumulative effects area, approximately 294 acres have been disturbed due to mining related activities. Throughout this area some of the soils have been removed, some have been compacted, and some stockpiled and stored for use in reclamation. The Proposed Action would remove an additional 15.4 acres of soils to be used in reclamation; Alternative C would remove an additional 11.9 acres of soil to be used for reclamation. Other actions that would affect soils within the cumulative effects area include use of existing gravel pits, wildland fires, livestock grazing, and right of way maintenance. The addition of disturbance from this project when combined with effects from past, present, and future actions is expected to result in minimal effects to soils.

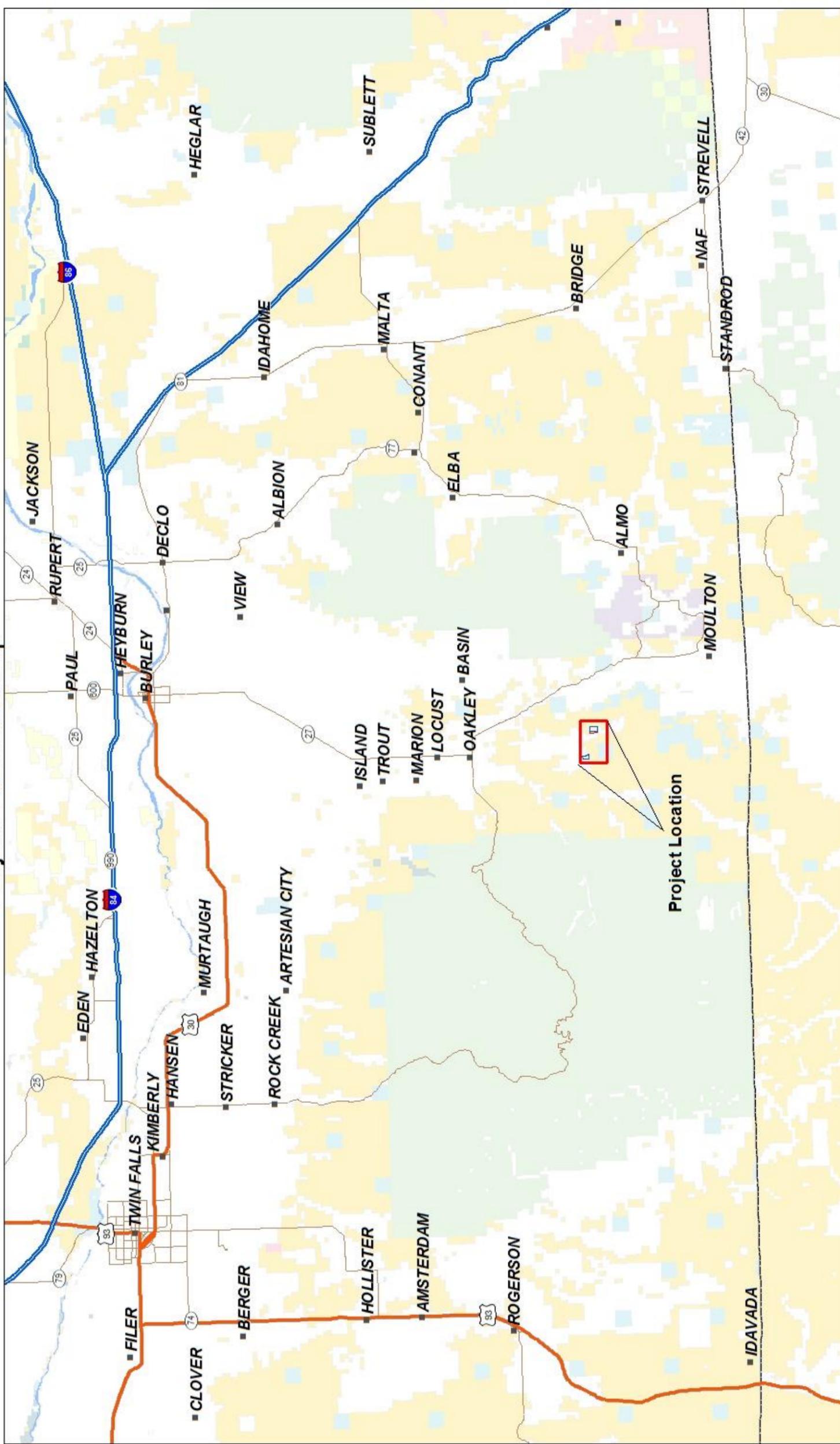
#### 4.0 LIST OF PREPARERS

Jeremy Bisson	Wildlife Biologist
Steve Lubinski	Geologist
Scott Sayer	Natural Resource Specialist
Suzann Henrikson	Archaeologist

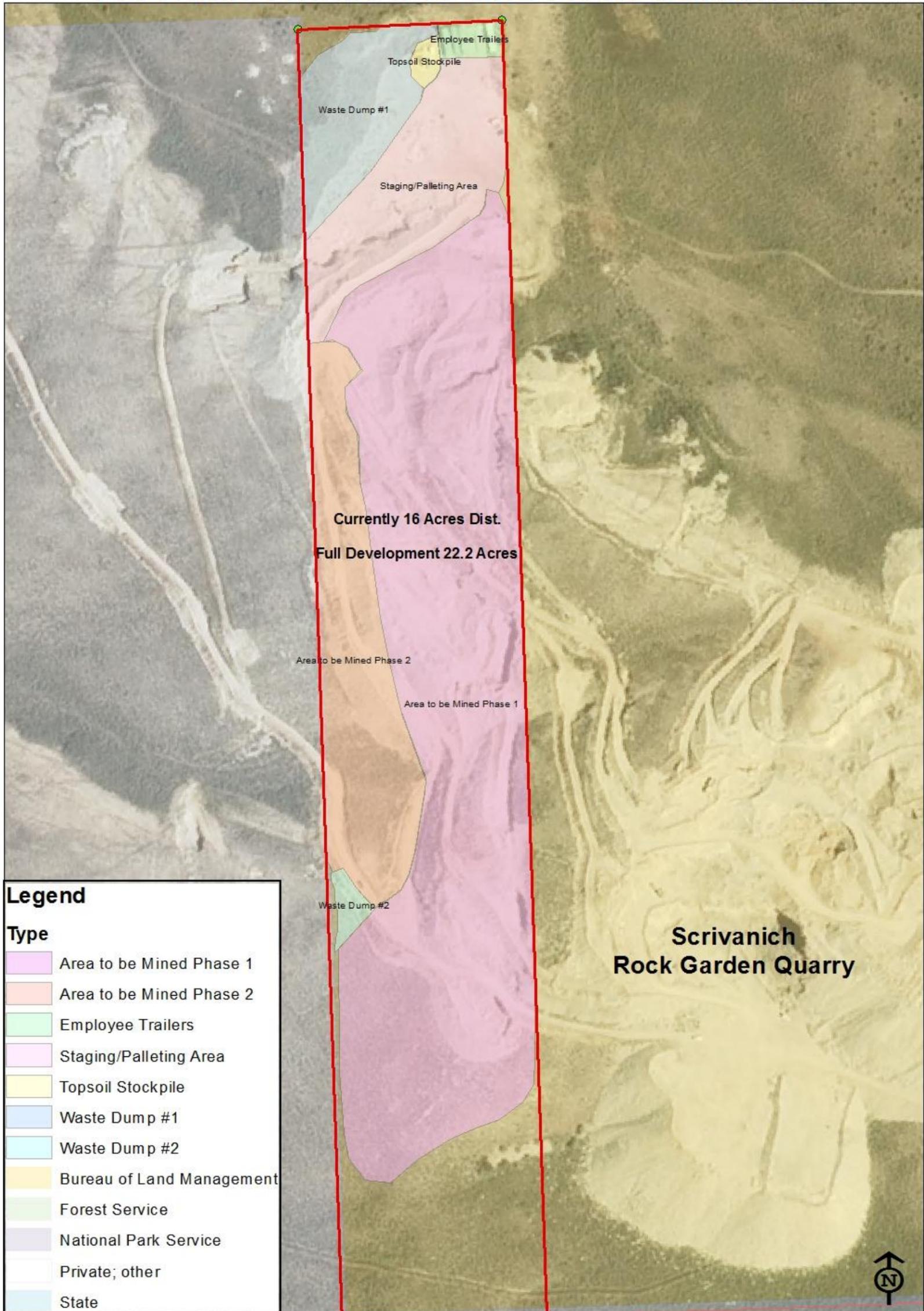
#### Bibliography

- A Utah Flora, Second Edition, Revised. Welsh, Stanley L.; Atwood, Duane N.; Goodrich, Sherel; and Higgins, Larry C. 1993. Print Services, Brigham Young University, Provo, Utah.
- D. Alt and D. Hyndman, Roadside Geology of Idaho, Missoula: Mountain Press Publishing Company, 1989.
- BLM Cassia Resource Field Management Plan (RMP) – Burley District Office (January 24, 1985).
- Cassia County Idaho Website – Demographics, Economics, and Statistics.
- Connelly, J.W., S.T. Knick, M.A. Schroeder and S.J. Stiver. 2004. Conservation Assessment of Greater Sage-grouse and Sagebrush Habitats. Western Association of Fish and Wildlife Agencies. Unpublished Report. Cheyenne, Wyoming.
- Connelly, J.W., M.A. Schroeder, A.R. Sands and C.E. Braun. 2000. Guidelines to manage sage-grouse populations and their habitats. Wildlife Society Bulletin 28:967-985.
- Dechant, J.A., M.L. Sondreal, D.H. Johnson, L.D. Igl, C.M. Goldade, M.P. Nenneman, A.L. Zimmerman and B.R. Euliss. 2002. Effects of management practices on grassland birds: Loggerhead Shrike. Northern Prairie Wildlife Research Center, Jamestown, ND: Northern Prairie Wildlife Research Center Home Page.
- Drut, M.S., W.H. Pyle and J.A. Crawford. 1994. Diets and food selection of sage-grouse chicks in Oregon. Journal of Range Management 47: 90-93
- Petersen, K.L., and L.B. Best. 1985. Nest-site selection by Sage Sparrows. Condor 87:217-221.
- Idaho Department of Environmental Quality, "2009 Air Quality Monitoring Data Summary," 2012. [Online]. Available: <http://www.deq.idaho.gov>. [Accessed 15 June 2012].
- Natural Resources Conservation Service, "Web Soil Survey," 2009. [Online]. Available: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>. [Accessed 27 July 2011].
- Petersen, K.L., and L.B. Best. 1985. Nest-site selection by Sage Sparrows. Condor 87:217-221.
- Wallestad, R.O., J.G. Peterson and R.L. Eng. 1975. Foods of adult sage-grouse in central Montana. Journal of Wildlife Management 39:628-630.
- Woods, C.P., and T.J. Cade. 1996. Nesting habitat of the loggerhead shrike in sagebrush. The Condor 98

# Gillette Sharp and Oakley Mountain Corp. Project Location Map

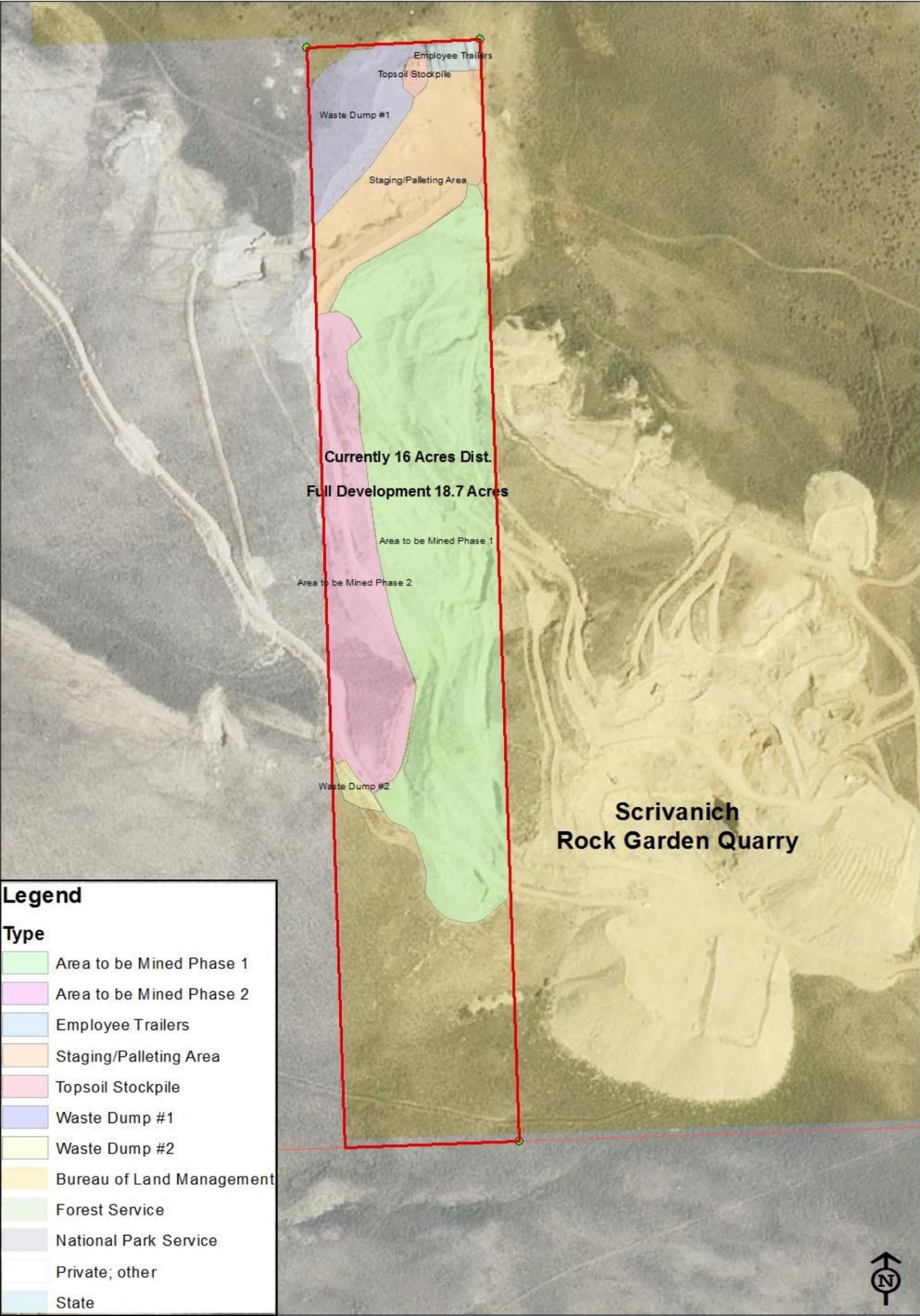


# Gillette-Sharp Corporation - Conceptual Design Freeman Whittle #19 and Rock Garden #6



Legend	
Type	
<span style="display: inline-block; width: 15px; height: 15px; background-color: #FFC0CB; border: 1px solid black;"></span>	Area to be Mined Phase 1
<span style="display: inline-block; width: 15px; height: 15px; background-color: #FFDAB9; border: 1px solid black;"></span>	Area to be Mined Phase 2
<span style="display: inline-block; width: 15px; height: 15px; background-color: #90EE90; border: 1px solid black;"></span>	Employee Trailers
<span style="display: inline-block; width: 15px; height: 15px; background-color: #FFB6C1; border: 1px solid black;"></span>	Staging/Palleting Area
<span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFF00; border: 1px solid black;"></span>	Topsoil Stockpile
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ADD8E6; border: 1px solid black;"></span>	Waste Dump #1
<span style="display: inline-block; width: 15px; height: 15px; background-color: #00CED1; border: 1px solid black;"></span>	Waste Dump #2
<span style="display: inline-block; width: 15px; height: 15px; background-color: #FFD700; border: 1px solid black;"></span>	Bureau of Land Management
<span style="display: inline-block; width: 15px; height: 15px; background-color: #90EE90; border: 1px solid black;"></span>	Forest Service
<span style="display: inline-block; width: 15px; height: 15px; background-color: #D8BFD8; border: 1px solid black;"></span>	National Park Service
<span style="display: inline-block; width: 15px; height: 15px; background-color: #FFFFFF; border: 1px solid black;"></span>	Private; other
<span style="display: inline-block; width: 15px; height: 15px; background-color: #ADD8E6; border: 1px solid black;"></span>	State

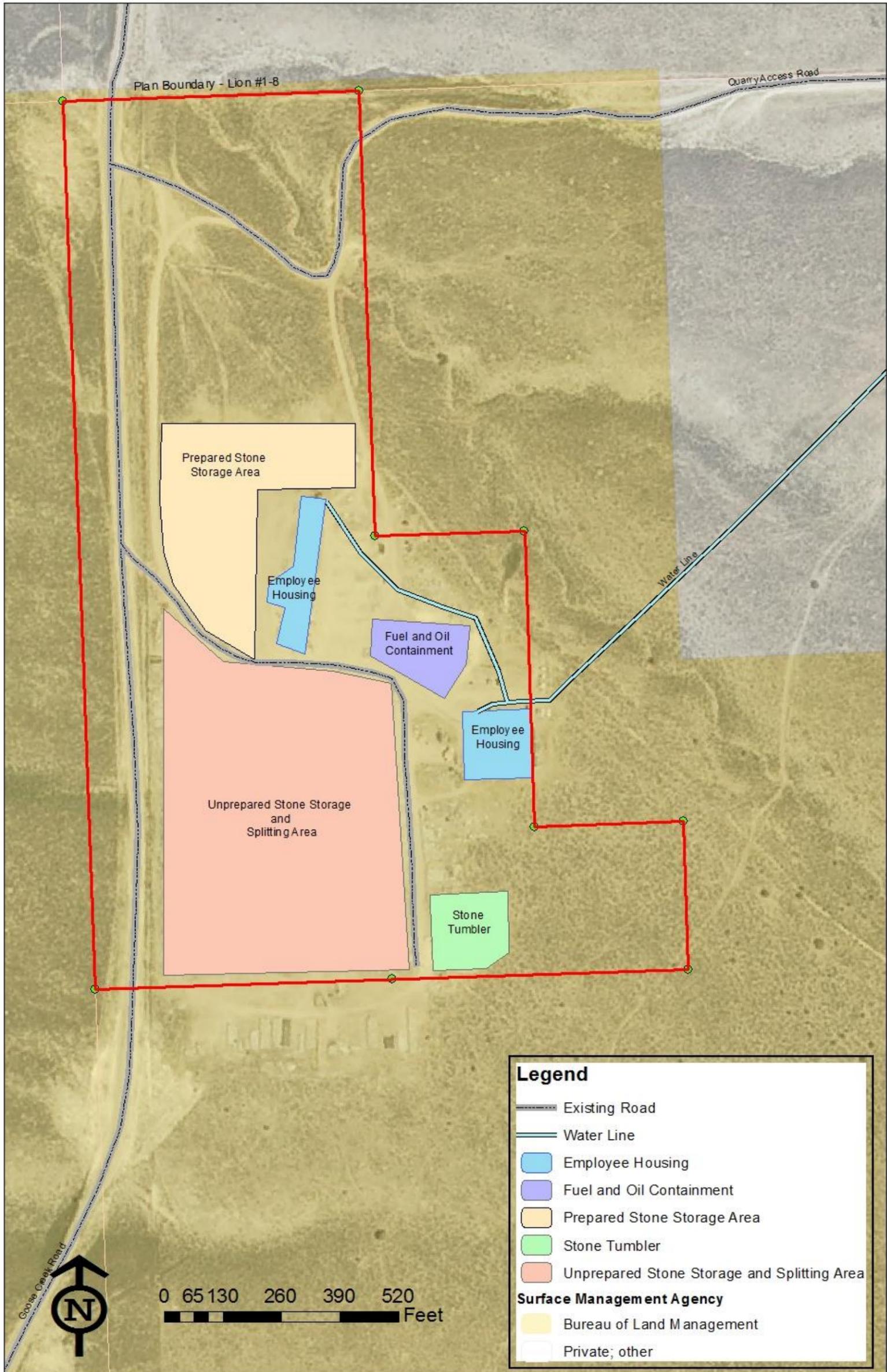
# Gillette-Sharp Corporation - Conceptual Design Alt. C Freeman Whittle #19 and Rock Garden #6



Map 3

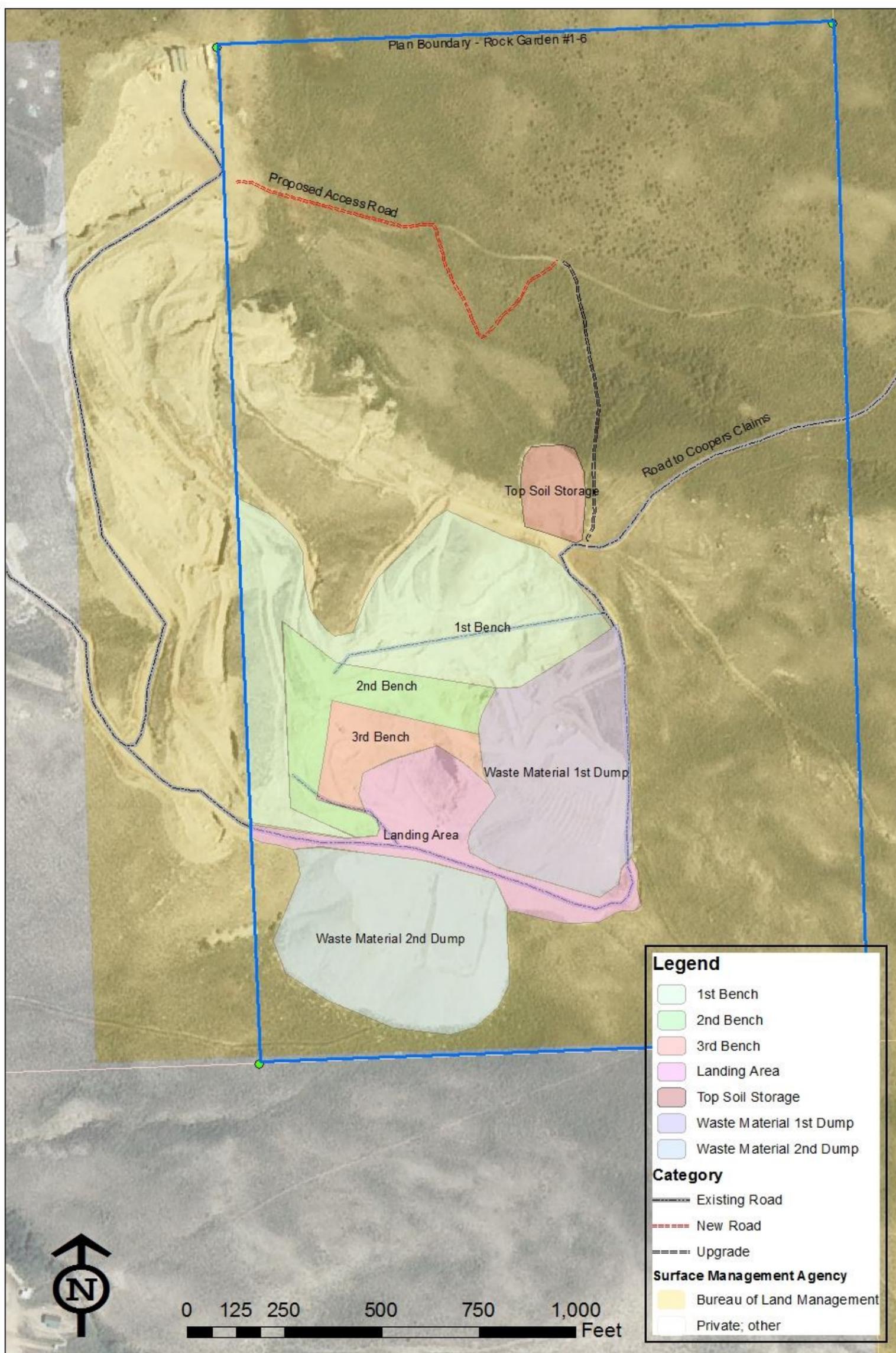
0 0.00750.015 0.03 0.045

# Oakley Mountain Corp. - Lion Millsite Claims #1-8



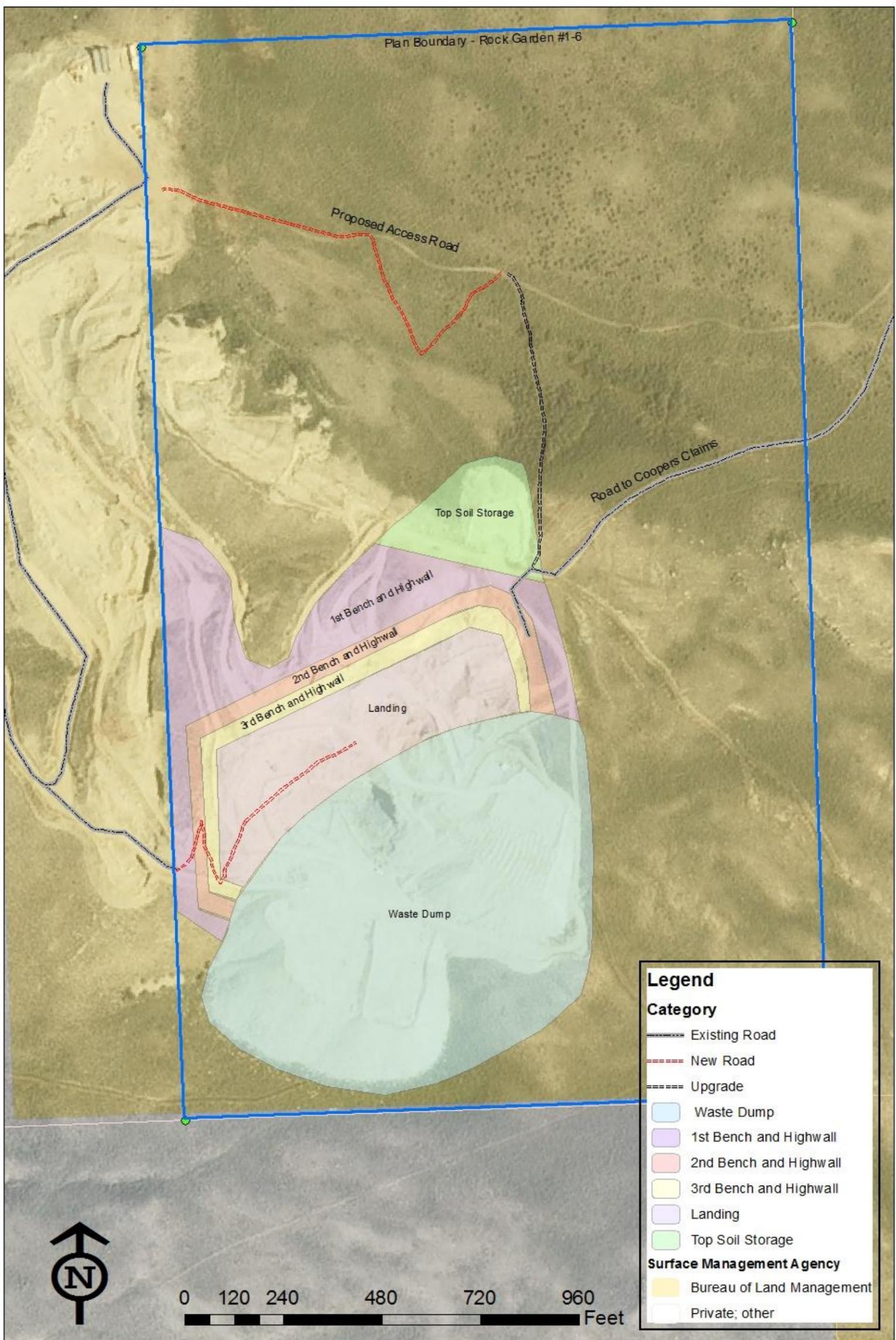
Map 4

# Oakley Mountain Corp. - Rock Garden Quarry Conceptual Design - Early Development



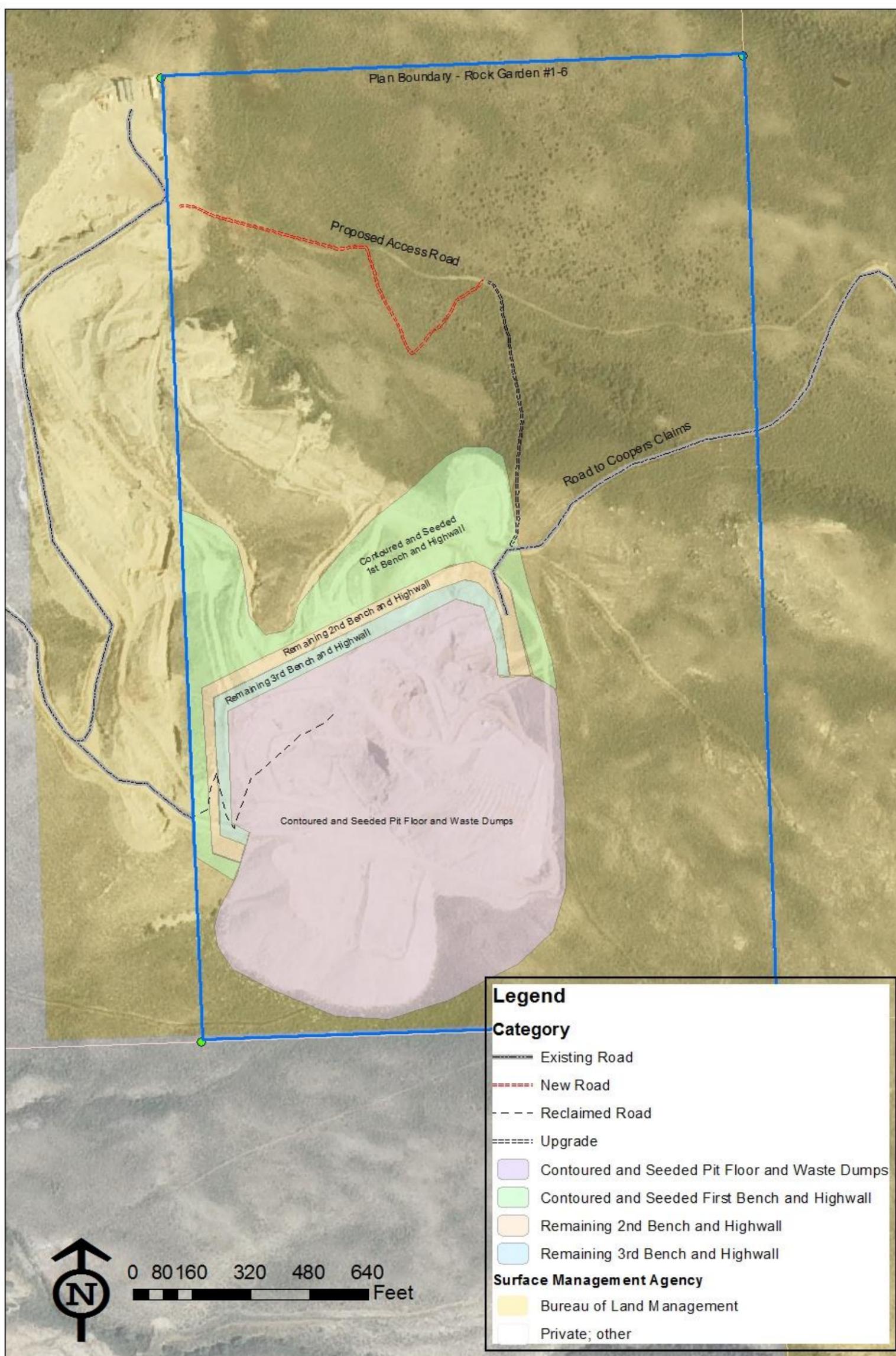
Map 5

# Oakley Mountain Corp. - Rock Garden Quarry Conceptual Design - Maximum Development



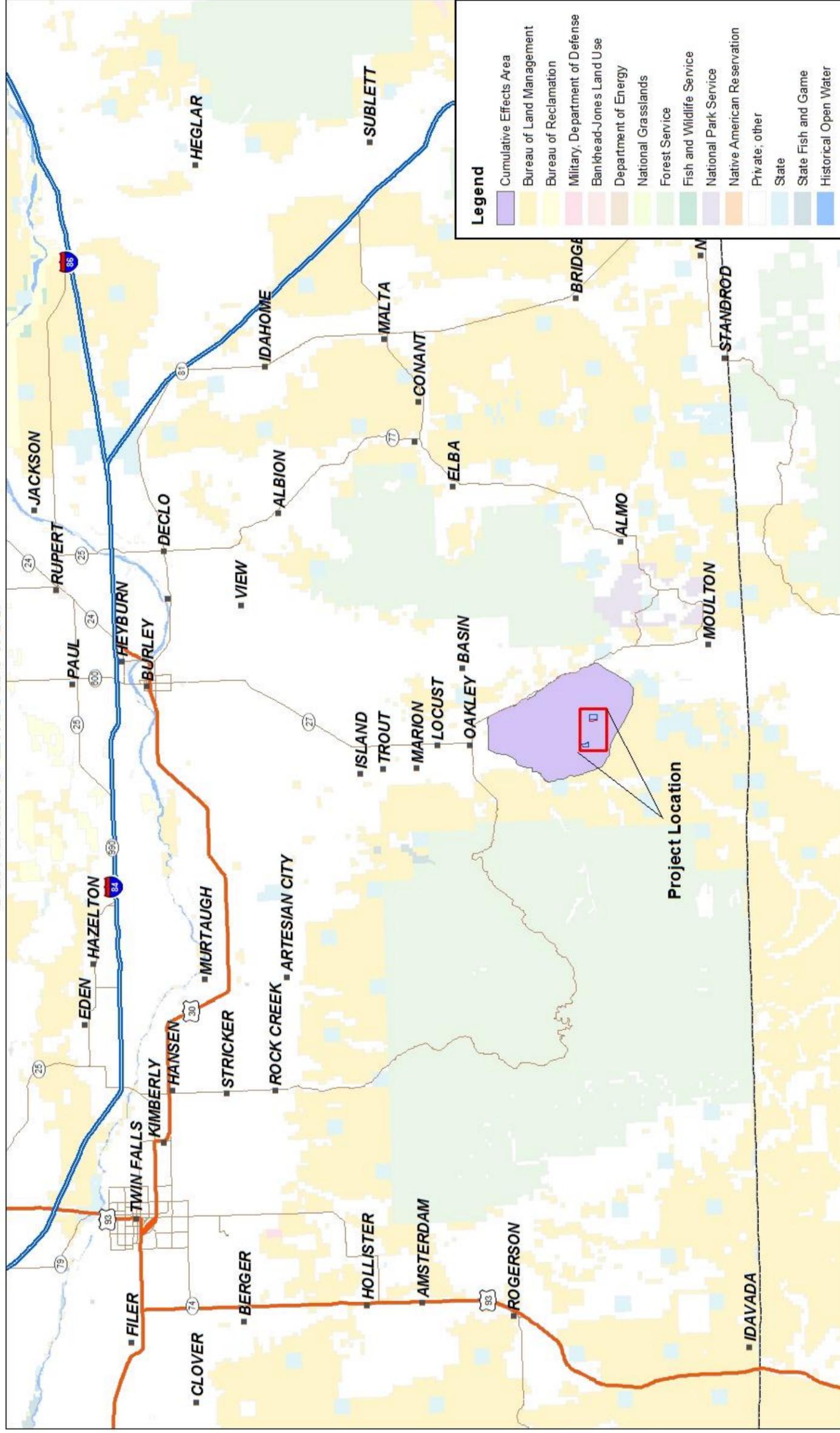
Map 6

# Oakley Mountain Corp. - Rock Garden Quarry Conceptual Design - Final Reclamation



Map 7

# Gillette Sharp and Oakley Mountain Corp. Cumulative Effects Area



Map 8