United States Department of the Interior

Bureau of Land Management

ELY FIELD OFFICE **SEPTEMBER 2004**

Bald Mountain Mine Exploration Program

Programmatic Environmental Assessment

NV040-04-023

Case File # N78825

MISSION STATEMENT

The Bureau of Land Management is responsible for the stewardship of our public lands. It is committed to manage, protect, and improve these lands in a manner to serve the needs of the American people for all times. Management is based upon the principles of multiple use and sustained yield of our nation's resources within a framework of environmental responsibility and scientific technology. These resources include recreation, rangelands, timber, minerals, watershed, fish and wildlife, air and scenic, scientific and cultural values.

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1 INTRODUCTION

Bald Mountain Mine (BMM) is proposing an exploration program that could disturb up to 210 acres of previously undisturbed or reclaimed ground over the next ten years; however only 70 acres would be disturbed any one time based on reclamation bond limitations and requirements of Nevada Administrative Code 519A and 40 CFR 3809. The Project Area is located in White Pine County, Nevada on unpatented mining claims on public land administered by the U.S. Bureau of Land Management (BLM). The Project Area boundary encompasses approximately 140,580 acres of public lands administered by the Bureau of Land Management - Ely Field Office (BLM) as shown on figures 1 and 2.

1.1 PURPOSE OF PROGRAMMATIC ENVIRONMENTAL ASSESSMENT

BLM is required to analyze potential impacts to public land from proposed activities under the National Environmental Policy Act (NEPA). An environmental impact statement (*Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS)) was prepared and a Record of Decision was issued for the Bald Mountain Mine in 1995. This document analyzed impacts associated with exploration, mine development, reclamation, and cumulative impacts.

BLM can manage public land based on a network of decisions made at various administrative levels. The two types of general decisions, programmatic and site-specific, are both subject to the requirements of NEPA. Programmatic decisions can be made at any administrative level without regard to land area, size, or location. Programmatic management decisions provide general guidance for future site-specific management activities within a defined framework. Site-specific decisions can also be made at any administrative level, but are primarily made at the local level. These decisions are characterized by having project- or activity-level detail, a narrow focus, and actions specific to a unique location during a specified time period.

Disturbance associated with proposed exploration activity would be dependent on geological conditions and the results of ongoing drilling. As such, BMM cannot predict where disturbance would occur within the Project Area over the ten-year project life and therefore cannot prepare a site-specific EA. A programmatic environmental assessment (EA) was considered the most appropriate document to assist with NEPA compliance and bridge deficiencies in the FEIS. A site-specific analysis would be prepared for individual exploration targets that would contain a level of detail that is beyond what is provided in the Egan Resource Management Plan or the FEIS.

Tiering is used to address more specific actions or plans without duplicating relevant parts of previously prepared broader guiding documents. For example, if an action has been analyzed at the national or regional level, and the locally proposed action is planned within the framework of the broader plan, tiering can be used as a means of streamlining the NEPA process and approval of the action. This programmatic EA is tiered to the FEIS, and the FEIS is incorporated by reference throughout this EA. The FEIS is available for review at the BLM Ely Field Office, 702 North Industrial Way, Ely, Nevada 89301.

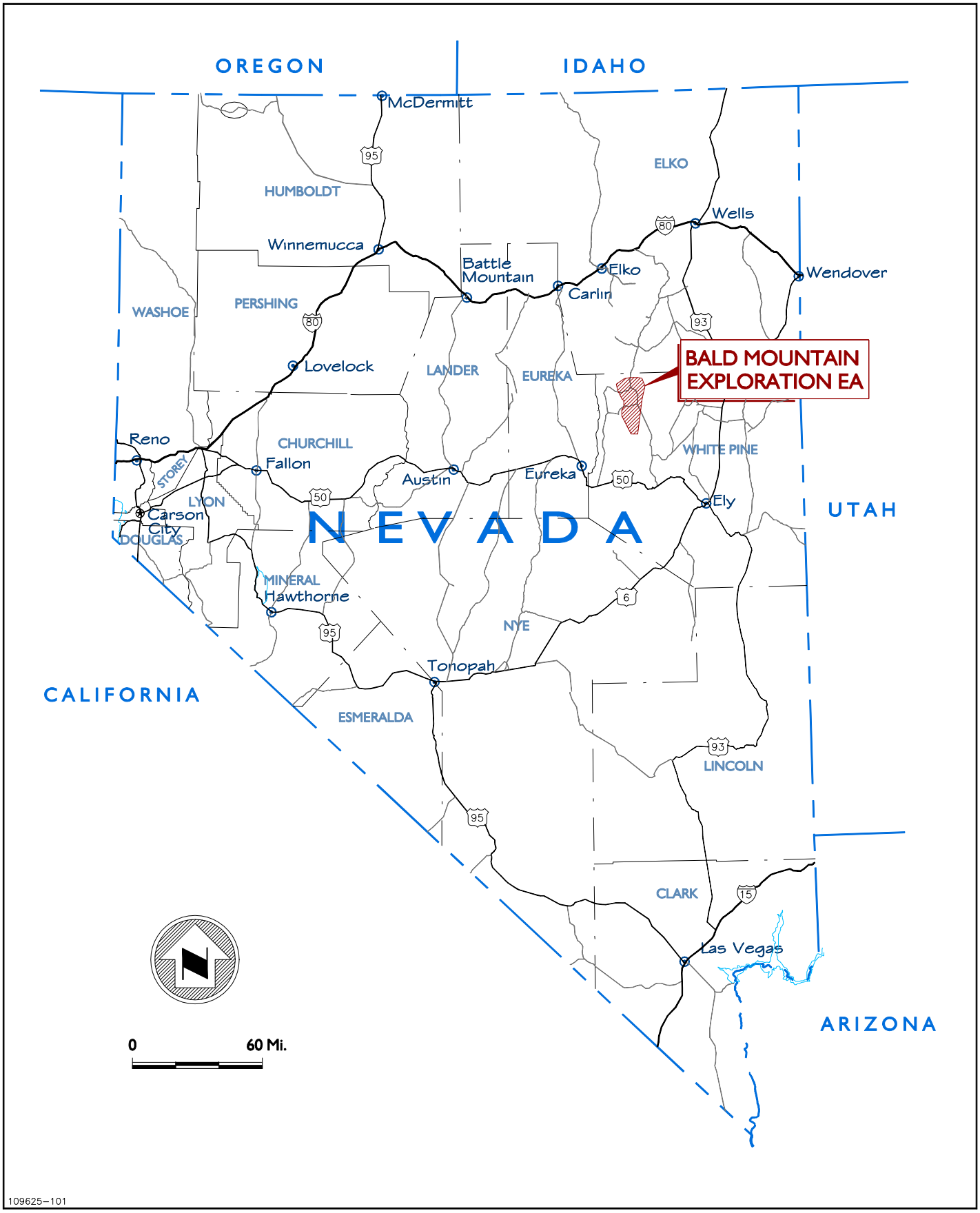
The purpose of this programmatic EA is to provide general guidance for future site-specific exploration activities within a defined framework. This programmatic EA and Decision Record/Finding of No Significant Impact do not authorize surface disturbing activities. Further, this programmatic EA serves to update the *Cumulative Effects* section of the FEIS for minerals exploration.

BMM will prepare site-specific NEPA analyses for each target area that will be tiered to this programmatic EA. BLM will determine the level of NEPA activity that will be used for each analysis, which would be either a categorical exclusion, a *Documentation of NEPA Adequacy* (DNA) or a site-specific EA.

A Categorical Exclusion is an action that is excluded from NEPA analysis because they fall into certain categories that have been previously established by Manual 516 DM 6 – Appendix 5 such as digging exploratory trenches for minerals materials. The individual actions normally do not individually or cumulatively have a significant effect nor do they typically involve significant impacts to the human environment (BLM 1993).

A DNA is not a true NEPA document in itself but is derived from a NEPA document. In effect, the DNA states that the action being proposed is already covered in an existing EA or EIS and the action does not need to be analyzed in a new environmental document.

A site-specific EA is a decision-making document that must provide sufficient information on the quality of the human environment and analysis of impacts to determine whether to prepare an EIS or a *Finding of No Significant Impact*. The EA allows for specialist review of affected resources even though impacts are not significant, and also provides a mechanism for developing and identifying appropriate mitigation measures (BLM 1993).



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PLACER DOME US INC.
BALD MOUNTAIN EXPLORATION
ENVIRONMENTAL ASSESSMENT

FIGURE 1
LOCATION MAP

HUMBOLDT NATIONAL FOREST BOUNDARY

EXISTING WHITE PINE MINE

EXISTING CASINO MINE

EXISTING WINROCK MINE

EXISTING BALD MOUNTAIN MINE

EXISTING LITTLE BALD MTN MINE

EXISTING MOONEY BASIN MINE

EXISTING ALLIGATOR RIDGE MINE

EXISTING YANKEE MINE

BOUNDARY OF EXPLORATION PLAN OF OPERATIONS

Mill Spring

Water Canyon Seep

Cherry Spring

Bourne Tunnel Spring

Tognini Spring

Twin Springs

Willow Spring

Cottonwood Spring

Mud Spring

Woodchuck Spring

T 25 N

T 24 N

T 23 N

T 22 N

T 21 N

R 56 E

R 57 E

R 58 E

R 59 E

EXPLANATION

EXISTING PLAN AREAS EXCLUDED FROM THIS APPLICATION

0 1 2 MILES

ARCHEOLOGY INVENTORY FROM BLM

BASE MAPS: RUBY VALLEY AND NEWARK 1:100,000 SCALE QUADS

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PLACER DOME US INC.
BALD MOUNTAIN EXPLORATION
ENVIRONMENTAL ASSESSMENT

FIGURE 2
SITE LOCATION

This programmatic environmental assessment was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969 and in compliance with applicable regulations and laws passed subsequently, including the President's Council on Environmental Quality regulations, U.S. Department of Interior requirements, and guidelines listed in the BLM Manual Handbook H-1790-1.

1.2 NEED FOR THE PROPOSAL

The purpose for the proposed Exploration Program is to determine if economically viable precious metals-bearing deposits exist within the proposed Bald Mountain Mine Exploration Project Area, and define the nature and extent, shape, and economic value of precious metals-bearing deposits within the proposed Project Area. The proposed drilling operations are needed to evaluate the potential for future mine development. The need for the proposed project arises from the international, national, and regional market demands for gold.

1.3 ISSUES

The following issues and concerns were raised during the scoping process:

- Special Status Species - sage grouse strutting, nesting, brood-rearing and winter habitat may occur within the Project Area. Pygmy rabbit habitat may occur in the area; and
- Wildlife - the proposed exploration activities may affect mule deer migration and the winter mule deer range.

These issues are addressed within their respective sections of Chapter 4.

1.4 RELATIONSHIP TO PLANNING STATEMENT

Although the Egan Resource Management Plan (RMP) is silent on minerals actions, the Proposed Action is in conformance with the approved decisions of the RMP. The Proposed Action and the No Action alternative are also consistent with the White Pine County Public Land Use Plan (1998), which states, “Recognize that the development of Nevada’s mineral resources is desirable and necessary to the nation, the state, and White Pine County. Retain existing mining areas and promote the expansion of mining operations and areas.”

2 PROPOSED ACTION AND ALTERNATIVES

BMM proposes to conduct exploration activities in the Project Area. The Project Proponent's address is: P.O. Box 2706 Elko, Nevada 89803. The Project is accessed from Ely, Nevada via Highway 50 and the Ruby Marsh Road as shown on Figure 2. The proposed project is located within all or portions of:

T20N R57E sec. 1, 2
T20N R58E sec. 5, 6
T21N R57E sec. 1-5, 8-13, 15, 16, 21-27, 34-36
T21N R58E sec. 5-8, 17-20, 29-32
T22N R57E sec. 1-36
T22N R58E sec. 4-9, 16-21, 28-32
T23N R56E sec. 1, 12
T23N R57E sec. 1-18, 20-29, 31-36
T23N R58E sec. 3-10, 15-22, 28-33
T24N R56E unsurveyed, portions not covered under BMM PoO, etc.
T24N R57E unsurveyed, portions not covered under MNY ,Win. PoO
T24N R57E unsurveyed, and 19-23, 26-34
T25N R57E 31-36
T25N R58E 31-34.

2.1 PROJECT DESCRIPTION

2.1.1 Existing Activities

BMM presently has one exploration notice, (N-77006), and the South Casino Exploration Plan of Operations (N-74507) within the Project Area. The total authorized disturbance for these activities is 21.1 acres. About three acres under the notice and 16 acres under the plan have been disturbed respectively. In addition, BMM has the Mooney Basin, Casino Winrock, Alligator Ridge Mine, Yankee Project, Little Bald Mountain, and Bald Mountain plans of operations (N-74280, N-68521, N-68655, N-68259, N-68282, and N-68193 respectively) within the Project Area. Mining and exploration activities conducted within the respective PoO boundaries are not part of the proposed exploration program. BMM would not drill in the White Pine Mine Plan of Operations area without a prior agreement with the claim holder.

2.1.2 Proposed Activities

BMM plans to use different exploration techniques and equipment to best characterize the geology and gold resources within target areas. These techniques would consist of various geochemical sampling methods such as soil sampling or rock chip sampling, various methods of geophysical analysis such as seismic, gravity or magnetic measurements, core drilling, rotary or reverse circulation drilling, trenching, and bulk sampling. Table 2-1 presents the proposed disturbance associated with this exploration program. Because the exact locations of drill sites and cross-country travel routes would be dependent on geological conditions and the results of ongoing drilling, BMM cannot predict where

disturbance would occur. The analysis is based on the suite of exploration techniques described below that may be used alone or in combination with one another.

BMM has bonded for up to 70 acres of exploration activities to be ongoing at any one time. Once the exploration disturbance is reclaimed and released, BMM can continue surface-disturbing activities up to but not exceeding 70 acres. For the purposes of this EA, BMM assumes that no more than 210 acres would be disturbed over the ten-year project life and a maximum of 70 acres could be disturbed in any one year; however, BMM does not anticipate this scenario would occur.

Table 2-1: Proposed Exploration Activities[1,2]

Disturbance Type	Number	Acres
Deep RC Holes	600	42.36
Shallow RC Holes	3,900	69.24
Core Holes	900	63.51
Road (constructed)	113,700 feet	34.29
Test Pits/Trenches	75	0.6
Geophysical, soil/chip samples	Not applicable	0.0
Total		210.00

[1] Includes 21.1 acres from existing and authorized disturbance from the five-acre exploration notice and the South Casino Exploration Plan of Operations.

[2] No more than 70 acres would be disturbed and unreclaimed at any one time.

The goal of the exploration program is to locate and define the extent of mineral resources. Should exploration activities identify mineable resources, BMM would develop a mine plan of operations for the area as required by 40 CFR 3809. Subsequent NEPA documents would be prepared to analyze potential impacts related to mining.

Geophysical Analysis

Shotholes used for the seismic lines would be drilled dry. Where access to the seismic lines requires overland travel, the drill rig and support equipment would travel in a manner to eliminate or reduce long-term disturbance of vegetation. This control would include limiting trips to these locations, use of four-wheel drive vehicles, traveling on bedrock where exposed, and slightly varying routes to avoid

continued travel along the same tracks. Other geophysical methods would employ minimal impact such as one-way traverses where existing roads could not be used. Activities occurring along roads would be signed and secured from public access during the placement and detonation of explosives.

Trenching

BMM would use up to 25 trenches and test pits at various stages within site-specific target areas to collect bulk samples. Each trench is projected to disturb about 0.008 acres.

Drilling

Drilling would be conducted using reverse circulation (RC) and diamond core rigs. A water truck, pipe truck, and one-ton pickup would accompany each drill rig. Usually, six or fewer rigs would be operating within the Project Area. Depending on exploration and development success, the number of rigs may increase to accommodate the additional exploration within disturbance limitations. Both vertical and angle holes would be drilled. Drilling would be conducted using both wet and dry drilling techniques as the formation requires to maintain an open hole. Water would be obtained from existing wells owned by BMM within the Project Area. Seeps, springs, cave entrances, drainages, and naturally formed subsurface passages would be avoided by at least 100 feet or as determined during a site-specific analysis.

Reverse circulation drilling for holes under 1,000 feet in depth would use either track-mounted MPD 1500 or an all-terrain Foremost Explorer 1500-type equipment. Both drill rigs are designed for minimal ground impact and have a ground pressure of less than 11 psi. Vertical holes on flat ground and gentle slopes require no pad construction, only clearing of brush and trees and possible construction of sumps. These shallow drill sites would disturb about 0.016 acres each. Access to drill sites would be by existing roads, or cross-country travel wherever possible.

Reverse circulation drilling of holes greater than 1,000 feet may use tire-mounted drills such as a TH-75, RD-10, or other deep capacity equipment. These rigs are designed to drill to depths greater than 2,000 feet and require a drill pad of about 50 feet by 50 feet or 0.057 total acres; total pad disturbance would be dependent on terrain. Access would be via existing roads, cross-country, or light road construction. All deep drilling would be wet, so sumps would be built.

Diamond core rigs would be used either when assay sampling requires solid core samples or for the collection of geotechnical or metallurgical samples. Core rigs would be either skid-mounted or rubber-tire mounted and would need a working pad of about 50 feet square or 0.057 acres. Drilling fluids from these rigs would be discharged into sumps. Access would be over existing roads or with light road construction.

In general, BMM would locate a target area and drill to determine the presence and details of gold mineralization; drill holes would be located on spacings that may be several hundred feet or more apart. If the drilling results indicate that further investigations are necessary, drilling would occur on closer spacing to better delineate the extent of the mineralization. The density of drill holes is expected to vary by location and target.

The reclamation cost estimate provides for up to 18 holes with an average hole length of 800 feet may be open at any one time. Drill holes would be plugged immediately after data collection is complete, in accordance with Nevada Revised Statute 534.425-428. Drill holes not penetrating the aquifer would be backfilled from the total depth with the drill cuttings or inorganic fill material, and the top ten feet would be sealed. Drill holes penetrating the aquifer would be plugged with an approved mixture and the top ten feet would be sealed with a cement grout, concrete grout, or "neat" cement plug.

Road Construction

Roads and drill pads would be constructed in a manner to minimize surface disturbance and resultant soil erosion. Access roads would be constructed on contour to the extent practical. Typically, road grades would range from zero to 16 percent; however, some routes may exceed 16 percent. On steeper slopes , a dozer would be required to first construct access roads in order to safely traverse the terrain. Although the blade on the dozers is typically ten to 12 feet wide, a total disturbance corridor of 14 feet would be utilized to account for cut and fill slope, and includes the construction of drill sites and sumps. On slopes less than 30 percent, dozers are optional and if used, a disturbance corridor ranging from ten to 17 feet is utilized for cut and fill, and construction of drill pad and sumps. Roads are projected to average about 0.3 acres of disturbance for each 1,000 feet.

Drill pads would be constructed by removing the vegetation and leveling the ground surface. Soil stripped in the process would be stockpiled as a berm for sediment control and would be available for redistribution during reclamation. Sumps would be excavated and the resulting material would be stockpiled on site for use in backfilling and reclamation. Stockpiles remaining over the growing season would be seeded with the interim seed mix.

Roads would be built with a D-10 or smaller dozer to a width of ten feet. Berms would be built to comply with all applicable Mine Safety and Health Administration regulations. These roads would be for drill access only and not for through traffic. The only maintenance would be snow removal during inclement weather. No culverts would be installed.

BMM constructs roads and drill sites with appropriate slope on the cut-banks, as necessary, to minimize erosion and visual impacts. Drainage structures would be constructed, where necessary, to minimize excessive erosion. Drainage structures may consist of, but not be limited to waterbars, borrow ditches, and contour furrows, to reduce offsite sediment transport. Growth media would be placed in sidecast fill material on constructed roads and drill sites. Stockpiles remaining over the growing season would be seeded with the interim seed mix.

If blasting becomes necessary, shot holes would be drilled with an air track drill or a trailer-mounted air compressor and hand-held rock drills. The shot hole would be packed with explosives and detonated to fracture rock. The minimum charge of explosive would be used to reduce fly rock. Specific blasting times would vary, however, BMM would make a reasonable effort to schedule blasting activities in the late afternoon. Licensed personnel would perform all blasting activities. Signs would be posted along the affected access roads, and all personnel within the affected area would be notified prior to blasting. A safe blasting perimeter would be maintained using blockades and other

appropriate methods. Explosive materials would be stored and transported in a manner consistent with federal regulations.

Equipment

Road construction and drilling equipment would be used on an as-needed basis. A D-10 or smaller-type bulldozer would be used for road and site construction. Drill rigs may be supported by water trucks, pipe trucks, and light vehicles, as needed. Trackhoes may be used for trenching.

Access

Access to drilling targets would be from existing state, county, and BMM roads; this includes State Highway 892/228, which runs north-south through Newark and Huntington valleys and the Ruby Marsh Road, which runs north-south through Long and Ruby valleys. BMM would use existing roads and two-tracks wherever possible.

Reclamation

The post-exploration land use for the Project Area would remain consistent with the pre-exploration land use. The uses include mineral exploration, livestock grazing, wildlife, wild horse habitat, and recreation. Reclamation would be in conformance with the BLM and Nevada state reclamation regulations.

In general, BMM anticipates that most of the drill sites would be accessed via cross-country travel with drill rigs with low tire pressure. As such, disturbance would be limited. In areas where roads would be constructed, growth media would be stockpiled and seeded with the interim seed mix shown in Table 2-2. Roads would be inspected prior to reclamation to determine if any scarifying is necessary prior to reseeding. Road cuts and fills would be replaced to their approximate original contour using a trackhoe or dozer. Material would be pushed back into place where natural terrain would permit equipment to operate safely and berms, ditches, turnouts and other features would be removed. Waterbars and other diversion methods may be either built or retained to enhance stability. Riprap or other methods would be used if drainage stabilization is required.

Table 2-2: Interim Seed Mix

Name	Common Name	Rate (PLS/acre)
Elymus lanceolatus	Thickspike wheatgrass	5.0
Elymus trachycaulus	Slender wheatgrass	4.0
Pascopyrum smithii	Western wheatgrass	5.0
Onobrychis viciifolia	Remont sanfoin	3.0
Total		17.0

Reseeding would occur during the period of October through March using either the interim or reclamation seed mix. The seed mix could vary depending on the area and the availability of a particular species. All other reclamation activities can be performed at any time of the year and in any general sequence. The seed mixture would be applied at the appropriate rate. No fencing of the seeded reclaimed areas would occur.

Table 2-3: Reclamation Seed Mix

Name	Common Name	Rate (PLS/acre)
Atriplex canescens	Fourwing Saltbrush	0.6
Elymus cinereus	Great Basin Wildrye	4.0
Poa sandbergii	Sandberg Bluegrass	0.3
Sitanion hystrix	Squirreltail	1.4
Agropyron spicatum	Bluebunch Wheatgrass	2.5
Oryzopsis hymenoides	Indian Ricegrass	2.5
Penstemon palmeri	Palmer Penstemon	0.1
Eriogonum umbellatum	Sulfur Buckwheat	0.1
Lupinus caudatus	Lupine	0.5
	Total	**12.0**

The above is a list of BLM-approved reclamation species; the actual seed mix ratio will vary from one area to another. The BLM, Nevada Department of Wildlife and BMM will decide upon the actual seed mix before seeding of a particular area.

BMM expects limited disturbance of piñon/juniper trees. The piñon/juniper would be either spread back over the reclaimed areas to augment the reclamation efforts or would be left in piles for wildlife cover. A large portion of the annual precipitation occurs in the period from October to March. Seeding would occur during this time frame to take advantage of the increased moisture for enhanced seed germination and establishment.

BMM would monitor revegetation success and the presence of noxious weeds on an annual basis until project release. Weed control would be performed during the appropriate season to eradicate infestations.

Drill holes would be plugged immediately after data collection is complete, in accordance with Nevada Revised Statute 534.425-428. If a drill hole does not penetrate the aquifer, it would be backfilled from the total depth with the drill cuttings or inorganic fill material, and the top ten feet would be sealed. If a drill hole penetrates the aquifer, it would be plugged with an approved mixture and the top ten feet would be sealed with a cement grout, concrete grout, or “neat cement” plug.

Reclamation procedures would be undertaken concurrently with operations for disturbed areas where no further activities are planned. Concurrent reclamation would be primarily conducted on existing exploration roads, drill sites, and with drill hole abandonment where operations would allow. The timing of this reclamation would depend on the exploration sequence. BMM would request bond release on concurrently reclaimed areas at a later date.

2.1.3 Standard Operating Procedures

The Standard Operating Procedures that would be used by BMM over the ten-year project life incorporate Best Management Practices (BMPs) and are presented in Appendix A. Table 2-4 presents the proposed operating procedures by resource for individual exploration plans.

2.2 ALTERNATIVES TO THE PROPOSED ACTION

No alternatives are identified for this programmatic EA. Appropriate alternatives will be developed for each site-specific EA.

2.2.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not be approved by the BLM. BMM would continue under the existing authorizations. Under the No Action Alternative, the approved disturbance of 21.1 acres would remain. There would be the potential for additional small-scale exploration under mining notices which do not require NEPA.

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Table 2-4: Proposed Standard Operating Procedures by Resource for Individual Exploration Plans[1]

Critical Element/Resource	Potential Issues to Consider	Actions to Minimize Impacts	SOP Number [1]
Air:	• Fugitive dust from roads and drilling	• Use water trucks as necessary to control dust • Use dust collection cyclones during dry drilling activities • Seed with interim seed mix if growth media berms will remain over the growing season	
Water quality	• Potential impacts to seeps, springs, and groundwater	• Drilling would be at least 100 feet from seeps, springs, and drainages, or as determined during analysis of site-specific drill plans • Drill holes would be closed per NRS 534	13, 44
Cultural resources	• Disturbance of cultural resources • Contextual or direct effects to Hastings Cutoff, Pass/Pony Express Route,	• Determine proposed action access and locations for specific drill plan • BLM would determine level of inventory needed. (Class I, II, or III, reconnaissance or none) • Inventory would be conducted by approved archeologist • Historic properties and all cultural resources would be avoided if possible • If avoidance is not possible, develop treatment plan for the historic properties affected by the drill program • Submit all cultural reports to the BLM.	2, 8, 17, 18, 19, 20, 21, 22, 23
Native American religious concerns	• Consult with potentially affected Native American tribes	• Conduct consultation with local tribes during NEPA review	

Critical Element/Resource	Potential Issues to Consider	Actions to Minimize Impacts	SOP Number [1]
Non-native invasive species	• Increasing weed infestation from existing local sources • Introduction of new weed infestations by importing new seed sources from equipment	• Determine status of noxious weed infestations along access routes and in proximity to drilling operations • Noxious weed survey in areas of proposed disturbance • Drill rig washing before entering site • Avoid driving through established weed areas • Educate equipment operators to recognize and avoid weed areas	3, 30, 31, 32, 33, 34, 35, 36, 43, 47, 48
Threatened, endangered species and special status species	• Impacts to sage grouse, pygmy rabbit, ferruginous hawk	• Determine location of active leks and avoid during strutting season • Identify potential pygmy rabbit habitat • Avoid ferruginous hawk nests • Determine if new species have been added • Consult with U.S. Fish and Wildlife Service if appropriate	28, 29, 30
Wastes, solids and hazardous and hazardous materials	• Accidental spills of hydrocarbons that could contaminate water, soil, and vegetation	• Follow BMM and contractor SOPs for handling hazardous and solid wastes	10, 11, 12
Riparian	• Loss of riparian vegetation • Habitat fragmentation	• Drilling would be at least 100 feet from seeps, springs, and drainages, or as determined during analysis of site-specific drill plans	13, 44
Migratory Birds	• Migratory birds nesting	• Conduct nesting surveys if disturbance needs to occur between May 15 and July 31	27
Geology	• Removal of minimal amounts of mineral resources	• Drill holes would be closed per NRS 534	13, 44
Soils	• Wind and water erosion	• Use overland travel as much as possible • Store growth media in berms alongside disturbance • Seed with interim seed mix if berms will remain over the growing season	4, 9, 16, 37, 38, 39, 40
Vegetation including	• Loss of native vegetation	• Reclaim with interim and final seed mixes	7, 41, 42, 45, 46

Critical Element/Resource	Potential Issues to Consider	Actions to Minimize Impacts	SOP Number [1]
woodlands			
Wildlife	• Mule deer migration • Limit access around active areas	• Reclaim as soon as activities are complete • Fence trenches/sumps as necessary	24, 26, 29
Lands use and access	• All access roads to drill projects would be reclaimed, including pre 1981 roads that are not part of the transportation plan and would not otherwise require reclamation	• Some existing exploration roads constructed by other operators and not previously reclaimed, may be reclaimed by BMM	5
Livestock/grazing	• Loss of forage • Limit access around active areas	• Reclaim as soon as activities are complete • Temporary fencing of trenches/sumps as necessary	6, 13, 24, 26
Wild horses	• Loss of forage • Limit access around active areas	• Reclaim as soon as activities are complete • Temporary fencing of trenches/sumps as necessary; fences will be flagged	13, 24
Visual resources	• Impacts to viewshed in vicinity of Pony Express Trail and Hastings Cutoff	• Visual assessment in viewshed of Pony Express Trail and Hastings Cutoff	23
Recreation	• Localized use	• Reclaim as soon as activities are complete • Restrict public access locally during blasting activities	

[1] See Appendix A

3 AFFECTED ENVIRONMENT

3.1 INTRODUCTION

The Project Area is located in the southern Ruby Mountains. Ruby Valley is located north-northeast of the proposed activities. Elevations at the project location range from approximately 6,300 feet to 9,300 feet above mean sea level (amsl). The topography in the area is typical of that found in the Basin and Range Physiographic Province of the western United States.

The Critical Elements of the Human Environment, as identified by BLM Manual 1790-1 are listed in Table 3-1. Elements that may be affected are further described in this EA. Rationales for those elements that would not be adversely affected are listed in Table 3-1. These critical elements will not be considered further in this document or subsequent site-specific EAs.

Table 3-1: Critical Elements of the Human Environment and Rationale for Detailed Analysis for the Proposed Exploration Project

Critical Element	No Effect	To be Analyzed on a Site-Specific Basis	Not Present	Rationale
Air Quality		X		Project-related traffic would observe prudent speed limits to minimize dust (particulate) emissions and cyclones would be used to collect sample.
Water Quality (drinking/ground)		X		Drill holes would be closed in accordance with NRS 534 to protect groundwater resources. Seeps, springs, and riparian areas would be avoided. Drilling activity would be kept to a minimum distance of 100 feet from any drainages, seeps or springs that area actively flowing or as determined during site –specific analysis.
Areas of Critical Environmental Concern (ACEC)			X	Resource is not present.
Cultural Resources		X		BMM plans to avoid known cultural sites.
Environmental Justice	X			No minority or low-income groups would be affected by disproportionately high and adverse health or environmental effects
Farm Lands (prime or unique)			X	Resource is not present.
Flood Plains			X	Resource is not present.
Native American Religious Concerns		X		There are no known issues of concern to local tribes. BLM would consult with local Native American tribes.
Non-native, Invasive Species and Noxious Weeds		X		Surface disturbance may increase the risk of non-native, invasive species establishment.
Threatened, Endangered, and Special Status Animal Species		X		Populations of species afforded protection under the Endangered Species Act (ESA) and under BLM policy may occur in the Project Area.
Threatened, Endangered, and Special Status Plant Species		X		Populations of species afforded protection under the Endangered Species Act (ESA) and under BLM policy may occur in the Project Area.

Critical Element	No Effect	To be Analyzed on a Site-Specific Basis	Not Present	Rationale
Wastes (hazardous or solid)		X		BMM would control wastes in accordance with state and federal regulations.
Wetlands			X	Wetlands are not present in the Project Area.
Riparian Areas		X		Riparian areas are located within the Project Area. Drilling activity would be kept to a minimum distance of 100 feet from any drainages, seeps or springs that are actively flowing or as determined by site-specific analysis.
Migratory Birds		X		Migratory birds use the Project Area for nesting
Wild and Scenic Rivers			X	Resource is not present.
Wilderness			X	The Proposed Action does not occur within any Wilderness Area, Wilderness Study Area, or Wilderness Inventory Area.

In addition to the Critical Elements of the Human Environment, the BLM considers other resources that occur on public lands, or issues that may result from the implementation of the Proposed Action. The potential resources, uses, and issues that may be affected are listed in Table 3-2. A brief rationale for either considering or not considering the issue or resource further is provided. The resources, uses, and issues that are considered in the EA are described in the Affected Environment section of this EA and are analyzed in the Environmental Consequences section.

Table 3-2: Other Resources and Issues, and Rationale for Detailed Analysis for the Proposed Exploration Project

Resource or Issue	No Effect	To be Analyzed on a Site-Specific Basis	Not Present	Rationale
Geology/ Minerals		X		Exploration activities would not remove large quantities of mineral resources from the Project Area.
Soils		X		Additional soils would be temporarily disturbed.
Vegetation/		X		Vegetation would be disturbed as part of the Proposed Action. A portion of the Project Area is located within piñon/juniper woodland type.
Wildlife		X		Up to 210 acres of habitat would temporarily be changed. Mule deer migration may be affected.
Lands/Access		X		Some existing access roads may be reclaimed. Most land uses would not be affected.
Paleontological Resources	X			Paleontological resources identified in the vicinity of the Project Area do not have critical scientific or educational value (FEIS, 1995).
Livestock Grazing/Range		X		Approximately 210 acres of range would temporarily be changed.
Wild Horses		X		Approximately 210 acres of habitat would temporarily be changed.
Visual Resource Management		X		The Project Area is located in an areas unclassified for visual resource management
Recreation		X		Recreation opportunities would be temporarily reduced
Hazardous Materials		X		BMM would control wastes in accordance with state and federal regulations.

Resource or Issue	No Effect	To be Analyzed on a Site-Specific Basis	Not Present	Rationale
Socioeconomics		X		Exploration activities would provide direct and indirect employment opportunities

Based on the review of existing baseline data or surveys conducted in preparation of this EA, BLM specialists have identified the following for further analysis. The potential for impacts would vary by site and the exploration technique used:

- Air
- Water Quality
- Cultural resources:
- Native American religious concerns
- Non-native invasive species and noxious weeds
- Threatened, endangered species and special status plant and animal species
- Wastes, hazardous and solid
- Riparian
- Migratory birds
- Geology and minerals
- Soils
- Vegetation
- Wildlife
- Land and access
- Livestock
- Wild horses
- Visual resources
- Recreation
- Socioeconomics.

3.2 PROPOSED ACTION AND ALTERNATIVES

The description of the affected environment for the No Action Alternative would be the same as that for the Proposed Action.

3.2.1 Air Resources

Information detailing air resources in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS 1995; pages 3-38 to 3-44), and is summarized below.

The Project Area lies in the following air basins: 175, Long Valley; 176, Ruby Valley; 787, Huntington Valley; and 154, Newark Valley. The existing air quality is typical of the largely undeveloped regions of the western United States. For the purposes of statewide regulatory planning, this area has been designated as unclassified for all pollutants that have an ambient air quality standard.

3.2.2 Water Quality

Information detailing water quality in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-16 to 3-20), and is summarized below.

Surface Water

Surface water flow in the Project Area is minimal and generally ephemeral occurring in drainages primarily during the late spring due to snowmelt, and by flow from springs that occur along faults and fractures and are fed by perched aquifers. Water quality in the springs depends on the nature of the flow regime that feeds the springs and the lithology of the rock through which the groundwater flows before surfacing. Water quality is generally within Nevada drinking water standards and is calcium to calcium/sodium bicarbonate dominated (FEIS, 1995). Appendix B of the *Final Environmental Impact Statement* presents flow and water quality data. Table 3-3 lists the springs, and Figure 2 shows the springs located within the Project Area.

Table 3-3: Potentially Affected Surface Water Within the Project Area[1]

Name	Township	Range	Section
Tognini Spring	24N	58E	22
Twin Springs	24N	58E	28
Willow Spring	24N	58E	32
Mud Spring	22N	57E	32
Woodchuck Spring	21N	57E	4

[1] Springs located within other plan of operations areas are not included in this table.

Groundwater

There are three main types of groundwater in the southern Ruby Mountains: regional groundwater that is part of interbasin flow in northeastern Nevada; local groundwater that consists of subsurface flow from mountainous areas to nearby valleys and basins, and perched groundwater controlled by lithologic units and faults that provides water for springs. Perched groundwater provides water for the springs in the Bald Mountain area. Water quality for perched water in springs meets Nevada drinking water standards and is suitable for wildlife, wild horses, livestock, and human consumption (FEIS, 1995).

3.2.3 Cultural Resources

Information detailing the cultural resources in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995, pages 3-35 to 3-37) and the *Historic Context of the Bald Mountain Historic Mining District, White Pine County, Nevada*. Both prehistoric and historic sites are present in the Project Area.

BMM has entered into a Programmatic Agreement (PA) with BLM, the Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation. The PA will be officially amended as necessary in the Decision Record and Finding of No Significant Impact to cover portions of the Project Area that may not be presently included. Portions of the Project Area have been inventoried for cultural resources as shown on Figure 3. The previous inventories identified several sites in the Project Area that were determined eligible for the NRHP. These known sites would be avoided or treated. Other sites within the Project Area have been recommended as not eligible at the time of the survey. BMM surveyed three additional blocks within the Project Area in 2004 that are not reported on Figure 3 and are working on an historic context of the district. Results from the survey and historic context survey which is presently under review by BLM (Kautz Environmental Consultants, 2004a, 2004b). Currently, a Class III BLM archaeological survey is being conducted within the boundaries of the Chrome Fire as shown on Figure 3.

Overland Pass is located north of the Project Area boundary. From 1840 through the 1860s, wagon trains on their way to California passed through the area which was part of the Hastings Cutoff trail used by the Donner Party. From 1862 - 1869, the Calvary stationed at Fort Ruby rode through this pass.

In 1860 and 1861, the Overland Trail was part of the Pony Express route. The Pony Express Trail is one of four recreation attractions in the Egan RA that comprise the “Loneliest Highway” Special Recreation Management Area. One of the primary management goals for this historical attraction is to maintain the visual integrity of the trail and bordering lands. The Pony Express Trail is a special visual management area .

HUMBOLDT NATIONAL FOREST BOUNDARY

OVERLAND PASS

EXISTING WHITE PINE MINE

EXISTING CASINO MINE

EXISTING WINROCK MINE

EXISTING BALD MOUNTAIN MINE

EXISTING LITTLE BALD MTN MINE

EXISTING MOONEY BASIN MINE

BOUNDARY OF EXPLORATION PLAN OF OPERATIONS

EXISTING ALLIGATOR RIDGE MINE

EXISTING YANKEE MINE

T 25 N

T 24 N

T 23 N

T 22 N

21 N

R 56 E

R 57 E

R 58 E

R 59 E

EXPLANATION

APPROVED POO

CULTURAL RESOURCES SURVEYS

0 1 2 MILES

ARCHEOLOGY INVENTORY FROM BLM

BASE MAPS: RUBY VALLEY AND NEWARK 1:100,000 SCALE QUADS

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FIGURE 3
PREVIOUS CULTURAL RESOURCES SURVEYS

3.2.4 Native American Religious Concerns

Information detailing the Native American religious concerns in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-37 to 3-38), and is summarized below.

Before making decisions or approving actions affecting public lands, the BLM must determine whether Native American religious concerns would be affected, observe pertinent information gathering and consultation requirements, and document how this was done. Native American consultation is the process of: identifying and seeking input from appropriate Native American governing bodies, community groups, and individuals and considering their interests as a necessary and integral part of the BLM's decision making process (BLM 1994).

3.2.5 Non-native Invasive Species and Noxious Weeds

Invasive, non-native species are plants that are not indigenous to Nevada that tend to displace or increase in cover relative to surrounding native vegetation. Noxious weeds are any species of plant, which is, or is liable to be detrimental or destructive and difficult to control or eradicate and are included on the Nevada noxious weed list. Anytime soil is disturbed and native vegetation removed, the potential exists for the introduction of noxious weeds and/or invasive, non-native species into the area.

The BLM has conducted surveys in the Project Area and identified infestations of black henbane (*Hyoscyamus niger)*, bull thistle (*Cirsium vulgare*), Canadian thistle (*Cirsium arvense)*, leafy spurge (*Euphorbia esula)*, musk thistle (*Carduus nutans)*, poison hemlock (*Conium maculatum)*, Russian knapweed (*Acroptilon repens*), spotted knapweed (*Centaurea maculosa*), and hoary cress (*Cardaria chalepensis)*. Table 3-4 indicates the size range of population areas of noxious weeds in the Project Area. Fig 3 shows the known locations of noxious weeds and invasive non-native species.

Table 3-4: Noxious Weeds in the Project Area and Ranges in Population Sizes

Noxious Weeds in the Project Area	Population Sizes (square feet)
Black henbane	100 to 1,500
Bull thistle	100 to 1,200
Canadian thistle	small to 2,500
Leafy spurge	100 to 300
Musk thistle	20 to 2,500
Poison hemlock	one small population
Russian knapweed	20 to 2,500

Noxious Weeds in the Project Area	Population Sizes (square feet)
Spotted knapweed	20 to 600
Whitetop	Small to 2,100

3.2.6 Special Status Species (Including Federally Listed, Proposed, and Candidate Species, State Protected Species, and BLM Sensitive Species)

Information detailing Threatened or Endangered Species/Special Status Species in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (BLM 1995; pages 3-26 to 3-33), and is summarized below.

The U.S. Fish and Wildlife Service (USFWS) database, Nevada Natural Heritage Program database (NNHP), and the Nevada Department of Wildlife were queried in June 2004 for the presence of special status species and species of concern for the region. Under current BLM policy, the agency must ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered. Table 3-5 presents the special status species that have the potential to occur in or near the Project Area. Appendix B includes the response letter received from the NNHP and the USFWS.

Table 3-5: Potentially Affected Special Status Species

Common Name	Scientific Name	Status
Bald Eagle	*Haliaeetus leucophalus*	Threatened
Ferruginous Hawk	*Buteo regalis*	BLM-state sensitive
Northern Goshawk	*Accipiter gentiles*	BLM-state sensitive
Western Burrowing Owl	*Athene cunicularia hypugea*	BLM-state sensitive
Western Sage Grouse	*Centrocercus urophasianus*	BLM-state sensitive
Pygmy Rabbit	*Brachylagus idahoensis*	BLM-state sensitive
Pallid bat	*Antrozous pallidus*	BLM-state sensitive
California myotis	*Myotis californicus*	BLM-state sensitive
Townsend's big-eared bat	*Corynorhinus towsendii*	BLM-state sensitive
Big brown bat	*Eptesicus fuscus*	BLM-state sensitive
Spotted bat	*Euderma maculatum*	BLM-state sensitive

Common Name	Scientific Name	Status
Silver-haired bat	*Lasionycteris noctivagans*	BLM-state sensitive
Small-footed myotis	*Myotis ciliolabrum*	BLM-state sensitive
Long-eared myotis	*Myotis evotis*	BLM-state sensitive
Little brown myotis	*Myotis lucifugus*	BLM-state sensitive
Long-legged myotis	*Myotis volans*	BLM-state sensitive
Yuma myotis	*Myotis yumanensis*	BLM-state sensitive
Big free-tailed bat	*Nyctinomops macrotis,*	BLM-state sensitive
Western pipistrelle bat	*Pipistrellus hesperus*	BLM-state sensitive
Brazilian free-tailed bat	*Tadarida brasiliensis*	BLM-state sensitive

The Nevada Natural Heritage Program reported the pygmy rabbit (*Brachylagus idahoensis*), a Special Status Species, occurring near the Project Area. The pygmy rabbit is found throughout much of the Great Basin and is primarily associated with areas of tall dense sagebrush and friable soils suitable for establishing a burrow system (Jameson and Peeters 1988). A field survey was conducted to determine the presence or absence of pygmy rabbit on November 7, 2003 within the Mooney Basin plan of operations area in 2003 using NDOW protocols. A field survey found no evidence that pygmy rabbits were present at the site.

The Project Area also provides suitable foraging and nesting habitat for the ferruginous hawk (*Buteo regalis*), northern goshawk (*Accipiter gentiles*), and western burrowing owl (*Athene cunicularia hypugea*). These special status species have the potential to occur within the Project Area. Figure 4 shows the locations of known ferruginous hawk nests.

The Nevada Department of Wildlife identified the bald eagle (*Haliaeetus leucocephalus*), a threatened species, as having potential to occur in the area. Bald eagles winter in Nevada in areas that provide foraging habitat. It is possible that this species may occasionally pass through the area while hunting and would be expected to use the Ruby Marshes approximately four and a half miles north of the Project Area.

Sage grouse brooding areas, three leks, and general habitat are found within the Project Area as shown on Figure 4. This area is within the Butte Valley/Buck Mountain/White Pine Range Sage Grouse Population Management Unit (PMU). The White Pine Local Planning Group has identified research projects involving removal of piñon/juniper woodland to improve sagebrush habitat and removal of piñon/juniper adjacent to springs to enhance brood habitat within this PMU.

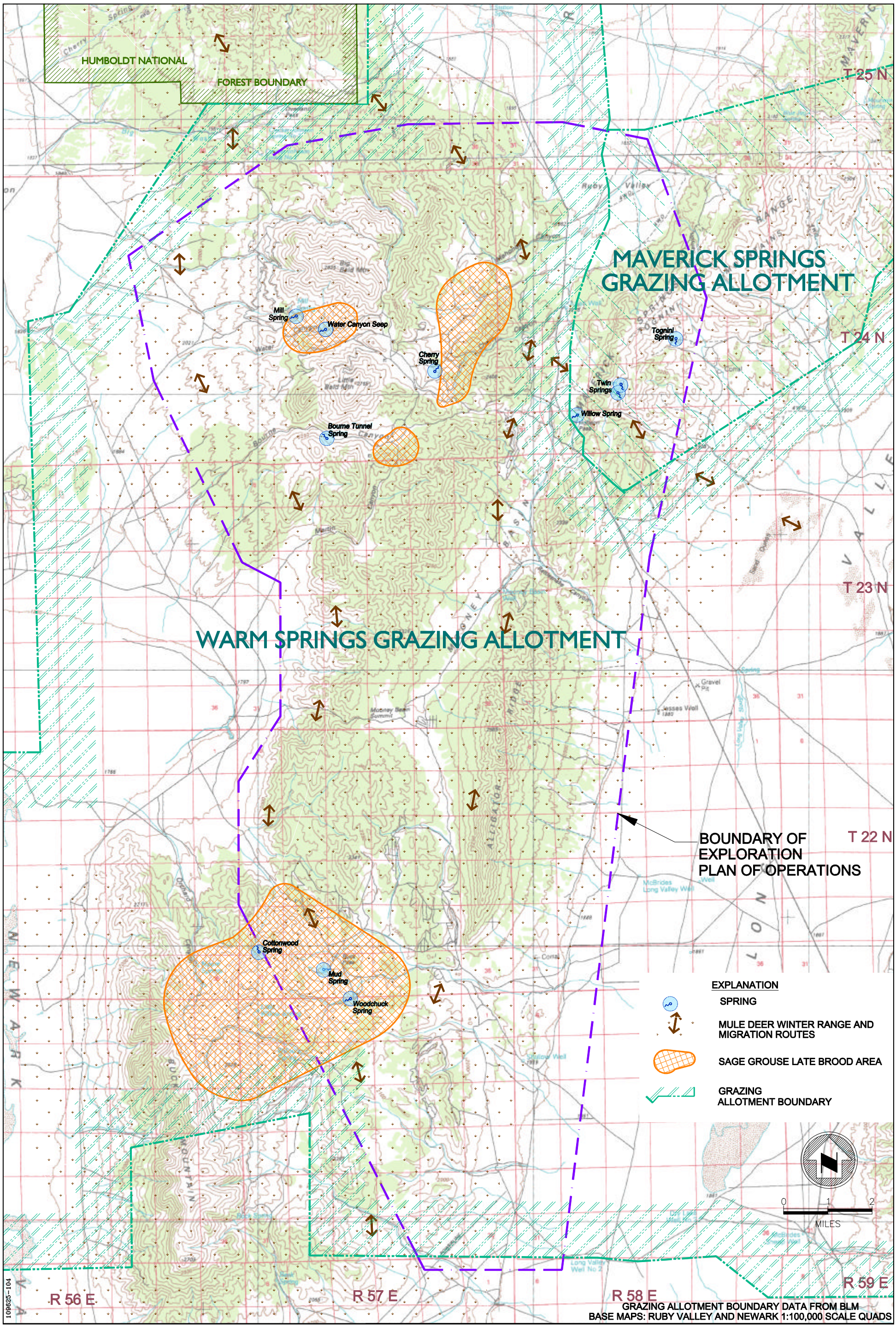

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FIGURE 4
MULE DEER RANGE, SAGE GROUSE RANGE,
AND ALLOTMENT BOUNDARIES

Bats are common in the Project Area. Numerous bat species of concern have been documented at springs in or near the Project Area such as *Myotis californicus, M. ciliolabrum, M. evotis,* and *M. volans*. Several other species may be found roosting in trees and talus slopes and foraging along the springs in the Project Area: *Euderma maculatum, Corynorhinus towsendii, Antrozous pallidus, Lasionycteris noctivagans, Myotis lucifugus, M. yumanensis, Nyctinomops macrotis, Pipistrellus hesperus, Tadarida brasiliensis* and *Eptesicus fuscus.*

3.2.7 Wastes (Solid, Hazardous) and Hazardous Materials

Information detailing hazardous materials use associated with the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-55 to 3-56), and is summarized below.

Past land uses within the Project Area have included minerals exploration, mining, recreation, and livestock grazing. Hazardous materials shipments of diesel oil and cyanide pass through portions of the Project Area on the way to activities within mining plan of operations areas. Past spills of hazardous materials within the Project Area have been remediated in compliance with state and local regulations. Unreported spills by other operators may have occurred.

3.2.8 Riparian Areas

Information detailing riparian areas associated with the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-20 to 3-21), and is summarized below.

Riparian areas in the Project Area are very limited in extent and are located at the springs shown on Figure 2. Herbaceous vegetation commonly found in riparian areas in the region may consist of sedges, rushes, watercress, bent grass, and bluegrass. The riparian areas tend to be more heavily grazed than surrounding upland areas.

3.2.9 Migratory Birds

A variety of birds occur within the habitats found in the Project Area. Chukar (*Alectoris graeca*), Hungarian partridge (*Perdix perdix*), mourning dove (*Zenaida macroura*), red-tailed hawk (*Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), merlin (*Falco columbarius*), American kestrel (*Falco sparverius*), northern harrier (*Circus cyaneus*), golden eagle (*Aquila chrysaetos*), turkey vulture (*Cathartes aura*), great-horned owl (*Bubo virginianus*), short-eared owl (*Asio flammeus*), Cooper's hawks (*Accipiter cooperii*), burrowing owl (*Athene cunicularia*) are common resident species. Migratory birds are numerous and include species such as the mountain chickadee (*Poecile gambeli*), plain titmouse (*Parus inomatus*), northern flicker (*Colaptes auratus*), white-breasted nuthatch (*Sitta carolinensis*), mountain bluebird (*Sialia currucoides*), sage thrasher (*Oreoscoptus montanus*), sage sparrow (*Amphispiza bileneata)*, western meadowlark (*Sturnella neglecta*), and brewer's sparrow (*Spizella breweri*).

The Ruby Lake National Wildlife Refuge is just north of the Project Area. This refuge is an important waterfowl and shorebird nesting and migration area. Bird migration through the Project Area is extensive during the fall and spring of each year.

3.2.10 Geology and Minerals

Information detailing geology and minerals in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (BLM 1995; pages 3-5 to 3-15), and is summarized below.

The Project Area is located within the Basin and Range physiographic province and is characterized by north-northeast trending mountain ranges separated by broad valleys. The valleys have been formed by downward movement of large blocks of the earth's crust along range-front faults (BLM 1995). A detailed summary of the geologic history of the southern Ruby Mountains is presented in Appendix B of the FEIS.

During the Paleozoic, the Project Area was covered by a shallow sea in which carbonate and siliclastic sediments were deposited. After deposition, the sediments were folded and faulted during the Antler and Sonoma mountain building events, and then intruded by igneous rocks with associated volcanic deposits. Low angle normal faulting accompanied volcanism and was followed by high-angle normal faulting prior to Basin and Range faulting. Basin and Range faulting and erosion are the most recent activities at the site and continue to the present.

The Paleozoic rock types within the Project Area consist of a variety of sedimentary rocks including: limestone, dolomite, claystone, shale, siltstone, sandstone, and quartzite. These sedimentary units were deposited 320 to 570 million years before the present.

Gold deposits are commonly hosted by two lithologies within the Project Area: the Devils Gate Limestone and the Pilot Shale. Mineralization is commonly located along the contact between the Devils Gate Limestone and the overlying Pilot Shale, with most ore deposits located in the lower 300 feet of the Pilot Shale. Mineralization is also hosted in a Jurassic felsic intrusive. Two geologic features have controlled mineralization and aided in the formation of the gold deposits. First are the numerous high-angle faults trending northwest and northeast. In many cases, ore deposits are localized along the northeast-trending faults, along northwest-trending faults, or at the intersection of these two major fault sets. Timing of the mineralization has been placed between the Oligocene and the Miocene (24 to 58 million years before present), subsequent to high-angle normal faulting, but prior to Basin and Range activity (BLM, 1995).

3.2.11 Soils

Information detailing soils in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (BLM 1995; pages 3-1 to 3-3), and is summarized below.

The soils in the Project Area are general soil map units designated from the Natural Resources Conservation Service soil surveys of *Western White Pine County, Nevada* (NRCS 1998). The general soil map units in the Project Area form on three geomorphic locations: hills and mountains, fan piedmonts, and basin floors as shown in Figure 5. Nine general soil map units are found within the Project Area and include: Pookaloo-Zimbob-Cavehill, McIvey-Hutchley-Segura, Hardol-Haunchee-Wardbay, Birchcreek-Segura-Pioche, Atlow-Upatad-Pioche, Palinor-Shabliss-Blimo, Palinor-Roden-Urmafot, Uwell-Zimwala-Katelana, and Playas-Orupa. Appendix C presents soil characteristics and the vegetation associated with each particular general soil unit.

The Pookaloo-Zimbob-Cavehill, McIvey-Hutchley-Segura, Hardol-Haunchee-Wardbay, Birchcreek-Segura-Pioche, and Atlow-Upatad-Pioche general soil units are formed on hills and mountains. The Pookaloo-Zimbob_Cavehill general soil unit ranges from moderately steep to steep and are shallow to moderately deep, well-drained and carbonatic. The McIvey-Hutchley-Segura general soil unit is formed on moderately steep and steep mountain slopes.with shallow and very deep well-drained soils. The Hardol-Haunchee-Wardbay general soil unit is formed on moderately steep and steep mountain slopes and are well-drained, shallow, deep, and very deep. The Birchcreek-Segura-Pioche unit is formed on moderately steep and steep slopes and are shallow to moderately deep and well-drained. The Atlow-Upatad-Pioche general soil unit is formed on strongly sloping to steep hill and mountain slopes and are shallow and well-drained.

The Palinor-Shabliss-Blimo:, Hunnton-Yody-Chiara, and Palinor-Roden-Urmafot: units are formed on fan piedmonts. The Palinor-Shabliss-Blimo unit is formed on nearly level to moderately sloping areas. The soil unit is shallow over a duripan or are very deep, and well-drained The Hunnton-Yody-Chiara unit is formed on gently sloping and moderately sloping areas, and are shallow to moderately deep, well-drained soils that form over a duripan. Soils in this unit are located on fan piedmont remnants. The Palinor-Roden-Urmafot general soil unit is formed on gently sloping to moderately steep, well-drained soils.

The Uwell-Zimwala-Katelana general soil unit is formed on lake plains and nearly level surfaces. The soils in the unit are moderately well-drained and very deep.

3.2.12 Vegetation

Information detailing vegetation in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (BLM 1995; pages 3-3 to 3-5), and is summarized below.

Vegetation types present within the Project Area include mountain big sagebrush (*Artemesia tridentata spp.vaseyana*), low sagebrush, mixed shrub, mountain mahogany, riparian, piñon/juniper (*Pinus monophylla and Juniperus sp.*), and areas undergoing post-fire rehabilitation. Figure 5 shows the general distribution of vegetation.

The mountain big sagebrush type is present on hillsides within the Project Area and occurs over a wide range of soil types, depths, slopes, and aspects. Understory species commonly associated with big sagebrush include Basin wild rye (*Leymus cinereus*), bluebunch wheatgrass (*Pseudoroegneria*

HUMBOLDT NATIONAL FOREST BOUNDARY

BOUNDARY OF EXPLORATION PLAN OF OPERATIONS

CHROME FIRE AREA JULY 14, 2004

BURNOUT AREA

T 25 N

T 24 N

T 23 N

T 22 N

T 21 N

R 57 E

R 58 E

R 59 E

EXPLANATION

CHROME FIRE AREA

BLM- IDENTIFIED WEEDS:

- BLACK HENBANE
- BULL THISTLE
- MUSK THISTLE
- RUSSIAN KNAPWEED
- SPOTTED KNAPWEED
- WHITETOP

GENERAL SOIL MAP UNITS		ASSOCIATED VEGETATION
BASIN FLOOR SOILS		
Uwell - Zimwala - Katelana	5	Wyoming big sagebrush, winterfat, Indian ricegrass, shadscale, black greasewood, bottlebrush, squirreltail
FAN PEDIMENT SOILS		
Palinor - Shabliss - Blimo	11	Black sagebrush, Indian ricegrass, needleandthread, Wyoming big sagebrush, rhizomatous wheatgrass
Hunnton - Yody - Chiara	14	Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush
Palinor - Roden - Urmafot	16	Black sagebrush, Indian ricegrass, needleandthread, blue bunch wheatgrass
HILL AND MOUNTAIN SOILS		
Atlow - Upatad - Pioche	19	Black sagebrush, Indian ricegrass, Thurber needlegrass, bluebuch wheatgrass, single leaf pinyon, Utah juniper, mountain big sagebrush
Pookaloo - Zimbob - Cavehill	21	Single leaf pinyon, black sagebrush, bluebunch wheatgrass, Indian ricegrass, curlleaf mountain mahogany, mountain big sagebrush
Birchcreek - Segura - Pioche	23	Antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, Thurber needlegrass, single leaf pinyon, Utah juniper
McIvey - Hutchley - Segura	25	Mountain big sagebrush, bluebunch wheatgrass, low sagebrush, black sagebrush
Hardol - Haunchee - Wardbay	26	Mountain big sagebrush, bluebunch wheatgrass, Columbia needlegrass, curlleaf mountain mahogany

0 1 2 MILES

BASE MAPS: RUBY VALLEY AND NEWARK 1:100,000 SCALE QUADS

SOIL DATA FROM:SOIL SURVEY OF WESTERN WHITE PINE COUNTY AREA, NEVADA, 1990.

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FIGURE 5
SOILS, VEGETATION AND NOXIOUS WEEDS

spicata ssp.spicata), bottlebrush squirreltail (*Elymus elymoides*), and Indian ricegrass (*Oryzopsis hymenoides*) (FEIS 1995).

The low sagebrush vegetation type is concentrated on the shallow rocky soils along mountain ridges from gentle to very steep slopes. Low sagebrush dominates this low-growing vegetation type characterized by low species diversity. Other associated plant species are rabbitbrush (*Crysothamnus nauseosus*), Sandberg bluegrass (*Poa secunda*), bottlebrush squirreltail, winterfat (*Eurotia lanata*), and buckwheat (*Polygonaceae fagopyrum*) (FEIS 1995).

Mixed shrub vegetation generally occurs on moderately steep to steep sideslopes and backslopes of hills and mountains at all aspects. This vegetation type is commonly found on slopes with north and east aspects. Mountain big sagebrush, snowberry (*Symphoricarpos*), bitterbrush (*Purshia*), serviceberry (*Amelanchier alnifolia)*, and rabbitbrush dominate the shrub canopy layer. Common understory species include needlegrass (*Stipa*), bluebunch wheatgrass, mountain brome, Sandberg bluegrass, Basin wildrye, sedges (*Carex*), balsamroot (*Balsamorhiza*), lupine (*Lupinus*), bastard toadflax (*Comandra umbellate pallida*), groundsel (*Senecio*), and buckwheat (FEIS 1995).

The mountain mahogany vegetation type occurs in association with rock outcrops on summits and sideslopes of hills and mountains. Curlleaf mountain mahogany (*Cercocarpus ledifolius*) dominates this community with snowberry, mountain big sagebrush, and rabbitbrush as the principal understory shrubs. Other common grass species include bluebunch wheatgrass, needlegrass, Indian ricegrass, and cheatgrass (*Bromus tectorum*).

Piñon/juniper woodlands within the Project Area generally occur on steep hillsides at all aspects. This vegetation type occurs on shallow loamy soils with high percentages of coarse fragments. Shrubs present include mountain big sagebrush, bitterbrush (*Purshia*), snowberry, and rubber rabbitbrush. The generally sparse understory species include Basin wild rye, bluebunch wheatgrass, bottlebrush squirreltail, and Indian ricegrass (FEIS 1995).

About 4,500 acres within the Project Area were burned in the "Chrome Fire" which occurred during July 2004 as shown on Figure 5. Islands of vegetation including sagebrush and grasses occur within the burn area. BLM is presently developing a fire rehabilitation plan for the area.

3.2.13 Wildlife

Information detailing wildlife in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (BLM 1995; pages 3-21 to 3-26), and is summarized below.

Wildlife habitats within the Project Area include mountain big sagebrush, piñon/juniper woodland, mountain mahogany, mixed shrub (e.g., bitterbrush, serviceberry, snowberry), and riparian drainages. The piñon/juniper and shrub communities provide structural diversity for a number on wildlife species as both thermal cover and food sources, during both winter and breeding seasons. Larger deciduous tree species and snags are limited in occurrence within the Project area but are important for cavity

nesting birds and foraging activities as are piñon/juniper. Appendix B contains a list of wildlife species that may occur in the Project Area.

The combination of upland vegetation communities and their distribution provide habitat for a variety of species. Riparian habitats, particularly with a multi-story canopy and free water, support a greater diversity and population density of wildlife species than any other habitat occurring in the Project Area. However, riparian habitat is limited in extent and the condition of this habitat varies from poor to good, depending on the amount of use by livestock and wild horses (FEIS, 1995). Water sources protected from these effects by exclosures, such as that occurring at North Water Canyon Spring, provide diverse forage and cover species, in addition to higher water quality and flow rates.

Many non-game mammals and reptiles utilize the vegetative communities in the Project Area such as rabbits, squirrels, gophers, coyotes, foxes raccoons, lizards, and snakes. Appendix B contains a lists of those species sighted in the area.

Mule deer (*Odocoileus hemionus*) are the principal big game species in the region. Seasonal movements occur between summer and winter ranges and are typically defined by available forage and water. See Figure 4. The Project Area is located within a portion of crucial mule deer winter range designated by the Nevada Department of Wildlife (NDOW). This winter range supports the largest deer herd in Nevada, which presently numbers about 30,000 deer throughout the Ruby Mountains. About 400 deer reside in the Buck and Bald area on a year-long basis. However, during winter months when snow accumulations in the Ruby Mountains to the north of the Project Area force migrating deer to the south, 20,000 to 24,000 deer may move through the Project Area continuing south as far as Little Antelope Summit. The number of mule deer that move along these routes during the migration period typically depends on the severity of the weather and associated snow depth (FEIS 1995).

Mountain lion range occurs throughout the Ruby Mountains and coincides with mule deer range.

Both elk (*Cervus elaphus)* and pronghorn antelope (*Antilocapra Americana)* can be found within the Project Area. A pioneering herd of elk move through the Project Area. Pronghorn can be found in parts of the Project Area that are located in both Long and Newark Valley; this habitat would be yearlong range (NDOW 2004).

Bats are common in the Project Area; a list of bat species is presented in Appendix B. The crest of the Ruby Mountains also acts as a migration corridor for numerous bat species during the fall and spring migrations. The Project Area is part of the southern extension of this migration corridor (NDOW 2004).

No fisheries occur in the Project Area.

3.2.14 Land Use and Access

Information detailing land use and access in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; page 3-59), and is summarized below.

The Project Area is located in White Pine County and consists of about 140,580 acres of public lands administered by the BLM Ely Field Office. Access for the proposed project from the east is via U.S. Highway 50 and the Ruby Marsh Road. Access from the west is via State Highway 892/228. The only transportation routes within the Project Area are county roads and unimproved gravel roads.

Other public access roads exist in the area including the Ruby Marsh Road, the Overland Road, and the road at the south end of the operations that connects with the Elko-Hamilton Stage Road. Numerous two-track roads exist throughout the Project Area.

3.2.15 Livestock/Grazing

Information detailing livestock and grazing in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; page 3-59), and is summarized below.

The Project Area is located within the Warm Springs and Maverick Springs allotments. Both allotments are classified as an "I" category allotment or "improve" (FEIS, 1995).

Table 3-7: Allotment information for the Bald Mountain Exploration Project Area

Allotment	Permittee	Cattle Permitted	AUMs	Dates for Permitted Use
Maverick Springs	Raymond and Sandy Rosenlund	55	56	March 1 – March 31
		175	1,231	April 1– October 31
		55	217	November 1– February 28
Warm Springs	Silver State Ranches	642	7,704	Year Round

3.2.16 Wild Horses

Information detailing the wild horses in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-33 to 3-34), and is summarized below.

The proposed project would be located entirely in the Buck and Bald Herd Management Area. About 40 to 50 horses reside in the Project Area (Personal Communication, K. Nicholes). The BLM established the Appropriate Management Levels for wild horses at 423. The estimated population in July 2004 was 552 wild horses (Personal Communication, P. Podborny). Horse gathers are planned during the 2005 fiscal year (Personal Communication, R. Pitts).

3.2.17 Visual Resources

Information detailing the visual resources in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-52 to 3-54).

The Project Area is located in the northern Great Basin section of the Basin and Range Physiographic Province. The Great Basin is characterized by a rhythmic pattern of isolated mountain ranges and broad sweeping basins. Clear skies and broad open vistas characterize this landscape. Man-made features within the Project Area include the existing Bald Mountain Mine, Little Bald Mountain Mine, Mooney Basin operations, Casino Mine, Winrock Mine, Alligator Ridge Mine, and Yankee Mine. The Casino, Winrock, Alligator, Little Bald Mountain and Yankee mines and White Pine Mine are closed and reclaimed. Numerous roads and power line corridors are located within the Project Area.

The Project Area is within an area inventoried but not classified for visual resource management. Modifications within the viewshed for the Pony Express National Historic Trail or the Hastings Cutoff would require that a visual assessment be completed.

3.2.18 Recreation

Information detailing the recreation in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995; pages 3-49 to 3-52), and is summarized below.

The proposed Project Area is generally isolated and undeveloped with no facilities. Developed recreational opportunities are relatively sparse in this part of Nevada and it is assumed that users would travel to remote areas of the general region, particularly on weekends to recreate. Using a recreation and management-planning tool called the Recreation Opportunity Spectrum to identify recreation opportunities, general public recreation in the area would include activities associated with roaded, natural, and semi-primitive motorized classes. Activities would primarily include off-highway vehicle use, dirt bike riding, hunting, and camping. Other recreational activities would include mountain biking, horseback riding, sightseeing, outdoor photography, nature study, wildlife viewing, bird watching, and rock collecting. Under the Egan RMP the proposed Project Area is located in an area “open” to off-road vehicle use.

3.2.19 Socioeconomics

Information detailing socioeconomics in the area of the Proposed Action is provided in the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (BLM 1995; pages 3-44 to 3-38), and is summarized below.

The 2000 population of White Pine County was 9,181 with a median age of 37.7 years with a workforce of 3,321. About 3.8 percent of the workers over the age of 16 are unemployed. The median wage in White Pine County is $36,688 per year. The annual payroll paid in White Pine County was $45,479,000 of which $10,142,000 came from the mining industry (www.fedstats.gov). Elko County

had a total population of 45,291 in 2000 with a median age of 31.1 years and a median income of $44,581 per year.

4 ENVIRONMENTAL CONSEQUENCES

4.1 ASSUMPTIONS FOR ANALYSIS

BMM has incorporated standard operating procedures into the Proposed Action (Appendix A) to reduce potential impacts to the environment. This section describes the direct and indirect impacts associated with the proposed Bald Mountain Mine Exploration Program. Cumulative impacts are discussed at the end of the section.

The Proposed Action assumes that up to 210 acres could be disturbed over the ten-year life of the exploration project. The maximum rate of disturbance would be 70 acres per year; however, BMM does not anticipate the maximum disturbance or rate of disturbance would occur. Up to 70 acres of disturbance at a given time could take place under the Proposed Action or in any three-year cycle due to the time period required for revegetation. BMM may use any or all of the exploration techniques described in Section 2.1.2. The level of impacts from the different techniques would vary. A NEPA document analyzing site-specific impacts would be prepared for each target area.

The No Action Alternative assumes that BMM would continue exploration activities on the 21.1 acres currently authorized and would likely conduct further exploration activities under notices.

4.1.1 Air Resources

Proposed Action

Direct, temporary impacts to air quality would result from activities for ten years. Impacts would result from fugitive dust as well as gaseous pollutants such as nitrous oxides, carbon monoxide, and sulfur dioxide. Sources of fugitive dust would include clearing, earth moving, drilling and blasting, and wind erosion from stockpiles. Sources of gaseous pollutants would include equipment exhaust emissions including mobile equipment and light vehicles. BMM utilizes operating controls such as watering main roads and the use of surfactants to control fugitive dust, and preventive equipment maintenance to control vehicle emissions.

Some impacts to air quality would occur, but the impacts would be transitory and temporary, limited in duration, and would end at the completion of that particular phase of work. Impacts from geophysical activities and chip/soil sampling would be much less than impacts from RC and core drilling activities.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.2 Water Quality

Groundwater

Proposed Action

BMM would avoid seeps and springs by at least 100 feet or as determined in the site-specific exploration plan. No impacts would result from geophysical, chip/soil sampling, or trenching. Drill holes would be abandoned per NRS 534. Types of impacts to groundwater resources could include aquifer contamination from drilling if drill holes are left open. Only one drill hole per rig would be open at a time. Because drill holes would be closed according to NRS 534, no impacts to groundwater resources are projected.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

Surface Water

Proposed Action

Impacts to surface water from geophysical activities or chip/soil sampling is expected to be localized and limited. Road construction and off road travel have the potential to cause erosion that could enter drainages as runoff. During periods of adverse conditions such as thawing, heavy rains, snow, flooding, or drought, off-road activities that can create excessive surface rutting may be suspended and proceed at the direction of the Authorized Officer. Sumps would contain drilling mud. Erosion control structures would be installed as necessary. Growth media stored in berms over the growing season would be seeded with an interim seed mix. Off-road travel would be restricted to terrain with slopes less than 30 percent unless approved by the Authorized Officer.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.3 Cultural Resources

BMM has entered in to a Programmatic Agreement (PA) with BLM, the Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation. Portions of the Project Area have been inventoried for cultural resources as shown on Figure 3. Additional cultural surveys would take place prior to exploration activities to ensure avoidance of cultural resources and add to the knowledge base for pre-history of the area. The previous inventories identified several sites in the Project Area that were determined eligible for the NRHP. These known sites would be avoided or treated. Other sites within the Project Area have been recommended as not eligible at the time of the survey; these sites would also be avoided.

Proposed Action

Geophysical activities and chip/soil sampling, that are not surface-disturbing, are considered casual use and do not require a cultural resources survey. All other exploration activities would require a survey. Because the exact locations of trenches, drill sites, and cross-country travel routes would be dependent on geological conditions and the results of ongoing drilling, BMM cannot predict precisely where disturbance would occur. BMM would contract with a BLM-permitted archeologist prior to any surface disturbance to perform a Class III cultural resources study on the cross-country travel routes, constructed/improved roads, drill pads, and trenches. If a cultural resources site is located, the disturbance would be moved to avoid the site. The results of each survey would be submitted to BLM.

Avoidance is the BMM-preferred treatment for preventing effects to historic properties [a historic property is any prehistoric or historic site eligible to the National Register of Historic Places (NRHP)] or unevaluated cultural resources.

If avoidance is not possible or is not adequate to prevent adverse effects, BMM would undertake data recovery at the affected historic properties in accordance with the Programmatic Agreement between Bald Mountain Mine, BLM, Nevada State Historic Preservation Office (SHPO), and the advisory Council on Historic Preservation. Development of a treatment plan, data recovery, archeological documentation, and report preparation would be based on the "Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation," 48 CFR 44716 (September 29, 1983), as amended or replaced. If an unevaluated site cannot be avoided, additional information would be gathered and the site would be evaluated. If the site does not meet eligibility criteria as defined by the Nevada SHPO, no further cultural work would be performed. If the site meets eligibility criteria, a data recovery plan or appropriate mitigation would be completed under the Programmatic Agreement. Once data recovery has been completed at a historic property, the BLM would issue a Notice to Proceed for work at that location.

Any activity planned within the viewshed of the Pony Express National Historic Trail or other National Landscape Conservation System properties, listed National Register Districts, or properties eligible under criterion A, would undergo a visual assessment. Appropriate mitigation of visual impacts would be implemented as necessary to keep the setting of the management corridor in as natural a condition as possible.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.4 Native American Religious Concerns

Proposed Action

No impacts to Native American religious concerns are projected based on recent consultations associated with this Proposed Action.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.5 Invasive Non-native Species and Noxious Weeds

Proposed Action

The proposed disturbance has the potential to create conditions favorable for the establishment of invasive, non-native weeds and other undesirable plants. The use of suitable interim and final seed mixes with only certified noxious weed-free seed, combined with implementation of prompt and appropriate revegetation techniques, would reduce the potential for invasive, non-native weed invasion. The SOPs, require BMM to actively treat noxious weeds upon discovery, which would also prevent these weed species from spreading and dominating the site.

Due to increased ground disturbance as a result of exploration activities, the likelihood of invasive weed encroachment would increase for techniques such as road construction and drilling. BMM would follow SOPs in order to prevent the spread of invasive weeds in the Project Area. These SOPs would consist of:

- washing rigs prior to entering and upon leaving the Project Area;
- surveying the specific target area prior to road construction, drilling, and trenching activities;
- flagging areas of concern to prevent employees from driving through a stand of listed noxious weeds,
- training employees and contractors to identify noxious weeds;
- segregating growth media that may contain noxious weed seeds away from growth media not containing noxious weed seeds;
- seeding growth media berms remaining over a growing season with an interim seed mix;
- using certified weed-free hay and straw; and
- using a BLM-recommended seed mix to reduce invasive species over time by maintaining the current plant communities. The reclamation bond would not be released until noxious weeds species are eradicated from the disturbed area.

The *Preliminary Risk Assessment for Noxious and Invasive Weeds* (Appendix D) indicated a moderate level of risk that noxious and invasive weeds would spread to the Project Area and a moderate level of risk of adverse and cumulative effects on native plant communities.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.6 Special Status Species (Including Federally Listed, Proposed, and Candidate Species, State Protected Species, and BLM Sensitive Plant and Animal Species

Proposed Action

The Nevada Natural Heritage Program reported that no special status plant species are known to occur on or near the Project Area. BMM would consult with the Nevada Natural Heritage Program and the U.S. Fish and Wildlife Service for each site-specific NEPA document to determine if new species have been listed. If potential habitat exists, BMM would hire a qualified biologist to conduct a plant survey to identify the presence or absence of the plant in question.

The bald eagle may be an occasional visitor to the area, but is not known to reside within the Project Area. Burrowing owl, ferruginous hawk, and northern goshawk use the Project Area, but the loss of habitat is not expected to affect these species. The woodlands provide foraging habitat for bats, as well as some roosting habitat. Due to the amount of available habitat, this impact is anticipated to be minimal. Raptor nest sites would not be disturbed. BMM would not conduct surface use within one half mile of an occupied raptor nest during the period March 1 through June 30 or until the birds have left the nest

Pygmy rabbits dig burrows in deep loose soil and prefer areas of tall, dense sagebrush. The areas likely to host pygmy rabbit would be surveyed on a site-specific basis prior to exploration activities. If pygmy rabbit are located, BMM would work with BLM to avoid impacts.

Some sagebrush would be removed during exploration activities which would be replaced with a short-term vegetative cover that would predominate with grasses and forbs from the reclamation seed mix. Sagebrush is expected to recolonize the disturbed areas over time. BMM would not conduct surface disturbing activities within an active (occupied) sage grouse lek. No surface use would occur within one half mile of an active sage grouse lek from midnight until 10 a.m. during the period March 15 through May 31.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.7 Wastes (Solid, Hazardous) and Hazardous Materials

Proposed Action

BMM would handle solid and hazardous wastes and hazardous materials according to state and federal regulations and SOPs. Any spills of petroleum products would be cleaned and reported according to state regulations. Solid waste would be disposed off site at an approved facility.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.8 Riparian Resources

BMM would avoid seeps and springs by at least 100 feet or as determined in the site specific exploration plan. Exploration plans would be moved or modified to avoid impacts to riparian areas. The site-specific NEPA analysis would identify riparian areas within the target areas.

No Action Alternative

The potential impact from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.9 Migratory Birds

The Project Area has the potential to provide nesting habitat for migratory birds. To avoid potential impacts, BMM would not conduct land clearing during the avian breeding season (May 15 through July 31, annually), except under the direction of a qualified biologist. If active nests are located, or if other evidence of nesting is observed, a protective buffer around these nests would be delineated, and the area would be avoided to prevent destruction or disturbance of nests until the birds are no longer present. Implementation of such conditions would reduce potential impacts to species protected under the Migratory Bird Treaty Act.

No Action Alternative

The potential impact from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.10 Geology and Minerals

Proposed Action

Minimal amounts of material would be removed from trench excavation and drilling. Drill holes would be plugged in compliance with NRS 534.

No Action Alternative

The potential impact from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.11 Soils

Proposed Action

BMM would use existing roads, cross country travel and road construction to access target areas. Existing roads and cross-country travel would be used whenever possible. Sumps would be

constructed contain drilling mud. Erosion control structures would be installed as necessary. Off-road travel would be restricted to terrain with slopes less than 30 percent unless approved by the Authorized Officer. During periods of adverse conditions affecting soil moisture caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, all activities off existing maintained roads that create excessive surface rutting may be suspended. When adverse conditions exist, the operator will contact the Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover. Lands containing unstable/highly erodible soils may require additional protective measures such as restrictions on surface entry during periods of excessive runoff, avoidance of selected areas, and special reclamation techniques

If constructed pads or roads are necessary, growth media would be salvaged and seeded with an interim seed mix if left in place over a growing season. BMM assumes that about 34 acres of road would require salvage of growth media. Assuming an average salvage depth of 12 inches, up to 54,850 cubic yards of growth media may be salvaged over the ten-year project life.

Types of impacts would include vegetation clearing, excavation, grading, and salvage of growth media. Soil disturbances would impede maturation of soil development, degrade soil structure, and hinder soil biological activity. Additionally, exposed soils are susceptible to wind and water erosion; however, this impact would be reduced by interim revegetation and best management practices.

No Action Alternative

The potential impact from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.12 Vegetation

Proposed Action

Up to 210 acres of vegetation could be removed and reclaimed. No more than 70 acres would be active at any one time. The disturbed areas would be seeded with a BLM-recommend seed mix. BMM has reclaimed past mining disturbance within the Project Area over the past ten years. As such, a history of reclamation success has been established; those plant species and techniques that may not have been optimal have been identified as well. The reclaimed areas would have different plant composition than the existing plant communities and the structural complexity of the reclaimed plant communities is likely to be less complex than the adjacent undisturbed vegetation. These impacts are likely to occur over a period of years or decades, depending on the site. However, the additional plant species and early seral stages created by the reclamation would increase the overall regional plant diversity and community structure provided that reclamation is successful and non-native invasive species do not become established. For the first few growing seasons, a temporary increase in annual weedy species would likely occur; the species would eventually be replaced by desired perennial communities. Concurrent reclamation would be occurring, so the disturbance would be in various stages of re-growth at any one time.

The occasional removal of piñon/juniper trees in the Project Area would result in minimal impact to this vegetation type since it is widely distributed through the Project Area. Although the reclaimed areas would have different plant composition than the existing piñon/juniper type, direct impacts from the proposed activities would be minimal due to the wide piñon/juniper distribution in the area. However, the disturbance of piñon/juniper woodland resources would be more than offset by the expansion of piñon /juniper in the Project Area.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.13 Wildlife

Proposed Action

Direct and indirect impacts would occur to wildlife resources and their associated habitats. The Proposed Action would result in the short-term habitat loss of up to 210 acres, with a long-term habitat change of up to 210 acres. No more than 70 acres would be active at any one time. The disturbed areas would be seeded with a mix of native plant species. The habitat would be changed to an earlier seral community consisting of grasses and shrubs. The proposed activities would result in: direct loss or disturbance to forage, breeding areas, and thermal cover; indirect impacts from displacement of animals from the Project Area into adjacent habitats which are potentially at their carrying capacities (resulting in potential loss of these individuals from the population); and further fragmentation of the habitat from project implementation. Concurrent reclamation would be occurring, so the disturbance would be in various stages of re-growth at any one time.

The Proposed Action would result in the short-term loss of up to 210 acres (0.15 percent) and the long-term change of up to 210 acres (0.15 percent) within a 295,000-acre crucial deer winter range designated by NDOW. No more than 70 acres (0.03 percent) at any one time would be below the revegetation release standards. This habitat disturbance would result in the same primary impacts to mule deer as described above for wildlife in general. However, impacts from the proposed activities would be minimal. The removal of piñon/juniper vegetation, followed by subsequent reclamation to an herbaceous-shrub community would provide habitat similar to that which has been created by NDOW and BLM through woodland chainings. These openings in the woodland that provide forage may contribute to the long-term benefit of mule deer.

Mule deer migration could be disturbed by the noise and activity associated with road construction, trenching, and drilling activities. Geophysical activities and chip/soil sampling are much less likely to disrupt migration patterns. However, BMM would be exploring in targeted areas over ten years; no physical blockage of the migration corridor would occur. Mule deer, elk, and antelope may tend to avoid exploration activities, but avoidance should not affect the populations of these species.

Minimal localized impacts to populations of prey species could occur through changes in habitat. Raptors would not be directly impacted by the Proposed Action.

The level of human activity associated with the exploration project would be similar to dispersed recreation (i.e., hiking, camping, hunting, snowmobiling, off road ATV riding) by being limited in duration and localized. The increased noise level from the drill rig may interfere with territorial defense by birds with territories near the drill pad. Some species would be displaced during the time that the drilling occurs or until the vegetation has re-established. This could lead to direct mortality if the displaced individuals move into new habitats that already are occupied, creating intra-specific competition, or the displaced individuals would be vulnerable to predators until they become familiar with the new habitat. Due to the dispersed nature of the disturbance and the limited acreage involved at any one time or location, displacement is not likely to occur for most species.

The introduction of temporary drill pads and access roads has potential to cause habitat fragmentation. Due to the size of the Project Area and the disbursed nature of the disturbance, habitat fragmentation is not likely to affect migration, foraging, or other habitats. Avoidance of riparian areas would reduce the potential for habitat fragmentation.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.14 Land Use and Access

Proposed Action

The Proposed Action would not disturb existing land uses within the Project Area such as roads, fences, and utility corridors. Some existing exploration roads constructed by other operators and not previously reclaimed, may be reclaimed by BMM. Survey monuments, claim markers, witness corners, reference monuments, bearing trees, etc., would be protected against destruction, obliteration or damage. When operations are concluded, BMM would remove survey markers, stakes, flagging, etc., for which there is no further need. Public access due to exploration activities would generally not be altered except for temporary obstructions if a drill rig is located on an access road.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.15 Livestock/Grazing

Proposed Action

Geophysical activities and chip/soil sampling would result in less contact or displacement of livestock than road construction or drilling activities. Removal of approximately 210 acres would result in the short-term loss of about 0.15 percent of forage in the allotments. No more than 70 acres would be active at any one time. The disturbed areas would be seeded with the BLM-recommended seed mix. Following reclamation, the reclaimed surfaces are likely to provide more available forage than is currently available in the woodland areas. Sumps would be fenced as necessary in areas where

livestock are present to prevent access. When traveling roads, all livestock gates would be closed after use. Under no circumstances would livestock be willfully harassed.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.16 Wild Horses

Proposed Action

Geophysical activities and chip/soil sampling would result in less contact or displacement of wild horses than road construction or drilling activities. Removal of approximately 210 acres would result in the short-term loss of about 0.15 percent of forage in the herd management area. No more than 70 acres would be active at any one time. The disturbed areas would be seeded with the BLM-recommended seed mix. Following reclamation, the reclaimed surfaces are likely to provide more available forage than is currently available in the woodland areas. Under no circumstances would wild horses be willfully harassed. Sumps would be temporarily fenced and flagged as necessary in areas where wild horses are present to prevent access. Fences will also avoid obvious horse migration routes (deep trails, stud piles) if at all possible. Fences would be removed after drilling is completed. No fencing is planned for the reclaimed areas.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.17 Visual Resources

Proposed Action

Geophysical activities and chip/soil sampling are not likely to create visual contrasts to the existing environment. Trenching, road construction, and construction of drill pads could result in short-term to long-term visual impacts principally affecting the elements of line and color (BLM 1986c). Horizontal and shallow diagonal lines from the drill roads and exploration trails would create moderate line contrasts with the characteristic landscape. Vegetation removal associated with road and drill pad construction would result in low to high color contrasts depending on the visual resource management class. This area, not yet classified, is dominated by manmade features and mining disturbance. Exploration activities would not change the character of the existing landscape. Form and texture contrasts would be weak to none. With successful reclamation and revegetation of the exploration roads, long-term visual impacts would be minimized, and the class objectives would be met.

Overland Pass, which includes the Pony Express Trail and the Hastings Cutoff, is located in an area in view of heavy mining. Incremental disturbance from exploration activities would be minor compared to the existing disturbance.

Contrasts to the existing environment may last for a long period of time following end of exploration activities and reclamation until native vegetation is completely reestablished. Reclamation efforts would continue to contrast with visual resources. Any evidence of reclaimed roads may invite continued use by the general public, thereby perpetuating linear intrusions in the characteristic landscape.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.18 Recreation

Proposed Action

The exploration disturbance areas associated with the project could result in a short-term, temporary reduction of recreation opportunities for hunters, off-highway vehicles users, hikers and rock collectors. In the long-term, the overland drill roads not part of the transportation plan would be reclaimed and may not be available. In general, pre-exploration recreation activities would be expected to continue throughout exploration activities or return to the target area at the conclusion of site-specific exploration program.

Geophysical activities and chip/soil sampling would not interfere with recreational pursuits. Trenching, road construction, and drilling activities could create disturbances that may interfere with or displace recreational pursuits in this area. Construction of access routes, drill pads, etc., could displace wildlife species available in the area for viewing and/or hunting. Also the sight and sound of exploration activities would diminish the solitude, naturalness and primitive and unconfined recreation opportunities desired by many outdoor enthusiasts. Because the area is already heavily mined area, it would not be an area of choice for a primitive experience. The proposed exploration program would not change existing access to public lands within the Project Area for recreational uses; however, some roads may be temporarily blocked. Construction of new roads could temporarily improve access for some types of recreational activities. However, all recreationists would not necessarily benefit and some would temporarily cease using certain areas due to drilling activities.

No annual commercial or competitive Special Recreation Permit events occur within this area, so there would be no conflicts between organized recreation events and drilling activities.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.1.19 Socioeconomics

The Proposed Action would provide employment up to 18 drill crews over the next ten years. Each drill crew generally consists of two to three individuals. The drill crews would likely use local

businesses for food and lodging as well as supplies. Exploration activities would contribute to continued employment and economic stability in White Pine and Elko counties.

No Action Alternative

The potential impacts from the No Action Alternative would be the same as those described for the Proposed Action but on a smaller scale.

4.2 CUMULATIVE IMPACTS

Cumulative impacts are analyzed in Appendix B, pages B-1 through B-129 of the *Bald Mountain Mine Expansion Project Final Environmental Impact Statement* (FEIS, 1995). This cumulative impact assessment was written with the intent of using the information for future NEPA analyses. An area of approximately 366,000 acres was analyzed. The FEIS cumulative impact assessment considers the types of impacts anticipated from the Proposed Action. This programmatic EA updates the existing EIS with respect to the following issues not previously analyzed:

- Non-native invasive species and noxious weeds
- Threatened and endangered species (sage grouse).

The cumulative effects study area is the same as the Project Area. The FEIS projected past, present, and reasonably foreseeable disturbance as summarized in Table 4-1.

Table 4-1: Summary of Proposed, Past/Present, and Reasonably Foreseeable Disturbance[1]

Activity	Acres Authorized For Disturbance(acres)	Not Reclaimed at End of Life[2] (acres)
Proposed Action	210	0
Past/Present[3]	22,220	521
Reasonably Foreseeable[4]	3,200	302
Total	25,630	823

[1] Source: Table B-4, FEIS

[2] Consists of open pits

[3] Includes 236 acres of new disturbance and 100 acres of disturbance that would not be reclaimed as described in the Mooney Basin Expansion Environmental Assessment (BLM 2004).

[4] Includes 200 acres of disturbance associated with a new mine and heap leach of which 50 acres of open pit would not be reclaimed.

4.2.1 Non-native Invasive Species and Noxious Weeds

The Proposed Action could disturb up to 210 acres which is about one percent of the total proposed, past/present, and reasonably foreseeable activities. Operators on public land are required to control

non-native invasive species and noxious weeds as part of their operating authorizations and reclamation obligations. The *Preliminary Risk Assessment for Noxious and Invasive Weeds* indicated a moderate level of risk that noxious weeds would spread to the Project Area and a moderate level of risk of adverse and cumulative effects on native plant communities. BMM would implement SOPs to control and eradicate noxious weeds within their plan of operations area.

Past Actions

Past land uses in the Project Area, that have introduced or spread noxious weeds consist of: livestock grazing, recreation, fire, mining, and minerals exploration. Ecologically significant fires are generally 5,000 to 100,000 acres or more in an area and increase the chance of noxious weed establishment and the spread of cheatgrass. BMM has reclaimed their past exploration activities as well as those disturbances created by other operators; however, noxious and invasive weed infestations have been documented within the cumulative effects study area.

Reasonably Foreseeable Actions

Reasonably foreseeable activities would be the development of a 200-acre mine in addition to the activities described in the FEIS. The implementation of the Ely Field Office RMP would provide management direction for future land use. BMM, in association with the Tri-County Weed Association, would continue the ongoing noxious weed control program.

Cumulative Impacts

The Proposed Action may cause incremental increases in noxious weeds for the short term; however, BMM would control and eradicate noxious weeds on disturbed areas. Reclaimed disturbance would not be released until noxious weeds have been controlled. Invasive, non-native weeds could increase within the cumulative effects study area in spite of BMPs and SOPs that would be in place.

4.2.2 Threatened and Endangered Species (Sage Grouse)

The Proposed Action could disturb up to 210 acres which is about one percent of the total proposed, past/present, and reasonably foreseeable activities; however, very little of this disturbance would occur in critical sage grouse habitat.

Past Actions

Past land uses in the Project Area, that have affected sage grouse consist of: livestock grazing, recreation, mining, and minerals exploration. A variety of past land use actions have led to sage grouse population declines. BMM has reclaimed their past exploration activities as well as those disturbances created by other operators.

Present Actions

Ongoing land uses include recreation, livestock grazing, mining, and minerals exploration. The Proposed Action could disturb up to 210 acres. Sage grouse have been petitioned to the U.S. Fish and Wildlife Service for listing as a threatened species in the western United States.

Reasonably Foreseeable Actions

Reasonably foreseeable activities would be the development of a 200-acre mine in addition to the activities described in the FEIS. Sage grouse leks and brooding habitat have been observed within the Project Area as shown on Figure 4. The state-wide Sage Grouse Conservation Plan is anticipated to benefit sage grouse populations by improving habitat through land management practices. The implementation of the Ely Field Office RMP would provide management direction for future land use.

Cumulative Impacts

The Proposed Action is not expected to cause incremental impacts to sage grouse. The combined impacts would include up to 25,630 acres of disturbance of the cumulative effect study area, most of which is not preferred sage grouse habitat.

5 PROPOSED MITIGATION MEASURES

Appropriate mitigation has been included through the SOPs in the Proposed Action. See Appendix A No additional mitigation is proposed as a result of the impact analysis. Mitigation will be reconsidered on a site-specific basis in the subsequent EAs.

6 MONITORING

Appropriate monitoring has been included through the SOP in the Proposed Action. See Appendix A No additional monitoring is proposed as a result of the impact analysis. Monitoring will be reconsidered on a site-specific basis in the subsequent EAs.

7 CONSULTATION AND COORDINATION

The scope of this EA was developed through consultation with BLM resource specialists (meetings and subsequent conversations); consultation with other local, state, and federal agency resource personnel; review of company and agency files; field reconnaissance; and review of supporting documentation. Letters were sent to interested public during July 2004.

7.1 LIST OF PREPARERS

U.S. Bureau of Land Management - Ely Field Office

Lynn Bjorkland	Project Lead, Plan Review, Geology/Minerals
Nate Thomas	Cultural Resources
Elvis Wall	Native American Religious Concerns
Dane Courville	Invasive, Non-native Species
Jeff Brower	Soil, Water, Air
Jake Rajala	NEPA Coordination
Ryan Pitts	Livestock Grazing, Vegetation
Jody Nartz	Wild Horses
Paul Podborny	Wildlife, Riparian/Wetlands, Migratory Birds
Mike Perkins	Special Status Species
Steve Leslie	Recreation, VRM

SRK Consulting

Valerie Sawyer	Project Manager
Gary Back	Principal Ecologist
Carrie Bruno	Staff Scientist
Steve Boyce	Senior Engineer
Aina Trodden	Draftsperson

7.2 PERSONS, GROUPS, OR AGENCIES CONSULTED

Other Reviewers

The following persons, groups, and agencies were contacted during the preparation of this document.

Bald Mountain Mine

Randy Buffington, Mine Manager
Kirk Nicholes, Environmental Coordinator
Tim Thompson, Chief Geologist

Placer Dome America

Steve Schoen, Environmental Coordinator

Nevada Department of Wildlife

Rory Lamp, Biologist III

7.3 PUBLIC NOTICE AND AVAILABILITY

Notification of this project was published on the web at www.nv.blm.gov/Ely. Scoping letters were sent to interested persons and organizations on the Ely Field Office mailing list, including the Nevada State Clearing House, interested horse advocacy groups, the affected grazing permittees, local Native American tribe, and other interested parties. Copies of the Bald Mountain Mine Exploration Program Environmental Assessment can be obtained at the BLM Ely Field Office or on the web at www.nv.blm.gov/Ely.

7.4 NATIVE AMERICAN CONSULTATION

BLM conducted Native American consultations with the Ely, Battle Mountain, and Duckwater Shoshone Tribes on July 15 and August 25, 2004; no comments or concerns regarding the Proposed Action were brought forth at that time. No issues have been identified as a result of these consultations. Further consultation will be done on a site-specific basis.

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Appendix A

Standard Operating Procedures

STANDARD OPERATING PROCEDURES (SOPs)

FOR BALD MOUNTAIN MINE EXPLORATION PLAN

1. Any change or amendment to your minerals operation must be brought to the attention of the Ely Field Office Manager or an authorized officer prior to implementation of the change on the ground.

2. Cultural resource inventories will be conducted on all proposed areas of potential surface disturbing impacts, including appropriate buffer zones, prior to authorization of the mineral operations. Inventories will be completed by BLM or BLM-approved cultural resource permit holders.

3. A noxious weed survey will be completed prior to any earth disturbing activity including cross-country travel. Noxious or invasive weeds that may be located on the site will be managed according to methods to be approved by the Authorized Officer. Should chemical methods be approved, the lessee must submit a Pesticide Use Proposal to the Authorized Officer 60 days prior to the planned application date. A Pesticide Application Report must be submitted to the Authorized Officer by the end of each fiscal year following chemical application.

4. Existing access must be used whenever possible. Off-road vehicular travel shall be held to an absolute minimum necessary to complete operations. Additional roads, if needed, will be kept to an absolute minimum and the location of routes must be approved by the Authorized Officer prior to construction.

5. All survey monuments, claim markers, witness corners, reference monuments, bearing trees, etc., must be protected against destruction, obliteration or damage. When operations are concluded, the operator will remove all survey markers, stakes, flagging, etc., for which the operator has no further need.

6. Removal or alteration of existing improvements (fences, cattle guards, etc.) is not allowed without prior approval of the Authorized Officer. Existing improvements will be maintained in a serviceable and safe condition. Upon completion of operations, any authorized facility alterations will be restored to the specifications of the authorized officer.

7. All vegetative clearing will be held to the minimum necessary to accommodate the planned operation.

8. No blasting will be permitted if it will be detrimental to the significant characteristics of archeological or historical values, recreation areas, known caves, water wells, or springs.

9. During periods of adverse conditions affecting soil moisture caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, all activities off existing maintained roads that create excessive surface rutting may be suspended. When adverse conditions exist, the operator will contact the Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.

10. All trash, garbage, debris, and foreign matter must be removed and properly disposed. Site must be maintained and left in a clean and safe condition. Burning will not be allowed at the site.

11. No oil or lubricants will be drained onto the ground surface. Any spills under 25 gallons will be immediately cleaned up; spills over 25 gallons will be reported to the Authorized Officer and NDEP.

12. All construction, operation, and maintenance activities will comply with all applicable Federal, State, and local laws and regulations regarding the use of hazardous substances and the protection of air and water quality.

13. The operator will work with the Authorized Officer on the containment of drilling fluids and drill hole cuttings. Mud, separation pits, and other containments used for the storage of any hazardous materials will be adequately fenced, posted, and/or covered.

14. Powder magazines will be located at least 0.25-mile from traveled roads. Loaded shot holes and charges will be attended at all times. Use of explosives will be according to applicable Federal and State regulations.

15. The operator will make every effort to prevent, control, or suppress any fire in the operating area. The operator may be required to have fire-fighting equipment available on-site while operations are in progress, depending on hazards inherent in the type of operation and fire hazard levels. Reports of uncontrolled fires will be relayed immediately to the Ely Field Office Manager or Authorized Officer. The BLM Fire Dispatch telephone number is (775) 289-1925 or 1-800-633-6092. After working hours call 911 or the White Pine County Sheriff's office at (775) 289-8801, the Lincoln County Sheriff's Office at (775) 962-5151, or the Nye county Sheriff's Office at (775) 482-8101.

16. Lands containing unstable/highly erodible soils may require additional protective measures such as restrictions on surface entry during periods of excessive runoff, avoidance of selected areas, and special reclamation techniques.

17. All decisions issued by the Ely Field Office will have a Needs Assessment completed in accordance with the Nevada BLM and SHPO Protocol.

18. Documentation (photos, drawings, etc.) will be collected on all sites eligible for the National Register of Historic Places. This will allow tracking of human and natural caused deterioration.

19. If cultural resources (historic or archaeological materials) are discovered during construction, the operator is to immediately stop work protect such materials, and contact the Authorized Officer. Within five working days, the Authorized Officer will inform the operator as to:

    - The appropriate treatment measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible);
    - A timeframe for the Authorized Officer to complete an expedited review and necessary consultation;
    - The operator's responsibility for treatment costs; and
    - Technical and procedural guidelines for the conduct of the treatment. Upon verification from the Authorized Officer that the required treatment has been completed, the operator will then be allowed to resume construction.

20. All identified cultural resources will be avoided by project-related activities per the Nevada BLM standards for cultural resources. If avoidance is not feasible, mineral activities must cease until mitigating measures or treatments are developed and implemented and Section 106 consultation is completed. Archaeological monitors may be required in special cases.

21. The operator is responsible for informing all persons associated with the project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.

22. During winter operations, requirements for cultural resource inventories may be waived by the Authorized Officer if the unsurveyed areas are located on bare and frozen ground or are completely covered (100%) by snow and the snow is sufficiently deep (approximately 4 to 6 inches) to prevent ground disturbing ruts. Should conditions change while operations are in progress, additional considerations may be necessary. The operator must contact the authorized officer to determine if an archaeological monitor or an inventory may be required prior to continuance of mineral activities.

23. Any activity planned within the viewshed of the Pony Express National Historic Trail or other National Landscape Conservation System (NLCS) properties, listed National Register Districts, or properties eligible under criterion A, must undergo a visual assessment. Appropriate mitigation of visual impacts will be implemented as necessary to keep the setting of the management corridor in as natural a condition as possible. Special reclamation measures may be required to restore the setting to its natural condition.

24. Under no circumstances will wild horses, burros, wildlife, or livestock be willfully harassed. When traveling roads, all livestock gates will be closed after use.

25. To protect wildlife and wild horses, perimeter fences will be flagged every 16 feet with white flagging. The flagging should be at least one inch wide and with at least twelve inches hanging free form the top wire of the fence. Fences will also avoid obvious horse migration routes (deep trails, stud piles) if at all possible.

26. If the project involves heavy or sustained traffic, road signs for safety and protection of wild horses and wildlife will be required.

27. Any new disturbance commencing between May 15 and July 31 must first be surveyed for nesting migratory birds. If nests are found, the project may be moved or delayed until July 31.

28. Any identified bald eagle roost sites, peregrine falcon hack sites, and occupied raptor aeries (nests) will be avoided during mineral operations. A 0.5-mile buffer zone will be imposed on all activities around occupied nests.

29. Actions which will adversely impact a special status species (including federally listed, proposed, and candidate species, state protected species, and BLM sensitive species or its habitat, will be modified in order to prevent possible future listing of these species as threatened or endangered. The following restrictions apply to the following species:
    - Sage Grouse. No surface disturbance will be allowed within an active sage grouse lek. No surface use will be allowed within ½ mile of an active sage grouse lek from midnight until 10 a.m. during the period March 15 through May 31.
    - Ferruginous Hawk. Ferruginous Hawk nest sites will not be disturbed. No surface use will be allowed within ½ mile of an occupied Ferruginous Hawk nest during the period March 1 through June 30 or until the birds have fledged (left) the nest.
    - Mule Deer Habitat SOP Within the Ely District, there are identified mule deer key habitats. (Key Habitats include habitats such as crucial habitats. These habitats are essential to populations of big game. If elements of these habitats are compromised, the results could be detrimental to the population.) Therefore, prior to entry onto the land, the operator will discuss the proposed activity with the appropriate Bureau of Land Management's authorized officer. Additional measures may be required for the protection of the deer and their habitat which may include:
    - Limitation on surface use during the period of crucial deer use.
    - Minimizing disturbance to habitat and forage.
    - Pygmy Rabbit SOP - Within the Ely District, there are favorable habitats selected by pygmy rabbits as borrowing areas. Therefore, prior to entry into these areas the operator will discuss the proposed activities with the Bureau of Land Managements authorized officer who may require additional measures for the protection of pygmy rabbits and their habitats. Such measures may include:.
    - a. Avoidance of selected areas

      b. Restriction of activities near burrows during the months of April through June.

30. To eliminate the transport of vehicle-borne weed seeds, roots, or rhizomes, all vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving will be free of soil and debris capable of transporting weed propagules. All such vehicles and equipment will be cleaned with power or high pressure equipment prior to entering or leaving the work site or project area. Vehicles used for emergency fire suppression will be cleaned as a part of check-in and demobilization procedures. Cleaning efforts will concentrate on tracks, feet or tires, and on the undercarriage. Special emphasis will be applied to axles, frames, cross members, motor mounts, on and underneath steps, running boards, and front bumper/brush guard assemblies. Vehicle cabs will be swept out and refuse will be disposed of in waste receptacles. Cleaning sites will be recorded using GPS or other mutually acceptable equipment and provided to the BLM Weed Coordinator or designated contact person.

31. Prior to the entry of vehicles and equipment to a project area, areas of concern will be identified and flagged in the field by a weed scientist or qualified biologist. The flagging will alert personnel or participants to avoid areas of concern.

32. Prior to entering public lands, the Contractor, Operator, or permit holder will provide information and training regarding noxious weed management and identification to all personnel who will be affiliated with the implementation and maintenance phases of the project. The importance of preventing the spread of weeds to uninfested areas and the importance of controlling existing populations of weeds will be explained.

33. To eliminate the transport of soil-borne noxious weed seeds, roots, or rhizomes, infested soils or materials will not be moved and redistributed on weed-free or relatively weed-free areas. In areas where infestations are identified or noted and infested soils, rock, or overburden must be moved, these materials will be salvaged and stockpiled adjacent to the area from which they were stripped. Appropriate measures will be taken to minimize wind and water erosion of these stockpiles. During reclamation, the materials will be returned to the area from which they were stripped.

34. Prior to project approval, a site-specific weed survey will occur and a Weed Risk Assessment will be completed. Monitoring will be conducted for a period no shorter than the life of the permit or until bond release and monitoring reports will be provided to the BLM. If the spread of noxious weeds is noted, appropriate weed control procedures will be determined in consultation with BLM personnel and will be in compliance with the appropriate BLM Handbook sections and applicable laws and regulations. All weed control efforts on BLM lands will be in compliance with BLM Handbook H-9011, H-9011-1 Chemical Pest Control, H-9014 Use of Biological Control Agents of Pests on Public Lands, and H-9015 Integrated Pest Management. Submission of Pesticide Use Proposals (PUPs) and Pesticide Application Records (PARs) will be required.

35. All vehicles and heavy equipment used for the completion, maintenance, inspection, or monitoring of ground disturbing activities; for emergency fire suppression; or for authorized off-road driving that are used to drive through, mow, harvest, scrape, or otherwise contact plant species listed on the Nevada Noxious Weed list or specifically identified by the Ely Field Office will be cleaned prior to continued use in weed free areas. Cleaning requirements are described in SOP# 1.2.5.4.

36. For mineral activity, retain bonds for weed control until the site is returned to desired vegetative conditions.

37. To provide for effective rehabilitation of the disturbed area, all available growth medium, as practical, will be removed and stockpiled. Any trees removed will be separated from soils and stockpiled separately.

38. Topsoil stockpiles and road berms, if scheduled to be left in place over the growing season, will be seeded with an approved site-specific interim seed mix to reduce erosion, preserve the biological flora and fauna, and prevent the establishment of noxious weeds and other undesirable plant species.

39. The operator shall reclaim the disturbed area concurrently or at the earliest feasible time by recontouring to conform with pre-existing topography (including filling of trenches), to the extent possible, followed by redistribution of stockpiled topsoil over the reclaimed area. Compacted areas will be ripped to a depth of 12 inches unless in solid rock. Ripped areas may need further work to break up large clods and produce a fine-grained seed bed.

40. Site preparation for reclamation may include contour furrowing, terracing, reduction of steep cut and fill slopes, and the installation of water bars, etc.

41. Reseeding may be required, in which case a site-specific seed mixture will be recommended by the operator and approved by the Authorized Officer. Seeding is recommended only between October 1 and March 15 for the northern part of the District, and November 1 through March 1 for the southern part of the District.

42. Reclamation will normally be accomplished with native seeds only. These will be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected non-natives must be documented. Possible exceptions could include use of non-natives for a temporary cover crop to out-complete weeds. Where large acreages are burned by the fires and seeding is required for erosion control, all native species can be cost prohibitive and/or unavailable. In all cases, seed mixes will be approved by the Authorized Officer prior to planting.

43. All interim and final seed mixes, hay, straw, and hay/straw products must be tested for noxious weeds and certified free of plant species listed on the Nevada Noxious Weed list.

44. All drill holes must be plugged per Nevada State statute (Division of Water Resources "Regulations for Water Well and Related Drilling") as wavered. If artesian flow is encountered, the drill hole must be plugged immediately. The location, depth, and relative flow rate of any water intercepted shall be reported to the Ely Field Office Manager or the Authorized Officer. Drill cuttings will be returned to the hole if possible, or at a minimum, raked and spread out so as not to impede regrowth of vegetation or to create erosion problems.

45. The Ely Field Office Manager or the Authorized Officer will be notified within 5 days of completion of reclamation work so that timely compliance inspections can be completed.

46. The area is considered to be satisfactorily reclaimed when all disturbed areas have been recontoured to blend with the natural topography, erosion has been stabilized, and an acceptable vegetative cover has been established. The Nevada Guidelines for Successful Revegetation for the Nevada Division of Environmental Protection, the Bureau of Land Management, and the U.S.D.A Forest Service (or most current revision or replacement of this document) will be used to determine if revegetation is successful.

47. In areas of known noxious weed infestations, monitoring of noxious weeds will be conducted on an annual basis. Monitoring will be conducted until project release. If the spread of noxious weeds is noted, the infested areas will be further evaluated to determine the appropriate remedial action and appropriate treatment. Appropriate weed control procedures, including target species, timing of control, and method of control, will be determined in consultation with BLM personnel.

48. No noxious weeds will be allowed on the site for reclamation release. Any noxious weeds that become established will be controlled.

Appendix B

Special Status Species and Wildlife Consultation

KENNY C. GUINN
Governor

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DIVISION OF WILDLIFE
1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

R. MICHAEL TURNIPSEED, P.E.
Director
Department of Conservation
and Natural Resources

TERRY R. CRAWFORTH
Administrator

July 21, 2004

Carrie Bruno
SRK Consulting
1250 Lamoille Highway, Suite 520
Elko, NV 89801

RE: Wildlife Scoping, Bald Mountain Mine Project Area

Dear Ms. Bruno:

We appreciate the opportunity to provide information relating to the subject area. The Bald Mountain site is located in the southern end of the Ruby Mountains. This area is part of the crucial winter range for the largest mule deer herd in Nevada. Mule deer migration through the project area is a critical component of any disturbance analysis. The area on the western side of the project area will annually have up to several thousand mule deer migrating southward in the fall and winter and returning to the north in the spring. Any activity that would inhibit this migration movement would be of grave concern to our agency.

Antelope are a major big game resource in the vicinity in Long Valley, Newark Valley and Ruby Valley. Much of the valley floors in these areas are considered yearlong range for antelope. Elk are pioneering into the area. Use by elk is expected to continue to increase as the populations increase.

Sage grouse are well distributed around the project area. There are several leks located in the eastern and southern portion of the project area. Nesting activity would be occurring in the vicinity of the leks. Brood rearing would occur in association with the limited water sources found in the project area. Wintering habitat is important to the grouse. The Department does not have adequate records of wintering grounds for these populations at this time. This would be considered an important data gap for analysis.

Chukar are common in the project area yearlong. Mourning doves are very common in the project area in the spring, summer and early fall. Springs in the area are critical to these species.

The Ruby Lake National Wildlife Refuge is just north of the project area. This refuge is an important waterfowl and shorebird nesting and migration area. Bird migration through the project area is extensive during the fall and spring of each year.

The Ruby Lake National Wildlife Refuge also supports a relict dace, *Relictus solitarius*, population. This species is considered a state sensitive species. Any changes in the flows in the springs that support this species would be a concern to this agency.

Bats are common in the project area. Numerous species of bats have been documented at springs in or near the project area. They include *Myotis californicus, M. ciliolabrum, M. evotis,* and *M. volans*. Several other bat species could be found roosting in trees and talus slopes and foraging along the springs in the project area. They would include: *Euderma maculatum, Corynorhinus townsendii, Antrozous pallidus, Eumops perotis, Lasionycteris noctivagans, Myotis. lucifugus, M. yumanensis, Nyctinomops macrotis, Pipistrellus hesperus, Tadarida brasiliensis* and *Eptesicus fuscus*. The crest of the Ruby Mountains also acts as a migration corridor for numerous bat species during the fall and spring migrations. The project area is part of the southern extension of this migration corridor.

Golden eagles, prairie falcons, ferruginous hawks, Cooper's hawks and burrowing owls nest in the general vicinity of the proposed project area. American kestrel, red-tailed hawks, and turkey vultures have been observed foraging in the vicinity. The crest of the Ruby Mountains also acts as a migration corridor for numerous raptor species during the fall and spring migrations. The project area is part of the southern extension of this migration corridor.

Many nongame birds and mammals that utilize the pinyon/juniper woodland and sagebrush vegetative communities would be expected to be found in the project area. A list of species expected to inhabit Unit 104 is attached to this letter. This list is a combination of wildlife sight record data and our best effort to predict what wildlife would exist in this area in all seasons and in optimum habitat conditions. If you have any questions regarding any of this information, please contact me in Elko.

Sincerely,

Rory E. Lamp
Biologist III
60 Youth Center Road
Elko, NV 89801
(775) 777-2368

RL/rl

cc: Habitat Bureau
Ely Field Office, NDOW
Eastern Region Field Office, NDOW
File

Nevada Division of Wildlife (Eastern Region)
Wildlife Species List - South Ruby Allotment (Unit 104)

Birds

Order: Podicipediformes
Family: Podicipedidae (Grebes)
Pied-billed Grebe	*Podilymbus podiceps*

Order: Ciconiiformes
Family: Ardeidae (Bitterns, Herons, Egrets)
Great Blue Heron	*Ardea herodias*

Family: Threskiornithidae (Ibises)
White-faced Ibis	*Plegadis chihi*

Family: Cathartidae (New World Vultures)
Turkey Vulture	*Cathartes aura*

Order: Anseriformes
Family: Anatidae (Ducks, Geese, Swans)
Greater White-fronted Goose	*Anser albifrons*
Snow Goose	*Chen caerulescens*
Canada Goose	*Branta canadensis*
Trumpeter Swan	*Cygnus buccinator*
Tundra Swan	*Cygnus columbianus*
Wood Duck	*Aix sponsa*
Gadwall	*Anus strepera*
American Widgeon	*Anus americana*
Mallard	*Anus platyrhynchos*
Cinnamon Teal	*Anus cyanoptera*
Blue-winged Teal	*Anus discors*
Northern Shoveler	*Anus clypeata*
Northern Pintail	*Anus acuta*
Green-winged Teal	*Anus crecca*
Canvasback	*Aythya valisinaria*
Redhead	*Aythya americana*
Ring-necked Duck	*Aythya collaris*
Lesser Scaup	*Aythya affinis*
Bufflehead	*Bucephala albeola*
Common Goldeneye	*Bucephala clangula*
Barrow's Goldeneye	*Bucephala islandica*
Hooded Merganser	*Lophodytes cucullatus*
Common Merganser	*Mergus merganser*
Red-breasted Merganser	*Mergus serrator*
Ruddy Duck	*Oxyura jamaicensis*

Order: Falconiformes
Family: Accipitridae (Hawks, Eagles, Osprey)
Bald Eagle	*Haliaetus leucocephalus*
Northern Harrier	*Circus cyaneus*
Swainson's Hawk	*Buteo swainsoni*
Red-tailed Hawk	*Buteo jamaicensis*
Ferruginous Hawk	*Buteo regalis*
Rough-legged Hawk	*Buteo lagopus*
Golden Eagle	*Aquila chrysaetos*

Family: Falconidae (Falcons)
American Kestrel	*Falco sparverius*
Merlin	*Falco columbarius*
American Peregrine Falcon	*Falco perigrinus*
Prairie Falcon	*Falco mexicanus*

Order: Galliformes
Family: Phasianidae (Grouse, Partridge)
Chukar	*Alectoris chukar*
Gray Partridge	*Perdix perdix*
Sage Grouse	*Centrocercus urophasianus*

Order: Gruiformes
Family: Rallidae (Rails, Coots)
Sora	*Porzana carolina*
American Coot	*Fulica americana*

Family: Gruidae (Cranes)
Greater Sandhill Crane	*Grus canadansis tabida*

Order: Charadriiformes
Family: Charadriidae (Plovers)
Snowy Plover	*Charadrius alexandrinus*
Killdeer	*Charadrius vociferus*

Family: Recurvirostridae (Avocets)
Black-necked Stilt	*Himantopus mexicanus*
American Avocet	*Recurvirostra americana*

Family: Scolopacidae (Sandpipers, Phalaropes)
Greater Yellowlegs	*Tringa melanoleuca*
Lesser Yellowlegs	*Tringa flavipes*
Willet	*Catoptrophorus semipalmatus*
Long-billed Curlew	*Numenius americanus*
Western Sandpiper	*Calidris mauri*
Least Sandpiper	*Calidris minutilla*
Common Snipe	*Gallinago gallinago*

Family: Laridae (Gulls, Terns)

Franklin's Gull	*Larus pipixcan*
Ring-billed Gull	*Larus delawarensis*
California Gull	*Larus californicus*
Caspian Tern	
Forster's Tern	*Sterna forsteri*

Order: Columbiformes

Family: Columbidae (Doves)

Rock Dove	*Columba livia*
Mourning Dove	*Zenaida macroura*

Order: Strigiformes

Family: Tytonidae (Barn Owls)

Barn Owl	*Tyto alba*

Family: Strigidae (Owls)

Western Screech-Owl	*Otus kennicottii*
Great Horned Owl	*Bubo virginianus*
Burrowing Owl	*Athene cunicularia*
Short-eared Owl	*Asio flammeus*
Northern Saw-whet Owl	*Aegolius acadicus*

Order: Caprimulgiformes

Family: Caprimulgidae (Goatsuckers)

Common Nighthawk	*Chordeiles minor*
Common Poorwill	*Phalaenoptilus nuttallii*

Order: Apodiformes

Family: Trochilidae (Hummingbirds)

Black-chinned Hummingbird	*Archilochus alexandri*
Calliope Hummingbird	*Stellula calliope*
Broad-tailed Hummingbird	*Selasphorus platycercus*
Rufous Hummingbird	*Selasphorus rufus*

Order: Piciformes

Family: Picidae (Woodpeckers)

Red-naped Sapsucker	*Sphyrapicus nuchalis*
Downy Woodpecker	*Picoides pubescens*
Hairy Woodpecker	*Picoides villosus*
Northern Flicker	*Colaptes auratus*

Order: Passeriformes

Family: Tyrannidae (Flycatchers)

Western Wood-Pewee	*Contopus sordidulus*
Willow Flycatcher	*Epidonax traillii*
Gray Flycatcher	*Epidonax wrightii*
Say's Phoebe	*Sayornis saya*
Ash-throated Flycatcher	*Myiarchus cinerascens*
Western Kingbird	*Tyrannus verticalis*

Family: Laniidae (Shrikes)

Loggerhead Shrike	*Lanius ludovicianus*
Northern Shrike	*Lanius excubitor*

Family: Corvidae (Jays)

Western Scrub-Jay	*Aphelocoma californica*
Pinyon Jay	*Gymnorhinus cyanocephalus*
Black-billed Magpie	*Pica pica*
American Crow	*Corvus brachyrhynchos*
Common Raven	*Corvus corax*

Family: Alaudidae (Larks)

Horned Lark	*Eremophila alpestris*

Family: Hirundinidae (Swallows)

Tree Swallow	*Tachycineta bicolor*
Violet-green Swallow	*Tachycineta thalassina*
N. Rough-winged Swallow	
Barn Swallow	*Hirundo rustica*

Family: Paridae (Chickadees, Titmice)

Mountain Chickadee	*Poecile gambeli*
Juniper Titmouse	*Baeolophus griseus*

Family: Aegithalidae (Bushtit)

Bushtit

Family: Troglodytidae (Wrens)

Rock Wren	*Salpinctes obsoletus*
Canyon Wren	
Marsh Wren	*Cistothorus palustris*

Family: Regulidae (Kinglets)

Golden-crowned Kinglet
Ruby-crowned Kinglet

Family: Sylviidae (Gnatcatchers)

Blue-gray Gnatcatcher

Family: Turnidae (Thrushes)

Mountain Bluebird	*Sialia currucoides*
Townsend's Solitaire	
American Robin	*Turdus migratorius*

Family: Mimidae (Thrashers, Mockingbirds)

Northern Mockingbird	
Sage Thrasher	*Oreoscoptes montanus*

Family: Sturnidae (Starlings)

European Starling	*Sturnus vulgaris*

Family: Motacillidae (Pipits)

American Pipit

Family: Parulidae (Warblers)

Yellow Warbler	*Dendroica petechia*
Yellow-rumped Warbler	
Black-throated Gray Warbler	
Common Yellowthroat	*Geothlypis trichas*

Family: Emberizidae (Sparrows,Towhees,Juncos)

Green-tailed Towhee	*Pipilo chlorurus*
Spotted Towhee	*Pipilo maculatus*
American Tree Sparrow	*Spizella arborea*
Chipping Sparrow	*Spizella passerina*
Brewer's Sparrow	*Spizella breweri*
Vesper Sparrow	*Pooecetes gramineus*

Family: Emberizidae (Sparrows,Towhees,Juncos) (continued)

Lark Sparrow	*Chondestes grammacus*
Black-throated Sparrow	*Amphispiza bileneata*
Sage Sparrow	*Amphispiza belli*
Savannah Sparrow	*Passerculus sandwichensis*
Fox Sparrow	*Passerella iliaca schistacea*
Song Sparrow	*Melospiza melodia*
Lincoln's Sparrow	*Melospiza lincolnii*
White-crowned Sparrow	*Zonotrichia leucophrys*
Dark-eyed Junco*(Oregon)*	*Junco hyemalis therburi*
Dark-eyed Junco(*Gray-headed*)	*Junco hyemalis caniceps*

Family: Cardinalidae (Grosbeaks, Buntings)

Black-headed Grosbeak	*Pheucticus melanocephalus*
Lazuli Bunting	*Passerina amoena*

Family: Icteridae (Blackbirds, Orioles)

Red-winged Blackbird	*Agelaius phoeniceus*
Western Meadowlark	*Sturnella neglecta*
Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*
Brewer's Blackbird	*Euphagus cyanocephalus*
Great-tailed Grackle	*Quiscalus mexicanus*
Brown-headed Cowbird	*Molothrus ater*
Bullock's Oriole	*Icterus bullockii*
Scott's Oriole	*Icterus parisorum*

Family: Fringillidae (Finches, Grosbeaks)

Gray-crowned Rosy Finch	*Leucosticte tephrocotis*
Black Rosy Finch	*Leucosticte atrata*
Cassin's Finch	*Carpodacus cassinii*
House Finch	*Carpodacus mexicanus*

Family: Passeridae (Old World Sparrows)

House Sparrow	*Passer domesticus*

Mammals

Order: Insectivora (Insect-Eaters)

Family: Soricidae (Shrews)

Merriam's Shrew	*Sorex meriammi*
Dusky Shrew	*Sorex monticolus*
Vagrant Shrew	*Sorex vagrans*
Water Shrew	*Sorex palustris*
Preble's Shrew	*Sorex preblei*

Order: Chiroptera (Bats)

Family: Vespertilionidae (Plainnose Bats)

California Myotis	*Myotis californicus*
Small-footed Myotis	*Myotis ciliolabrum*
Long-eared Myotis	*Myotis evotis*
Little Brown Bat	*Myotis lucifugus*
Long-legged Myotis	*Myotis volans*
Hoary Bat	*Lasiurus cinereus*
Silver-haired Bat	*Lasionycteris noctivagans*
Western Pipistrelle	*Pipistrellus hesperus*
Big Brown Bat	*Eptesicus fuscus*
Townsend's Big-eared Bat	*Corynorhinus townsendii*
Spotted Bat	*Euderma maculata*
Pallid Bat	

Family: Molossidae (Freetail Bats)

Brazilian Free-tailed Bat	*Tadarida brasiliensis*

Order: Lagomorpha (Hares, Pikas, Rabbits)

Family: Leporidae (Hares, Rabbits)

Pygmy Rabbit	*Brachylagus idahoensis*
Mountain Cottontail	*Sylvilagus nuttalli*
Black-tailed Jackrabbit	*Lepus californicus*

Order: Rodentia (Rodents)

Family: Sciuridae (Squirrels)

Least Chipmunk	*Tamias minimus*
Cliff Chipmunk	*Tamias dorsalis*
Whitetail Antelope Squirrel	
Townsend Ground Squirrel	*Spermophilus townsendii*
Belding Ground Squirrel	*Spermophilus beldingi*
Rock Squirrel	

Family: Geomyidae (Gophers)

Botta's Pocket Gopher	*Thomomys bottae*
Northern Pocket Gopher	*Thomomys talpoides*
Southern Pocket Gopher	

Family: Heteromyidae (Kangaroo Rodents)

Little Pocket Mouse	*Perognathus longimembris*
Great Basin Pocket Mouse	*Perognathus parvus*
Dark Kangaroo Mouse	*Microdipodops megacephalus*
Ord Kangaroo Rat	*Dipodomys ordii*
Chisel-toothed Kangaroo Rat	*Dipodomys microps*

Family: Cricetidae (Mice, Rats, Voles)

Western Harvest Mouse	*Reithrodontomys megalotis*
Canyon Mouse	*Peromyscus crinitus*
Deer Mouse	*Peromyscus maniculatus*
Pinion Mouse	*Peromyscus truei*
Northern Grasshopper Mouse	*Onychomys leucogaster*
Desert Woodrat	*Neotoma lepida*
Mountain Vole	*Microtus montanus*
Long-tailed Vole	*Microtus longicaudus*
Sagebrush Vole	*Lemmiscus curtatus*
Muskrat	*Ondatra zibethica*

Family: Zapodidae (Jumping Mice)

Western Jumping Mouse	*Zapus princeps*

Family: Erethizontidae (New World Porcupines)

Porcupine	*Erethizon dorsatum*

Order: Carnivora (Flesh-Eaters)

Family: Canidae (Dogs, Wolves, Foxes)

Coyote	*Canis latrans*
Gray Wolf	*Canis lupus (locally extirpated)*
RedFox	*Vulpes vulva*
Kit Fox	*Vulpes macrotis*

Family: Procyonidae (Racoons and Their Kin)

Raccoon	*Procyon lotor*

Family: Mustelidae (Weasels and Their Kin)

Short-tailed Weasel	*Mustela erminae*
Long-tailed Weasel	*Mustela frenata*
Badger	*Taxidea taxus*
Striped Skunk	*Mephitis mephitis*
Spotted Skunk	*Spilogale putorius*

Family: Felidae (Cats)

Mountain Lion	*Felix concolor*
Bobcat	*Lynx rufus*

Order: Artiodactyla (Hoofed Mammals)

Family: Cervidae (Deer)

Rocky Mountain Elk	*Cervus canadensis*
Mule Deer	*Odocoileus hemionus*

Family: Antilocapridae (Pronghorn)

Pronghorn	*Antilocapra americana*

Reptiles

Order: Squamata (Lizards, Snakes)

Family: Iguanidae (Iguanas and Their Kin)

Long-nosed Leopard Lizard	*Gambelia wislizenii*
Desert Spiny Lizard	*Sceloporus magister*
Western Fence Lizard	*Sceloporus occidentalis*
Sagebrush Lizard	*Sceloporus* graciosus
Side-blotched Lizard	*Uta stansburiana*
Desert Horned Lizard	*Phrynosoma platyrhinos*

Family: Scincidae (Skinks)

Western Skink	*Eumeces skiltonianus*

Family: Teiidae (Whiptails)

Western Whiptail	*Cnemidophorus tigrus*

Family: Colubridae (Colubrid Snakes)

Ringneck Snake	*Diadophis punctatus*
Racer	*Coluber constrictor*
Striped Whipsnake	*Masticophis taeniatus*
Gopher Snake	*Pituophis melanoleucus*
Long-nosed Snake	*Rhinocheilus lecontei*
Western Terrestrial Garter	*Thamnophis elegans*
Ground Snake	*Sonora semiannulata*
Night Snake	*Hypsiglena torquata*

Family: Viperidae (Vipers)

Great Basin Rattlesnake	*Crotalus viridis lutosus*

Amphibians

Family: Pelobatidae (Spadefoots)

Great Basin Spadefoot Toad	*Scaphiopus intermontanus*

Family: Ranidae (True Frogs)

Spotted Frog	
Bullfrog	

Updated: 1/2002 - Peter V. Bradley - Nevada Division of Wildlife - Elko.

Note: This list is a combination of wildlife sight record data and our best effort to predict what wildlife would exist in this area in all seasons and in optimum habitat conditions.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
Ph: 775-861-6300 ~ Fax: 775-861-6301

TAKE PRIDE IN AMERICA

July 13, 2004
File No. 1-5-04-SP-196

Caroline R. Bruno
SRK Consulting, Inc.
1250 Lamoille Highway #250
Elko, Nevada 89801

Dear Ms. Bruno:

Subject: Species List for Placer Dome U.S. Inc.'s Bald Mountain Mine Environmental Assessment

This responds to your letter/memo received on June 24, 2004, requesting a species list for the Bald Mountain Mine Environmental Assessment Project located in portions of Township 20 North, Range 57 East; Township 20 North, Range 58 East; Township 21 North, Range 57 East; Township 21 North, Range 58 East; Township 22 North, Range 57 East; Township 22 North, Range 58 East; Township 23 North, Range 56 East; Township 23 North, Range 57 East; Township 23 North, Range 58 East; Township 24 North, Range 56 East; Township 24 North, Range 57 East; Township 25 North, Range 57 East; and Township 25 North, Range 58 East. To the best of our knowledge, no listed, proposed, or candidate species occur in the subject project area. This response fulfills the requirement of the Fish and Wildlife Service to provide a list of species pursuant to section 7(c) of the Endangered Species Act of 1973, as amended, for projects that are authorized, funded, or carried out by a Federal agency.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern, are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we are adopting Heritage's sensitive species list and partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or are in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur in the project area, you can obtain a data request form from the website or by contacting Heritage at 1550 East College Parkway, Suite 137, Carson City, NV 89706, 775-687-4245. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Endangered Species Act. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address. Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (see http://www.leg.state.nv.us/NAC/NAC-503.html). Before a person can hunt, take, or possess any parts of wildlife species classified as protected, they must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (visit http://www.ndow.org or call 775-688-1500).

Please reference File No. 1-5-04-SP-196 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact me or Damian K. Higgins at (775) 861-6300.

Sincerely,

for Robert D. Williams
Field Supervisor

Nevada Natural Heritage Program

Department of Conservation and Natural Resources
1550 East College Parkway, Suite 137 * Carson City, Nevada 89706-7921
voice: (775) 687-4245 fax: (775) 687-1288 web: www.heritage.nv.gov/

29 June 2004

Caroline R. Bruno
SRK Consulting
1250 Lamoille Highway, Suite 520
Elko, NV 89801

RE: Data request received 25 June 2004

Dear Ms. Bruno:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or sensitive plant and animal taxa recorded on or near the Bald Mountain project area. We searched our database and maps for the following, a five mile radius around:

Township 20N Range 57E Sections 1,2
Township 20N Range 58E Sections 5,6
Township 21N Range 57E Sections 1-5, 8-13, 15, 16, 21-27, 34-36
Township 21N Range 58E Sections 5-8, 17-20, 29-32
Township 22N Range 57E Sections all
Township 22N Range 58E Sections 4-9,16-21, 28-32
Township 23N Range 56E Sections 1, 12
Township 23N Range 57E Sections all
Township 23N Range 58E Sections 3-10, 15-22, 28-33
Township 24N Range 56E Sections all
Township 24N Range 57E Sections all
Township 25N Range 57E Sections 31-36
Township 25N Range 58E Sections 31-34

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for, the dark sandhill skipper, *Polites sabuleti nigrescens*, a Taxon determined to be Vulnerable by the Nevada Natural Heritage Program, and the relict dace, *Relictus solitarius*, a Nevada Bureau of Land Management Sensitive Species. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

Please note that our data are dependent on the research and observations of many individuals and organizations, and in most cases are not the result of comprehensive or site-specific field surveys. Natural Heritage reports should never be regarded as final statements on the taxa or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments.

Thank you for checking with our program. Please contact us for additional information or further assistance.

Sincerely,

Eric S. Miskow
Biologist III/Data Manager

Sensitive Taxa Recorded Near the Bald Mountain Project Area

Compiled by the Nevada Natural Heritage Program for SRK Consulting

29 June 2004

Scientific name	Common name	Usfws	Blm	Usfs	State	Srank	Townrange	Section	Lat	Long	Prec	Last observed
Fishes												
Gila bicolor newarkensis	Newark Valley tui chub	xC2	N		YES	S1	022N056E	01	39.810833	115.609167	S	1995
Gila bicolor newarkensis	Newark Valley tui chub	xC2	N		YES	S1	023N056E	36	39.815278	115.615278	S	1934-09-11
Mammals												
Brachylagus idahoensis	pygmy rabbit	xC2	N		YES	S3	025N058E	23	40.031944	115.410000	G	1946-PRE

U. S. Fish and Wildlife Service (Usfws) Categories for Listing under the Endangered Species Act:

x C2 Former Category 2 Candidate, now species of concern

Bureau of Land Management (Blm) Species Classification:

N Nevada Special Status Species - designated Sensitive by State Office

Nevada State Protected (State) Species Classification:

Fauna:

YES Species protected under NRS 501.

Precision (Prec) of Mapped Occurrence:

Precision, or radius of uncertainty around latitude/longitude coordinates:

S Seconds: within a three-second radius
M Minutes: within a one-minute radius, approximately 2 km or 1.5 miles
G General: within about 8 km or 5 miles, or to map quadrangle or place name

Nevada Natural Heritage Program Global (**Grank**) and State (**Srank**) Ranks for Threats and/or Vulnerability:

G Global rank indicator, based on worldwide distribution at the species level
T Global trinomial rank indicator, based on worldwide distribution at the infraspecific level
S State rank indicator, based on distribution within Nevada at the lowest taxonomic level
- 1 Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
- 2 Imperiled due to rarity or other demonstrable factors
- 3 Vulnerable to decline because rare and local throughout its range, or with very restricted range
- 4 Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
- 5 Demonstrably secure, widespread, and abundant
  - A Accidental within Nevada
  - B Breeding status within Nevada (excludes resident taxa)
  - H Historical; could be rediscovered
  - N Non-breeding status within Nevada (excludes resident taxa)
  - Q Taxonomic status uncertain
  - U Unrankable
  - Z Enduring occurrences cannot be defined (usually given to migrant or accidental birds)
  - ? Assigned rank uncertain

Appendix C

Soil Information

The general soil map units depicted on Figure 5 and described below are broad areas that have a distinctive pattern of soils, relief, and drainage. Each map unit on Figure 5 is a unique natural landscape. Typically, a map unit consists of one or more major soils or miscellaneous areas and is named for the major soils or miscellaneous areas. The soils or miscellaneous areas making up one unit can occur in other units but in a different pattern. Figure 5 can be used to compare the suitability of large areas for general land uses. Areas of suitable or unsuitable soils or miscellaneous areas can be identified (NRCS 1990).

Soil and Vegetation in the Project Area

General Soil Unit	Map Unit Number	Position on Landscape	Description	Associated Vegetation
Uwell-Zimwala-Katelena	5	Basin Floors	Nearly level, very deep, moderately well drained soils that have a medium textured surface layer; on lake plains	Wyoming big sagebrush, winterfat, Indian Ricegrass, shadscale, black greasewood, bottlebrush squireltail
Palinor-Shabliss-Blimo	11	Fan Piedmonts	Nearly level to moderately sloping, well drained soils that are shallow over a duripan or are very deep; on fan piedmonts and fan skirts	Black sagebrush, Indian ricegrass, needleandthread, Wyoming big sagebrush, rhizomatous wheatgrass
Hunton-Yody-Chiara	14	Fan Piedmonts	Gently sloping and moderately sloping, well drained soils that are shallow or moderately deep over a duripan; on fan piedmont remnants	Bluebunch wheatgrass, Thurber needlegrass, basin wildrye, Wyoming big sagebrush
Palinor-Urmafot-Biken	15	Fan Piedmonts	Gently sloping to strongly sloping, well drained soils that are shallow over a duripan or bedrock; on fan piedmont	Black sagebrush, Indian ricegrass, needleandthread, blue bunch

General Soil Unit	Map Unit Number	Position on Landscape	Description	Associated Vegetation
			remnants	wheatgrass
Atlow-Upatad-Pioche	19	Hills and Mountains	Strongly sloping to steep, shallow, well drained soils on hills and mountains	Black sagebrush, Indian ricegrass, Thurber needlegrass, bluebunch wheatgrass, single leaf pińon, Utah juniper, mountain big sagebrush
Pookaloo-Zimbob-Cavehill	21	Hills and Mountains	Moderately steep and steep, very shallow and shallow, well drained soils on hills and mountains	Singleleaf pińon, black sagebrush, bluebunch wheatgrass, Indian ricegrass, curlleaf mountain mahogany, mountain big sagebrush
Birchcreek-Segura-Pioche	23	Hills and Mountains	Moderately steep and steep, shallow and moderately deep, well drained soils on mountains	Antelope bitterbrush, mountain big sagebrush, bluebunch wheatgrass, Thurber on˜needlegrass, single leaf pin Utah juniper
McIvey-Hutchley-Segura	25	Hills and Mountains	Moderately steep and steep, shallow and very deep, well drained soils on mountains	Mountain big sagebrush, bluebunch wheatgrass, low sagebrush, black sagebrush
Hardol-Haunchee-Wardbay	26	Hills and Mountains	Moderately steep and steep, deep and very deep, well drained soils on mountains	Mountain big sagebrush, bluebunch wheatgrass, Columbia needlegrass, curlleaf mountain mahogany

Appendix D

Preliminary Noxious Weed Risk Assessment

RISK ASSESSMENT FOR NOXIOUS WEEDS

On July 19, 2004 a Noxious Weed Risk Assessment was completed for **Bald Mountain Mine** for **an exploration environmental assessment** located on the Warm Springs and Maverick Springs allotments, **White Pine** County, Nevada. The Project Area is located within all or portions of:

T20N R57E sec. 1, 2
T20N R58E sec. 5, 6
T21N R57E sec. 1-5, 8-13, 15, 16, 21-27, 34-36
T21N R58E sec. 5-8, 17-20, 29-32
T22N R57E sec. 1-36
T22N R58E sec. 4-9, 16-21, 28-32
T23N R56E sec. 1, 12
T23N R57E sec. 1-18, 20-29, 31-36
T23N R58E sec. 3-10, 15-22, 28-33
T24N R56E unsurveyed, portions not covered under BMM PoO, etc.
T24N R57E unsurveyed, portions not covered under MNY Win. PoO
T24N R57E unsurveyed, and sec. 19-23, 26-34
T25N R57E sec. 31-36
T25N R58E sec. 31-34

The project involves about 140,600 acres which were generally surveyed for noxious weed occurrence.

Factor 1 assesses the likelihood of noxious weed species spreading to the Project Area.

For this project, the factor rates as **Moderate** (6) at the present time. This means that noxious weed species located within the Project Area. Project activities are likely to result in some areas becoming infested with noxious weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious weeds within the Project Area. A weed map and associated data produced by the Ely BLM were consulted to make the Moderate (6) determination. Figure 5 shows the noxious weed distribution in the Project Area. Table B-1 lists the inventoried noxious weeds and population sizes.

Table B-1: Noxious Weeds Observed in the Project Area

Noxious Weeds in the Project Area	Population Sizes (square feet)
Black henbane	100 to 1500
Bull thistle	100 to 1200
Canadian thistle	small to 2500
Leafy spurge	100 to 300
Musk thistle	20 to 2500
Poison hemlock	one small population
Russian knapweed	20 to 2500
Spotted knapweed	20 to 600
Whitetop	Small to 2100

None (0)	**Noxious weed species not located within or adjacent to the Project Area. Project activity is not likely to result in the establishment of noxious weed species in the Project Area.**
Low (1-3)	**Noxious weed species present in areas *adjacent to but not within the Project Area*. Project activities can be implemented and prevent the spread of noxious weeds into the Project Area.**
Moderate (4-7)	**Noxious weed species *located immediately adjacent to or within the Project Area*. Project activities are likely to result in some areas becoming infested with noxious weed species even when preventative management actions are followed. Control measures are essential to prevent the spread of noxious weeds within the Project Area.**
High (8-10)	***Heavy infestations of noxious weeds are located within or immediately adjacent to the Project Area*. Project activities, *even with preventative management* actions, are likely to result in the establishment and spread of noxious weeds on disturbed sites throughout much of the Project Area.**

Factor 2 assesses the consequences of noxious weed establishment in the Project Area.

For this project, the factor rates as Moderate (6). The Project

Area is about 140,600 acres and up to 70 acres of the Project Area could be disturbed at a time. Surface disturbance will likely result in additional areas being infested with noxious weeds. Cumulative effects of native plant communities are likely, but limited.

Low (1-3)	**No cumulative effects expected.**
Moderate (4-7)	**Possible adverse effects on site and possible expansion of infestation within the Project Area. Cumulative effects on native plant communities are likely, but limited.**
High (8-10)	**Obvious adverse effects within the Project Area and probable expansion of noxious weed infestations to areas outside the Project Area. Adverse cumulative effects on native plant communities are probable.**

The Risk Rating is obtained by multiplying Factor 1 by Factor 2.

For this project, the Risk Rating is Moderate (6). BMM will develop preventative management measures for the proposed project to reduce the risk of introduction or spread of noxious weeds into the area. Preventative management measures could include modifying the project to include seeding the area to occupy disturbed sites with desirable species, encouraging project advocate to watch for and report or eradicate any small weed patches in their Project Area, incorporating weed detection into project compliance inspection activities, encouraging the advocate to attend weed identification workshops when offered, washing vehicles prior to entering Project Areas, and other actions as appropriate. Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

None (0)	**Proceed as planned.**
Low (1-10)	**Proceed as planned. Initiate control treatment on noxious weed populations that get established in the area.**

Moderate (11-49)	**Develop preventative management measures for the proposed project to reduce the risk of introduction or spread of noxious weeds into the area. Preventative management measures could include modifying the project to include seeding the area to occupy disturbed sites with desirable species, encouraging project advocate to watch for and report or eradicate any small weed patches in their Project Area, incorporating weed detection into project compliance inspection activities, encouraging the advocate to attend weed identification workshops when offered, washing vehicles prior to entering Project Areas, and other actions as appropriate. . Monitor the area for at least 3 consecutive years and provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.**
High (50-100)	**Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed sites and controlling existing infestations of noxious weeds prior to project activity, washing all work vehicles before entering the site and at regular intervals throughout the project, requiring project advocate to watch for report and eradicate any small weed patches in their Project Area, incorporating weed detection into project compliance inspection activities, encouraging the advocate to attend weed identification workshops when offered equipment , Project must provide at least 5 consecutive years of monitoring and follow up weed treatment. for previously treated infestations.**

Reviewed by:

Noxious Weed Coordinator

Date