

U.S. Department of the Interior Bureau of Land Management

Preliminary Environmental Assessment NV-043-08-01

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Limousine Butte Exploration Project N84651

Location: White Pine County, NV

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1.0 INTRODUCTION

This Environmental Assessment (EA) analyzes and discloses the potential environmental impacts associated with the proposed Limousine Butte mineral exploration program (Project). The Project proponent, US-Gold (USG), is proposing to expand mineral exploration activities on public land administered by the U.S. Department of the Interior, Bureau of Land Management, Ely District (BLM), in White Pine County, Nevada (Figure 1). This Proposed Action includes construction of drill sites, limited road construction, overland travel, and drilling within a Project Area that encompasses 27,600 acres (Figure 2).

The combined acres of disturbance on BLM-administered land with mineral rights held by USG is greater than five acres; therefore, a Plan of Operations (PoO) for exploration has been submitted to both the BLM and the Nevada Division of Environmental Protection (NDEP) Bureau of Regulation and Reclamation (BMRR).

1.1 Purpose of Programmatic Environmental Assessment

An Environmental Assessment (EA) is a NEPA document that provides sufficient information on the potential impacts to the quality of the human environment to determine whether to prepare an Environmental Impact Statement (EIS) or a *Finding of No Significant Impact (FONSI)*. The EA allows for specialist review of affected resources even if impacts are not significant, and also provides a mechanism for developing and identifying appropriate mitigation measures (BLM, 1993).

Programmatic EAs are broadly scoped analyses that assess the environmental impacts of federal actions across a span of conditions (such as facilities, geographic regions, or multi-project programs), and apply to projects that are broad in their reach and will later be implemented through site-specific projects that may be analyzed in subsequent, tiered, NEPA analyses (CEQ, 2007). Disturbance associated with the proposed exploration activity would be dependent on geological conditions and the results of ongoing drilling being conducted. As such, USG cannot predict where specific disturbance would occur within the Project Area over the Project life, and therefore, is unable to prepare a site-specific EA at this point in time. Future site-specific analyses would contain an appropriate level of detail tiered to this programmatic EA, thus avoiding duplicative paperwork through incorporation by reference of the information, discussions, and analyses from a broad NEPA analysis into the more specific analysis.

This programmatic EA does not authorize surface disturbing activities. Instead, site-specific EA analyses would be prepared for each target area as they are identified. It is the approved site-specific EA that provides authorization for surface disturbance.

This approach also allows the BLM to comply with CEQ 1502.4(a) which states, "Proposals or parts of proposals which are related to each other closely enough to be, in effect, a single course of action shall be evaluated in a single impact statement."

Completion of this programmatic EA and the subsequent decision document do not represent a decision in principle about a future consideration. If there is a subsequent

proposal for development of a mine it would be evaluated through a separate NEPA analysis.

1.2 Need for the Proposal

The need for the proposal is for the BLM to evaluate the authorization of a mineral exploration program, which is a legitimate use of the multiple-use designated public land.

The proponent's need for the proposal is to determine if economically viable precious metals-bearing deposits exist within the proposed Limousine Butte Exploration Project Area, and define the nature and extent, shape, and economic value of precious metals-bearing deposits within the proposed Project Area.

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
- Cultural Resources - Proximity of the proposed activities to the Pony Express Trail.

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."

2.0 Proposed Action and Alternatives

US-Gold, the project Proponent, proposes to conduct a mineral exploration program (Proposed Action) within the Limousine Butte Project Area (Figure 1). The proposed Project Area is accessed from Ely, Nevada via U.S. Highway 93, and west on CR-21/NV-489, and encompasses approximately 27,600 acres of public land administered by the U.S. Department of the Interior, Bureau of Land Management, Ely District (BLM) (Figure 2). The site is located within all or portions of:

- T24N, R62E, Sec. 14-16, 20-23, 27-30, 31-34;
- T24N, R61E, Sec. 34-36;
- T23N, R62E, Sec. 4-6;
- T23N, R61E, Sec. 1-4, 8-17, 19-23, 27-35; and
- T22N, R61 E, Sec. 2-11, 14-16, 21-23.

2.1 Project Description

2.1.1 Existing Activities

USG presently has four active authorized mineral exploration notices in effect within the Project Area (Figure 2):

- Resurrection Ridge (BLM file #NVN083579);
- Ticup (BLM file #NVN084089);
- Cadillac Valley (BLM file #NVN084175; and
- Continental Valley (BLM file #NVN084243).

The total authorized disturbance under the existing four notices is 16.7 acres. Reclamation of these disturbance acres would be in accordance with the specifications provided in each notice and 43 CFR 3809 regulations.

Table 1: Authorized and Proposed Project Related Surface Disturbance

Exploration Activity	Authorized Notice-Level Surface Disturbance (acres)	Proposed Action Surface Disturbance (acres)	Total Combined Surface Disturbance (acres)	Proposed Total Reclamation Commitment (acres)
Constructed Roads (121,000 ft/ 22.92 miles)	8.6	50.0	58.6	58.6
Constructed Drill Sites (300 holes)	5.9	19.3	25.2	25.2
Overland Roads (includes existing repair)	1.2	0	1.2	1.2
Sediment Traps	0.9	2.7	3.7	3.7
Total Disturbance (acres)	16.7	72	88.7	88.7

2.1.2 Proposed Action

USG is proposing 72 acres of exploration-related disturbance within the Project Area in addition to their existing 16.7 acres of approved notice-level activities. For administrative purposes, 88.7 acres (which includes the 16.7 acres) would be bonded.

USG proposes to conduct mineral exploration activities that would include existing access road maintenance, road building including water bars, drill pad construction, exploration drilling, mineral resource sampling, and reclamation. A maximum of four drill rigs (both reverse circulation and core) would be used at any one time to characterize the geology and gold resources within the target areas. Because the exact locations of drill sites and cross-country travel routes would be dependent on geological conditions encountered during the exploration program, and the results of ongoing drilling, USG cannot predict where the proposed disturbance would occur within the Project Area at this time.

USG has previously bonded for up to 16.7 acres of exploration activities. For the purposes of this EA, no more than 88.7 acres would be disturbed within the 27,600-acre Project Area over the three- to four- year Project life, including the existing Notices and the proposed disturbance (Table 1). This disturbance would be bonded prior to approval of the exploration plan.

2.1.2.1 Drilling

New drill site disturbance would be kept to the minimum necessary for safe access and a safe working area for equipment and crews. Sediment traps would be constructed at each drill site to collect drill cuttings and manage drill water. Drill pads would be located a minimum of 100 feet away from drainages. Drill site working areas would average approximately 40 feet by 70 feet in size. Surface disturbance would vary based on the slope of the terrain where the sites are constructed. Sediment traps, typically one per drill site (approximately 20 feet by 20 feet and five feet in depth each), and associated spoil piles would be constructed, as necessary. The mixture of drill cuttings and drill water from the drilling operation would be managed in the sediment traps. The drill cuttings would settle and remain in the sediments traps. Once drilling is completed, the sidecast material would be used to fill and cover the sediment trap. Sidecast material stockpiled over the winter would be seeded.

The exploration program would consist of drilling exploration holes utilizing track or truck-mounted reverse circulation or core drill rigs and support equipment. The drill rig is designed for minimal ground impact. Cuttings not bagged and removed during sample collection or remaining in the sediment traps would be used as a source of backfill and placed back down the borehole. Holes would be both vertical and angled with drill depths not to exceed 1,000 feet.

Water or non-toxic drilling fluids may be utilized, as necessary, during drilling. USG would obtain water from approved water sources. At this time, the precise locations of the sources of water have not been identified, but would vary based on the locations of the incremental drilling program locations. The quantity required for drilling would be small.

A geologist would be responsible for onsite procedures throughout project-related drilling activities. The duties of the geologist generally include sitting the drill rig, logging each hole according to the geologic features encountered, determining the maximum depth of each hole, and advising the drill operator as needed. The geologist usually travels to and from the drill site in a separate four-wheel drive pickup truck.

Standard drill rig crews normally consist of a drill operator and one or two helpers. The helpers normally remove and box the recovered core samples, the cuttings from reverse circulation rigs, mix drilling fluids in the portable mud tank, operate the water truck, assist with drilling operations, and conduct maintenance as necessary. The crew is normally transported to and from the drill site in four-wheel drive vehicles. The transportation route for the Project Area from Ely, Nevada is south on the U.S. Highway 93, west along the CR-21/NV-489, past the town of Cherry Creek, as illustrated on Figure 2. Fuel would be hauled along this same route as no stationary fueling station is planned.

A maximum of four drill rigs (both reverse circulation and core) are expected to be in operation at the Project Area at any time. Each drill crew includes approximately three contract personnel, plus a USG-employed geologist. As such, up to a total of 16 individuals may be working at any time on the project. Given the current state of the mineral exploration and development market, these drill crews and geologists may be hired locally, regionally, or nationally. As such, the precise location of the source of these employees cannot be predicted as this time. Drilling activities would generally be limited to daylight hours but may continue up to 24 hours per day for some drill rigs. Individuals would commute and generally reside in local communities.

All equipment would be properly muffled and equipped with suitable and necessary fire suppression equipment, such as fire extinguishers and hand tools. Project-related traffic would observe safe and posted speed limits of 25 mph to enhance public safety, protect wildlife and livestock, and minimize dust emissions. Activities would be conducted in conformance with applicable federal and state health and safety requirements, including, but not limited to Mine Safety and Health Administration (MSHA) regulations found in Title 30, Code of Federal Regulations, Mineral Resources.

All project-related refuse would be disposed of on a daily basis consistent with and in accordance with local, state, and federal regulations at an approved landfill. No refuse would be disposed on site. Fuel and lubricant storage would be on light vehicles or support trucks. All drill holes would be abandoned in accordance with applicable federal (43 CFR 3809) and state standards (Nevada Revised Statute 534.420-428).

USG would be responsible for clean-up and releases of hazardous substances and or oil associated with the Proposed Action in accordance with the National Oil and Hazardous Substances Contingency Plan (40 CFR 300). USG would notify the BLM Authorized Officer, the NDEP, and the National Response Center of all reportable quantities of hazardous substances and or oil released on public land as required; spills would be cleaned up in accordance with local, state and federal regulations.

Drill sites would be maintained in a sanitary condition at all times; litter would be disposed of promptly at an authorized solid waste disposal site. Failure to remove litter may result in assessment of damages by the BLM Authorized Officer. "Litter" means all discarded matter including but not limited to trash, garbage, refuse, ashes and equipment.

In general, USG 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 investigation is necessary, drilling would occur on closer spacing to more accurately delineate the extent of the mineralization. The density of drill holes is expected to vary by location and target.

2.1.2.2 Road Construction

Access to the Project Area is on existing roads as seen on Figure 2. Overland travel would be used for Project activities, where possible, to minimize the need for new road construction. All road disturbance is based on the use of constructed roads which would require reclamation. Some existing exploration roads constructed by previous operators and not reclaimed, may be reclaimed by USG in consultation with BLM.

Roads would be built with a 12-foot running surface and an average combined (top of cut to toe of fill) disturbance width of 18 feet. Balanced cut and fill construction would be used to the extent possible to minimize the exposed cut slopes and the volume of fill material. Since the depth of cut would be kept to a minimum, growth media removed during construction would be stockpiled as the fill slope to be used during reclamation. The fill slope would be broadcast with an interim seed mix if left over the winter. New road construction would avoid springs by a minimum of 100 feet and roads within drainages would be avoided whenever possible. When drainages must be crossed with a road, Best Management Practices (BMPs) developed by the BLM Ely District would be followed to minimize the surface disturbance and erosion potential. Culverts would generally not be installed in exploration roads. However, if a culvert is necessary, the placement and size would be approved by the BLM and NDEP.

Road construction would be performed with a Caterpillar D8 bulldozer or equivalent, and would occur intermittently throughout the life of the Project. Specific road locations would be determined in the field based on geologic information gathered during the exploration program, and mitigation or avoidance of cultural resources and sensitive biological species and habitat (if present and identified) would be implemented as necessary. Road grades would be kept to an average of ten percent or less to minimize erosion. Where steeper grades are unavoidable, water bar spacing would not exceed 200 feet. Water bar spacing on flatter slopes would average 300 to 400 feet.

Maintenance of exploration roads would include minor seasonal regrading, re-establishment of water bars as necessary and snow removal during inclement weather. Erosion control would be monitored in the spring and fall. Road maintenance would consist of smoothing rutted surfaces and holes on existing access and drill roads. Maintenance of existing roads would be conducted only on an as-needed basis.

2.1.3 Equipment

Equipment expected to be utilized at some point during the life of the Project in support of the drill rigs may include, but not necessarily be limited to, water trucks, compressor trailers, pipe trailers, rod trucks, mud trailers, portable generators or light plants, portable drilling shelters, water tanks, service trucks, or crane trucks. In addition, bulldozers, excavators, and backhoes would be utilized to support drill operations, as necessary. Equipment would be fueled by the mobile fueling station located on the drill rig or drill truck; no stationary fueling areas would be constructed. Moreover, equipment would be maintained off-site.

Generally, a Caterpillar D8 bulldozer or equivalent would be used to construct roads and drill sites where needed. Roads and drill sites would be reclaimed using an excavator and all-terrain vehicle with a seed broadcaster, or comparable method. USG would take steps to prevent fires by ensuring that each field vehicle carries hand tools and a fire extinguisher. All portable equipment, including the drill rig, support vehicles and drilling supplies, would be removed from the Project Area during extended periods of non-operation.

2.2 Reclamation

Reclamation would be completed to the standards described in 43 CFR 3809.420. Existing roads would be utilized as much as possible for general access within the project area, minimizing the need for road construction. Where existing roads are not available, USG would utilize cross country travel, where possible, as the primary means for accessing drill sites in preference to new road construction. During road construction, soils capable of serving as a growth media would be salvaged and stockpiled as the fill slope. All USG drill sites, sumps, and road construction would be reclaimed. Growth media removed during disturbance activity, including the fill slope would be stockpiled to be used during reclamation. Stockpiled material left over the winter would be seeded for stabilization using the interim seed mix shown in Table 2. Roads would be inspected prior to reclamation to determine if any scarifying is necessary prior to reseeding. Earthwork would be completed with a Caterpillar 325L excavator or equivalent. The area would then be seeded with a BLM-approved seed mix (Table 3) at the appropriate time of year for optimum seed sprouting and plant growth. Changes and/or adjustments to the reclamation plant list and/or application rate would be completed in consultation with and approval by the BLM and BMRR.

Table 2: BLM Recommended Interim Stabilization Seed Mix

Common Name	Scientific Name	Seeds/lb	Pounds/acre	Seeds/sq.ft.
Thickspike wheatgrass	<i>Elymus lanceolatus</i> spp. <i>dasystachyum</i>	154,000	10.0	35
Cereal Rye	<i>Secale cereale</i>	18,000	40	16
Russian Wildrye, variety - Bozoisky Select	<i>Psathyrostachys juncea</i>	175,000	5	20

Actual seed rate and species may vary depending on seed availability, seeding techniques and field performance.

Table 3: BLM Recommended Reclamation Seed Mix

Common Name	Scientific Name	Seeds/lb	Pounds/acre	Seeds/sq.ft
Thickspike wheatgrass	<i>Agropyron dasystachyum</i>	154,000	3.0	10
Magnar Great Basin Wildrye	<i>Elymus cinerus</i>	95,000	5.0	11
Bluebunch wheatgrass	<i>Pseudoroegneria spicata</i> <i>spp. spicata</i>	140,000	4.0	13
Indian ricegrass	<i>Oryzopsis hymenoides</i>	141,000	2.0	6
Squirrel tail	<i>Sitanion hystrix</i>	192,000	1.0	4
Palmer penstemon	<i>Penstemon palmeri</i>	610,000	0.25	3
Appar Blue Flax	<i>Linum lewisii</i>	293,000	0.5	3
White Yarrow	<i>Achillea millefolium</i>	2,770,000	0.1	6
Four wing saltbush	<i>Atriplex canescens</i>	52,000	2.0	2
		Total	17.85	58

Note: US-Gold reserves the right to petition for a reduced application rate.

The seeding would be completed using a broadcast method. The reclaimed surfaces would be left in a textured or rough condition (small humps, pits, etc.). Typically seed is broadcast at a rate of 40 to 60 seeds per square foot. Field testing may indicate a higher or lower rate. The reclamation goal is a self sustaining perennial vegetative community. In some instances, short-lived commercial crop seeds (such as cereal rye) may be introduced into a stabilization/reclamation seed mix in order to quickly establish and reduced the potential for infestation of less desirable invasive and noxious weeds. To further reduce the likelihood of infestation, only certified weed-free seed would be used for reclamation seeding. Post-reclamation maintenance would consist of remedial dirt work and reseeding if required. Site monitoring for stability and revegetation success would be conducted once a year, during the growing season for a minimum of three years or until attainment of the revegetation standards established in the *Nevada Guidelines for Successful Revegetation for the Nevada Division of Environmental Protection, the Bureau of Land Management, and the USDA Forest Service* (Instruction Memorandum #NV 99-013).

Timing of revegetation activities is critically important to the overall success of the program. Seeding activities would be timed to take advantage of optimal climatic periods and would be coordinated with other reclamation activities. In general, earthwork and drainage control would be completed in the summer or early fall. Seedbed preparation would generally be completed in the fall, either concurrently with or immediately prior to seeding. Seed would be sown in late fall to take advantage of winter and spring precipitation and optimum spring germination. Early spring seeding may be utilized for areas not seeded in the fall. No fencing of the seeded reclaimed areas would occur.

The reclamation portion of USG PoO has been developed for site-specific conditions found at the Project Area and addresses exploration-related disturbance. The intent of the reclamation plan is to restore the Project Area to a beneficial land use, prevent unnecessary degradation of the environment, and reclaim disturbed areas to ensure

visual and functional compatibility with surrounding areas. The plan has been developed pursuant to 43 CFR 3809 and NAC 519A.

During the exploration program, reclamation activities would involve management of drilling to control cuttings and drilling fluids, monitoring road conditions during periods of inclement weather, and keeping sites clean and safe.

During seasonal closure of the program and periods of inactivity between drilling phases, reclamation activities would involve filling sumps, interim seeding, cleaning sites, and maintaining the overall safety of the Project Area.

After termination of the program, reclamation would involve the regrading of disturbed areas related to this Project to their approximate original contour and seeding using the approved reclamation seed mixture, and application rates furnished by the BLM. This would involve the use of mechanized equipment for earthwork and mechanical or broadcast seeding. Yearly visits to the site would be conducted to monitor the success of the revegetation for a period of three years or until revegetation success has been achieved. During the monitoring period, the presence of noxious weeds would be identified and weed control would be performed during the appropriate season to eradicate infestations. The BLM Ely District Weed Management BMPs, found in Appendix A, would be used throughout the Project life.

The post-reclamation topography would be essentially the same as the pre-exploration topography because only limited amounts of linear surface disturbance are planned. The topography shown on Figure 2 can be used as depiction the post-exploration and post-reclamation topography.

2.2.1 Drill Hole Plugging

Up to four drill holes would be pre-collared using a reverse circulation drill rig and completed with a core rig. These holes would remain open until finished by the core rig and then the drill holes would be plugged prior to the core drill rig moving from the drill sites in accordance with NRS 534, Section 31 and NAC 534.4369 and 534.4371, and guidance from the BLM. In the event that ground water is encountered, drill holes would be plugged pursuant to NAC 534.420. No drill holes would be left open at the end of the Project.

If the casings are set in a borehole, either the boreholes would be completed as wells and plugged pursuant to NRS 534.420 or the casings would be completely removed from the boreholes when they are plugged pursuant to Section 31. The upper portion of the borehole may be permanently cased if the annulus is completely sealed from the casing shoe to surface pursuant to NAC 534.380.

2.2.2 Regrading and Reshaping

Regrading and reshaping of all constructed drill sites, sumps, and roads would be completed to approximate the original topography. Fill material, enhanced with growth media, would be pulled onto the roadbeds to fill the road cuts and restore the slope to natural contours. Roads and drill sites would be regraded and reshaped with an excavator.

Any disturbed drainages would be re-shaped to approach the pre-construction contours. The resulting channels would be of the same capacity as up and downstream reaches and would be made non-erosive by use of surface stabilization techniques (rip-rap) where necessary, and ultimately revegetated. Following completion of earthwork, all disturbed areas would be broadcast seeded.

2.2.3 Handling of Topsoil

The depth of cut for newly constructed exploration roads would be minimal. Soils capable of serving as a growth media would be salvaged and stockpiled as the fill slope. In addition to the soils, as much of the soil organic matter as possible would be salvaged to minimize compaction and promote aeration. Any stockpiled material left over the winter would be seeded with the approved interim seed mix. Soil amendments are not considered necessary in those areas where sufficient growth media are available.

2.2.4 Solid Waste and Hazardous Materials

Solid and hazardous materials employed at the Project would include diesel fuel, gasoline, and lubricating grease (Table 4). Approximately 500 gallons of diesel fuel and gasoline would be stored in fuel delivery systems on the drill rig and support vehicles. Approximately 100 gallons of gasoline would be stored in fuel delivery systems for light vehicles on the support vehicles. All fueling would be accomplished with the mobile fuel delivery system as no stationary fuel sites would exist. Approximately 100 pounds of lubricating grease would be stored on the drill rig or transported by drill trucks. Any hazardous substance spills would be handled in accordance with the USG *Spill Prevention Plan* as presented in Appendix B.

Table 4: Solid Waste and Hazardous Materials

Solid Waste/ Hazardous Materials	Volume	Storage Location
Solid Waste	N/A	Vehicles prior to disposal in authorized landfill off-site
Diesel Fuel	500 gallons	Fuel delivery systems on the drill rig and support vehicles
Gasoline	100 gallons	Fuel delivery systems for light vehicles on the support vehicles
Lubricating Grease	100 gallons	Drill rig or drill truck

USG would be responsible for clean-up of releases of hazardous substances and or oil associated with the Proposed Action in accordance with the National Oil and Hazardous Substances Contingency Plan (40 CFR 300). USG would notify the BLM Authorized Officer, the NDEP, and the National Response Center of all reportable quantities of hazardous substances and or oil released on public land as required; spills would be cleaned up in accordance with local, state and federal regulations.

Drill sites would be maintained in a sanitary condition at all times; litter would be disposed of promptly at an authorized solid waste disposal site. Failure to remove litter may result in assessment of damages by the BLM Authorized Officer. "Litter" means all discarded matter including but not limited to trash, garbage, refuse, ashes and equipment.

Public safety would be maintained throughout the life of the Project. Equipment and other facilities would be maintained and operated in a safe and orderly manner. Project-related traffic would observe prudent speed limits to enhance public safety. Solid waste would be properly handled and hazardous materials would be legally containerized, labeled and secured to avoid accidental exposure to the public.

2.2.5 Removal or Stabilization of Building, Structures, and Support Facilities

No buildings or temporary structures would be built. All equipment and supplies would be removed following completion of the Project. Other materials, including scrap, trash, and unusable equipment, would be removed on a daily or weekly basis and disposed in accordance with federal and state regulations and laws and at an approved landfill.

2.2.6 Post-Closure Management

Post-closure management would commence on any reclaimed area following completion of the prescribed reclamation work for the area, and would include continued noxious weed control, erosion control as well as vegetation monitoring. Post-closure management would extend until the reclamation of the site or component has been accepted by both the BLM and BMRR in accordance with the provisions of 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* (September 3, 1998). For bonding purposes, a three-year post-closure management period is assumed following completion of reclamation construction on any site. For sites reclaimed early in the operations, management of the reclaimed sites would occur concurrently with operational site management. Annual reports showing reclamation progress would be submitted to the BLM and BMRR.

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.

2.2.7 Cultural Resources

Most of the cultural resources in the area are unknown, and the majority of the Project Area is currently unsurveyed. The Pony Express National Historic Trail crosses the Project Area, and there are several historic mining districts within the region.

The exact locations of the exploration, drill sites, and cross-country travel routes would be dependent on geological conditions and the results of ongoing drilling; therefore, USG would identify potential areas for exploration drill sites in small increments. After USG determines and identifies the locations of exploration roads and pads, they would

contract with a BLM-permitted and Nevada State Historical Preservation Officer (SHPO)-approved archaeological company to conduct appropriate cultural surveys prior to site-specific exploration activities in order to identify, record and evaluate all cultural resources. A Class III archaeological inventory would be conducted for areas identified for disturbance. As necessary, avoidance would be the primary mitigation method for cultural resources identified in a particular area. Other mitigation BMPs would be developed and employed only in situations where avoidance would not be possible. The results of the survey would be submitted as a final written report to the BLM by the contracting archaeologist. The report would be approved by the BLM prior to ground disturbance activities.

If a cultural resource site is located, preferred approach is avoidance, including a buffer zone around the cultural resource. If avoidance is not possible, the site would be mitigated. Mitigation and data recovery would be in accordance with the BLM, Nevada SHPO, and the Advisory Council on Historic Preservation Programmatic Agreement. Development of a treatment plan, data recovery, archaeological documentation, and report preparation would be based on *Cultural Resources Inventory General Guidelines* (BLM, 1989) and *State Protocol Agreement* (BLM, 2005). Additional information regarding identifying, recording, evaluating and mitigating cultural resources can be found in *Identifying and Evaluating Cultural Resources* (36 CFR Part 60 – National Register of Historic Places; 43 CFR Part 7, and 43 CFR Part 10 and other appropriate documents).

Any activity planned within the view shed of the Pony Express National Historic Trail, or other cultural resource within the area as considered appropriate by the BLM, 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.

2.2.8 Noxious Weed Management

A noxious weed survey would be completed prior to any earth moving disturbance. Areas of concern for noxious weed would be flagged by a weed scientist or qualified biologist to alert all personnel to avoid those areas. Information and training regarding noxious weeds management and identification would be provided to all personnel affiliated with the implementation and maintenance of the project.

In general, all vehicle and heavy equipment would be cleaned with power or high-pressure washer prior to entering or leaving the Project Area. Vehicle cleaning would eliminate the transport of vehicle-borne weed seed, roots, or rhizomes. To eliminate the transport of soil-borne noxious weed seeds, roots or rhizomes infested soils or material would be stockpiled adjacent to the areas from which they were stripped. Appropriate measures would be taken to avoid wind or water erosion of the affected stockpile. All interim and final seed mixes, hay, straw, and hay/straw products would be certified weed-free for Nevada Noxious Weed List. Weed monitoring would be conducted for the life of the permit or till the bond is released. If the spread of noxious weed is noted, weed control procedures would be determined in consultation with BLM personnel and would be in compliance with the BLM Handbooks and applicable laws and regulations. Mixing of herbicides and rinsing of herbicide containers and spray equipment would be conducted only in areas that are safe distance from environmentally sensitive areas and

points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells). Further discussion of noxious weed management is provided in Appendix A.

2.3 Best Management Practices

The Best Management Practices that would be used by USG over the three- to four-year Project life incorporate BMPs and are presented in Appendix A.

2.4 Alternatives to the Proposed Action

Other “action” alternatives were not necessary to be analyzed in response to unresolved conflicts concerning alternative uses of available resources. No alternatives other than the “No Action” alternative are analyzed in this programmatic EA. Appropriate alternatives would be considered for each site-specific EA tiered to this programmatic NEPA document.

2.4.1 No Action Alternative

Under the No Action Alternative, the Proposed Action for additional surface disturbance of 72 acres would not be approved by the BLM. USG would continue exploration activity under the existing four notice authorizations. These four notices are currently approved for up to 16.7 acres of exploration surface disturbance in specific geographic areas within the Project Area (Figure 2). USG could potentially amend these notices to include an additional 3.3 acres, bringing the total potential disturbance under the No Action Alternative to 20 acres. There would also be the potential for additional small-scale exploration under future notices which do not require NEPA.

The USG notice-level exploration activities would be conducted according to the same environmental protection measures and BMPs as specified in the Proposed Action.

3.0 AFFECTED ENVIRONMENT

3.1 Critical Elements of the Human Environment

This section describes the current status of critical elements and resources that may be affected by either the Proposed Action or No Action Alternative. The Project Area is located in the southern portion of the Cherry Creek Range. Elevations in the area range from approximately 6,300 feet to 9,200 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 U.S. Data concerning existing (i.e., baseline) conditions and resource trends were obtained from: previous studies; published sources; unpublished materials; interviews with representatives of local, state, and federal agencies; and/or field observations of the Project Area.

To comply with NEPA, the BLM mandates that all environmental assessments address specific critical elements of the environment that are subject to requirements specified in statute or regulation or by executive order (BLM, 1988; BLM, 1997b). Table 5 outlines the critical elements that must be addressed in all environmental assessments and whether or not the Proposed Action potentially impacts those elements.

Table 5: Critical Elements of the Human Environment

Critical Element	Not Present	Present, But Not Potentially Affected	Present and Potentially Affected	Rationale for Inclusion
American Indian Religious Concerns		•		There are no known issues of concern to local tribes. BLM would consult with local Native American tribes.
Air Quality			•	Project-related activities would generate fugitive dust.
Areas of Critical Environmental Concern (ACEC)	•			No ACECs occur in the Project Area.
Cultural Resources			•	Avoidance would be the primary mitigation method for cultural resources. Other mitigation BMPs would be employed only in situations where avoidance would not be possible.
Environmental Justice	•			No minority or low-income groups would be affected by disproportionately high and adverse health or environmental effects.
Farm Lands (prime or unique)	•			No prime or unique farmlands occur in the Project Area.
Flood Plains	•			No floodplains occur in the Project Area.
Invasive, Non-Native Species			•	Surface disturbance and increased vehicle traffic would increase the risk of non-native invasive species establishment.
Migratory Birds			•	Migratory birds use the Project Area.

Critical Element	Not Present	Present, But Not Potentially Affected	Present and Potentially Affected	Rationale for Inclusion
Riparian Zones			•	Riparian areas could be affected by road/site construction and drilling activities. BMPs would reduce the potential for impacts from traffic and drill site development.
Solid Wastes and Hazardous Materials			•	USG would use hazardous materials as part of the Proposed Action; however, no hazardous waste is expected on site. Solid waste would be disposed in an approved landfill off-site.
Threatened and Endangered Species	•			No federally threatened, endangered, or species proposed for listing are known to be in the Project Area at this time.
Water Quality - Drinking	•			No developed drinking water sources within the Project Area.
Water Quality – Surface and Ground		•		Drill holes intercepting groundwater would be closed in accordance with NRS 534.
Wetlands	•			No wetlands are present in the Project Area.
Wild and Scenic Rivers	•			No wild and scenic rivers occur in the Project Area.
Wilderness	•			No wilderness occurs in the Project 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 and uses that may be affected include:

- Access and Land Use
- Geology and Mineral Resources
- Rangeland Resources
- Recreation
- Socioeconomics
- Soils
- State-Protected, BLM-Sensitive Species
- Vegetation
- Visual Resources
- Wild Horses and Burros
- Wildlife

Those critical and non-critical elements of the human environment that are not present are not considered further in the analysis. The description of the potentially affected environment for the No Action Alternative would be contained within the Proposed Action Project Area and would contain elements of the resources described for the Proposed Action.

The following describes the critical and non-critical elements of the human environment that are present and may or may not be potentially affected. For consistency, the resources are listed in the same order as in the Table 5.

3.2 Access and Land Use

The Project Area is located in White Pine County and consists of about 27,600 acres of public lands administered by the BLM, Ely District. Access for the Project Area from Ely, Nevada is via U.S. Highway 93, and the County Road-21/NV-489 as illustrated on Figure 2. The only transportation routes within the Project Area are county roads and unimproved dirt roads. The road use is light mainly with local ranching, recreation and mineral exploration traffic.

A search of the BLM, Nevada public land records revealed three right-of-ways (ROW) crossing the Project Area.:

- ROW N 47736 (White Pine County road) has a width of 30 feet and crosses T23N, R61E, sections 1, 2, 3, 4; T24N, R61E, sections 35, 36; and T24N, R62E, sections 16, 20, 21, 29, 30, 31;
- ROW N 5485 (power transmission line owned by Mount Wheeler Power) has a width of 12.5 feet and crosses T24N, R62E, sections 14, 15, 16, 23; and,
- ROW N 80091 Wind energy monitoring T 24N R 62 E section 36.

In addition, two water troughs (T22N, R61E, sections 2 and 3 and T23N, R61E, Section 1) two wells (T22N, R61E, Section 7 and T23N, R61E, Section 8) and two windmills (T22N, R61E, sections 7 and 21) are located within the Project Area.

3.3 Air Quality

The climate in the area is characterized by warm, dry summers and cool, moist winters. The closest meteorological stations to the site, for which data are readily available, are the McGill, Nevada (No. 264950) and the Lages, Nevada (No. 264341) weather stations. The data presented in Tables 6 and 7 were obtained from the Western Regional Climate Center (www.wrcc.dri.edu) for these particular stations. The period of record for these stations is January 1914 to June 2007 and January 1984 to May 2007, respectively.

Table 6: McGill, Nevada (264950) Temperature and Precipitation Data

Month	Average Max. Temperature (F)	Average Min. Temperature (F)	Average Total Precipitation (in.)	Average Total SnowFall (in.)
Jan	39.1	15.7	0.62	4.1
Feb	42.5	19.3	0.64	4.4
Mar	49.1	24.4	0.72	3.6
Apr	57.5	30.9	0.95	2.0
May	67.5	38.6	1.03	0.4
Jun	78.0	47.0	0.78	0.1
Jul	86.8	55.2	0.66	0.0
Aug	84.6	53.3	0.79	0.0
Sep	76.1	43.9	0.71	0.0
Oct	63.8	33.8	0.79	0.5
Nov	49.7	23.9	0.55	1.6
Dec	41.1	17.4	0.56	3.1
Annual	61.3	33.6	8.80	19.9

Table 7: Lages, Nevada (264341) Temperature and Precipitation Data

Month	Average Max. Temperature (F)	Average Min. Temperature (F)	Average Total Precipitation (in.)	Average Total Snowfall (in.)
Jan	39.5	13.9	0.60	6.2
Feb	43.1	18.0	0.62	4.7
Mar	52.5	24.6	0.82	2.6
Apr	60.1	30.3	0.95	0.5
May	70.5	37.7	0.88	0.2
Jun	80.7	45.1	0.66	0.0
Jul	89.4	52.6	0.68	0.0
Aug	87.6	50.7	0.44	0.0
Sep	77.2	40.8	0.66	0.0
Oct	64.5	30.9	0.97	0.5
Nov	48.9	21.7	0.53	1.8
Dec	40.1	13.9	0.37	3.3
Annual	62.8	31.7	8.18	20.0

The U.S. Geological Survey and the Department of Conservation and Natural Resources, Division of Water Resources (NDWR) have divided the state into discrete hydrographic units for water planning and management purposes. In addition to water planning, these basins are used in characterizing and quantifying air quality resources and management planning. The Limousine Butte Project Area is located in the Central Basin

(Hydrographic Basin 10), Sub-areas Butte Valley-Southern Part 178B and Steptoe Valley 179 (Figure 3). Information on these hydrographic basins is provided in Table 8.

Table 8: Limousine Butte Exploration Hydrographic Basin Data

Basin [1]	Area [2]	Size (sq. mi) [3]	Size (acres) [4]	Hydrographic Area/Sub-Area Name	County(ies) [5]	Nearest City(ies)	Des. [6]
CENTRAL BASIN (Hydrographic Basin 10):							
10	178B	739	472,960	Butte Valley - Southern Part	White Pine, Elko	Cherry Creek, Ely	No
10	179	1,942	1,242,880	Steptoe Valley	White Pine, Elko	Ely, Cherry Creek	Yes
	Total	2,681	1,715,840	Square miles/acres			

Source Data: Office of the State Engineer, Nevada Division of Water Resources, Department of Conservation and Natural Resources.

[1] Nevada Hydrographic Basin Number (1-14).

[2] Nevada Hydrographic Area/Sub-Area Number (1-232; hydrographic sub-areas designated A, B, C, etc.). There are a total of 256 hydrographic areas and sub-areas.

[3] and [4] Hydrographic areas and sub-areas in square miles and acres, respectively, and include acreage only contained within Nevada.

[5] Counties are listed in order of their share of the hydrographic area/sub-area.

[6] Des. = Designated Groundwater Basin (Area or Sub-Area).

Air quality in the area is generally good. The major source of air pollution is total suspended particulate mainly wind-blown dust, occurring mostly on a local scale (i.e., areas disturbed by construction, wildfires, agriculture, mining, or from playas). Due to the lack of ambient data on gaseous pollutants (nitrogen oxides, sulfur dioxide, carbon monoxide, photochemical oxidants, lead, particulate matter and hydrogen sulfide), the area around the Project (White Pine County and Hydrographic Basin 178B) is generally considered ‘unclassifiable’ or “better than national standards” for all major air pollutants (40 CFR§ 81.329).

3.4 American Indian Religious Concerns

The BLM must make efforts to identify locations having traditional cultural or religious values to Native Americans and insure that land management actions do not unduly or unnecessarily burden the pursuit of traditional religion or life ways by inadvertently damaging important locations or hinder access. There are no identified traditional cultural properties documented in the Ely District EIS/RMP Ethnographic Technical Report (Woods, 2003). Access to pine nut gathering within the Project Area is a concern that would be addressed within each of the site-specific EAs.

3.5 Cultural Resources

Known cultural resources in the Project Area include the Pony Express National Historic Trail. 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 requiring a visual assessment for all Proposed Actions planned within the viewshed of the trail. The Pony Express Trail crosses through the Project Area for a distance of approximately 2.5 miles. Other significant cultural resources that may be recorded would be recommended to the National Register of Historic Places.

This is an area with many historic mining districts in the area including the Butte mining district that encloses the entire exploration area. There are also the Cherry Creek district that is an old and very active historic mining district, the Gold Canyon district and the Telegraph district. These cultural resources contributed roads, stagecoach lines and stops, town sites and mining camps to resources in the area. In addition, there are likely prehistoric artifacts and sites that are not yet documented, due to the lack of cultural resource inventories in this area.

Potential impacts to cultural resources as a result of implementation of the Proposed Action would be preferentially mitigated through avoidance. Other mitigation BMPs would be employed only in situations where avoidance would not be possible. At the end of the project, there would be little, if any, effect on cultural sites, but more information and surveys would have been completed. Short-term and minor visual changes may occur along the Pony Express Trail, even with mitigation. It is expected that the management objectives to preserve the character of the viewshed would be met in the long term.

3.6 Geology and Minerals

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).

The southern Cherry Creek Range is comprised of uppermost Cambrian through Pennsylvanian miogeoclinal strata with very minor amounts of Tertiary volcanics. Although, a few high and low angle faults offset this stratigraphic sequence, the units are in relatively complete stratigraphic order. They strike generally north-south and dip from gently to moderately to the west. The faulting in the southern Cherry Creek and northern Egan Ranges, originally interpreted by Fritz (1960) as being produced by Mesozoic thrusting, has been reinterpreted by Armstrong (1972) and Gene (1982) as being the result of early Tertiary extension. All faults can be mapped as either high or low angle tilted normal faults rather than thrusts. Gene estimates a total of 200% extension has affected this region since early Tertiary time. Figure 4 shows the geologic formations present in the proposed Project Area.

A search of the LR2000 produced a total of 44 oil and gas leases, 36 of which were closed, one rejected and seven authorized oil and gas leases within the Project Area boundary. The oil and gas leases overlap with the Project Area in the following townships, ranges and sections:

- T22N, R61E, Sec. 6,7;

- T23N, R61E, Sec. 15,16, 21,22, 30,31;
- T24N, R61E, Sec. 34-36; and
- T24N, R62E, Sec. 28-33.

There are currently no oil wells within the Project Area.

The Project Area also contains one active, and three abandoned sand and gravel pits, and three unnamed gravel pit locations that occurred prior to the permitting regulations.

3.7 Invasive, Non-native Species and Noxious Weeds

The BLM defines a weed as a non native plant that disrupts or has the potential to disrupt or alter the natural ecosystem function, composition and diversity of the site it occupies. The presence of weeds deteriorates the health of the site, makes efficient use of natural resources difficult, and may interfere with management objectives for that site. Infestations of invasive species require a concerted effort (manpower and resources) to remove the infestation from its current location, if it can be removed at all. "Noxious" refers to those weed species which have been legally designated as unwanted or undesirable. This includes federal, state and county or local designations. Any time 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.

No Project-specific weed surveys were conducted for this analysis over the Project Area; however, the BLM conducted surveys in the Project Area as recently as 2006 and identified infestations of bull thistle (*Cirsium vulgare*), musk thistle (*Carduus nutans*), scotch thistle (*Onopordum acanthium*), and whitetop/hoary cress (*Lepidium draba*). Figure 5 shows the known locations of noxious weeds and invasive, non-native species in and around the Project Area. For the most part, the identified invasive, non-native species are clustered around the former Golden Butte Mine, in several unnamed drainages to the north end of the project and a livestock corral in the southwest portion of the site.

The following plant species are not included on the Nevada noxious weed list; however, they are considered detrimental and difficult to control. Bur buttercup (*Ceratocephalus testiculatus*), cheatgrass (*Bromus tectorum*), Russian thistle (*Salsola kali*), and halogeton (*Halogeton glomeratus*) have been sighted in the Butte Valley.

3.8 Migratory Birds

"Migratory bird" is defined as any bird listed in 50 CFR 10.13. Migratory birds may be found in the Project Area as either seasonal residents or as migrants. Provisions of the Migratory Bird Treaty Act (MBTA) (16 USC 701-718h) prohibits the taking of migratory birds, their parts, nests, eggs, and nestlings. Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, was signed on January 10, 2001 to further enhance and ensure the protection of migratory birds, and directs federal agencies to protect migratory birds by integrating bird conservation principles, measures, and practices. Appendix C Migratory Birds lists the migratory birds that may occur in the Project Area.

All birds that could inhabit the Project Area are considered neotropical migratory birds. The MBTA specifically identifies the protected migratory birds, except for all the Gallinaceous birds (California quail, sage-grouse, chukar, gray partridge, ring-necked pheasant, mountain quail, and sharp-tailed grouse), and ducks, geese, etc.

3.9 Rangeland Resources

The Project Area is mainly located within the Medicine Butte (501) allotment, with a small area falling within the Cherry Creek (403) allotment (Figure 6). Both allotments are classified as “I” category allotment or “improve”. Table 9 provides additional information for each allotment.

Table 9: Grazing Allotment Information

Allotment	Public Acres	Management Category	Active Cattle AUMs	Active Sheep AUMs	Total Active AUMs
Medicine Butte (501)	287,368	I	3,557 (3/1-2/28)	3,675 (4/15-11/15)	7,232
Cherry Creek (403)	153,107	I	6,562 (5/1-2/28)	-	6,562

3.10 Recreation

The proposed Project Area is generally isolated and undeveloped. Developed recreational opportunities are relatively sparse in this part of Nevada; users are assumed to travel to remote areas of the general region, particularly on weekends to recreate. A recreation and management-planning tool called the Recreation Opportunity Spectrum was used to identify recreation opportunities. General public recreation in the area includes off-highway vehicle use, dirt bike riding, hunting, and camping. Other recreational activities could include mountain biking, horseback riding, sightseeing, outdoor photography, nature study, wildlife viewing, bird watching, and rock collecting. The proposed action is within the Loneliest Highway Special Recreation Management Area (SRMA). This is a recreation management area that extends north of Highway 50 to the Elko County Line. In 2007 the BLM reported 8,567 dispersed use visits to the Loneliest Hwy SRMA. Recreational uses include those as listed above. Under the Egan RMP the proposed Project Area is located in an area “open” to off-road vehicle use.

3.11 Riparian Areas

There are no wetlands within the Project Area. Riparian areas in the Project Area are very limited in extent and are located principally at the Johnson Spring, T24N, R62E, Section 29 (Figure 3). The Project Area generally slopes to the west, and a number of small, unnamed drainages cross the site. The majority of these are ephemeral drainages that flow to the west towards Butte Valley; however, a small portion of the Project Area (Cherry Creek) drains towards Steptoe Valley (Figure 3). Surface water generally involves the Johnson Spring and seasonal surface runoff which includes rainfall or snowmelt primarily during late spring. As a result of seasonal surface runoff, other, less prominent riparian areas may exist in ephemeral drainages within the Project Area. These areas would be identified during the site-specific EA analyses.

3.12 Socioeconomics

A maximum of four drill rigs, each with a crew of four, are expected to be in operation at the Project Area at any time. Up to a total of 16 individuals may be working at any time on the project. These individuals may be hired locally, regionally, or nationally. The precise source location of employees is not possible to determine at this time.

Individuals would commute and generally reside in local communities. The Proposed Action is located in White Pine County. Local communities likely to benefit from the residency of the drill crews would also be located in White Pine County.

The 2007 population of White Pine County was 9,146 with a labor force of 4,850 and an unemployment rate of 4.6 percent. The 2005 median age was 38.7 years and the 2006 per capita personal income was \$35,703. The 2007 annual payroll paid in White Pine County was \$41,186,000 of which \$12,542,000 came from the mining industry (www.nevadaworkforce.com).

USG is currently evaluating exploration data already collected, and plans to resume operations at Resurrection Ridge, Cadillac Valley and Continental Valley later this year. This would involve one to two drill crews, depending on timing and availability.

3.13 Soils

The soils in the Project Area are 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. Thirty-five soil map units are found within the Project Area (Figure 7). The soils in the Project Area are further described by the major land resource area 28B through soil type and ecological site descriptions (Figure 8). Figure 8A illustrates the susceptibility of each of the soil map units to wind erosion. Each NRCS wind erodibility group (WEG) is a grouping of soils that have similar properties affecting their susceptibility to wind erosion. The soils assigned to Group 1 are the most susceptible to wind erosion, and those assigned to Group 8 are the least susceptible. Disturbance of the soils would increase their susceptibility to erosion. The southwest portion of the Project Area has the most potential for wind erosion, falling in the range of Groups 3-4 according to the NRCS Order 3 map units, which are the most site-specific map units available for White Pine County. The steep hills and mountains of the Project Area mainly consist of the Pookaloo-Hyzen-Cavehill, Pookaloo-Cavehill-Rock outcrop, Haunchee-Hardol-Xine, Haunchee-Hardol-Rock outcrop association. The Palinor-Shabliss, Parisa gravelly loam, Pyrat-Parisa-Tulase, Shabliss-Pyrat-Palinor, Bobs very gravelly loam, Tecomar-Pookaloo, and Urmafot-Bobs-Palinor units are formed on fan piedmonts. The Zimwala-Uwell-Zimwala general soil unit is formed on lake plains and nearly level surfaces.

3.14 Solid Waste and Hazardous Materials

Past land uses within the Project Area have mostly included minerals exploration, recreation and livestock grazing. As a result, the existence of potentially hazardous

materials for the majority of the site is considered limited. There are no hazardous material storage facilities currently, or planned, for the Project Area.

The reclaimed Golden Butte Mine exists within a small section of the Project Area, and includes waste rock piles exhibiting some sulfide oxidation and acid formation, reclaimed heap leach pads, reclaimed process ponds and a leach field to manage long-term heap drainage. Ongoing contracts are monitoring the fluid discharge at Golden Butte Mine. Another contract is scheduled for the summer of 2008 to address the acid generation on the waste dumps. During the past mining and mineral processing activities, there existed the potential for the accidental release of hazardous materials, including fuels and lubricants. During reclamation of the site, solid waste and hazardous materials were removed or properly disposed of on site.

Public safety would be maintained throughout the life of the Project. Equipment and other facilities would be maintained and operated in a safe and orderly manner. Project-related traffic would observe prudent speed limits to enhance public safety. Solid waste would be properly handled and hazardous materials would be legally containerized, labeled and secured to avoid accidental exposure to the public.

3.15 State-Protected, BLM-Sensitive Species

A number of state and BLM special status species occur throughout northern Nevada. For special status species BLM policy (6840.02 B) is to not authorize actions that could adversely affect their populations and thus contribute to listing any of these species under provisions of the Endangered Species Act (ESA):

- Candidate species are plant and animal taxa that are under consideration for possible listing as threatened or endangered under the Endangered Species Act; and,
- BLM sensitive species are species: whose numbers are declining so rapidly that federal listing may become necessary; with typically small and widely dispersed populations; or that inhabit ecological refugia or other specialized or unique habitats.

The Nevada Natural Heritage Program database (NNHP), and the U.S. Fish and Wildlife Service was queried for the presence of any special status species. No listed or proposed species are known to occur within the Project Area.

Appendix D presents the special status species that may either reside or forage in, or move through the entire Ely District. Special status bat species have the potential to occur in rock crevices, woodland areas or historic underground workings within the Project Area.

Much of the Project Area lies within designated sage-grouse (*Centrocercus urophasianus*) habitat (Figure 9). Sage-grouse are upland game birds found on the sage-steppe habitats throughout the West, primarily in areas dominated by sagebrush (*Artemisia spp.*), forbs, and grasses. Optimum sage-grouse habitats are generally characterized as mature sagebrush stands with dense understory of native perennial grasses and native forbs. The most crucial habitats for sage-grouse are the breeding complexes which include

strutting grounds (leks), nest sites (usually within two miles of the lek), and upland meadows which provide forage and cover for young and adults from mid-summer to early fall (Call, 1979). There are no known sage-grouse leks within the Project Area. The higher elevation portions of the Project Area are pinyon-juniper woodlands which are not sage-grouse habitat. The lower elevations in the Project Area contain sage-grouse range, but no active leks have been found closer than two and a half miles from the Project Area. (NDOW 2007 GIS data).

In addition, given the occurrence of Wyoming big sagebrush (*Artemisia tridentata* spp.*wyominensis*) in the vicinity, potential habitat for the pygmy rabbit (*Brachylagus idahoensis*) may also be present. The range of the pygmy rabbit includes most of the Great Basin and some of the adjacent intermountain areas of the western United States (Green and Flinders, 1980). They are typically found in areas of tall, dense sagebrush cover, and are highly dependent on sagebrush to provide both food and shelter throughout the year.

The Project Area includes both mountainous and valley areas. The major vegetation cover in the steep and elevated areas is pinyon/juniper woodland, which is not habitat for pygmy rabbits. The sagebrush steppe, which is interspersed throughout the mountainous major cover are isolated from the lower elevation habitats and are not likely to support pygmy rabbits. However, the majority of the valley area is covered with big sagebrush vegetation, which can be potential habitat for pygmy rabbit where the soils are suitable.

NDOW records from 1992 indicated ferruginous hawks nesting in or near the southernmost portion of the Project Area. Biological clearance performed ahead of the exploration program would include raptor nest surveys to determine if any active nests occur within or near areas of proposed disturbance.

3.16 Vegetation

The Project Area has several types of topography and soil map units and, as a result, several types of vegetation. Figure 10 depicts the vegetative cover type found in the Project Area. Typical vegetation varies with elevation with upper mountain slopes generally brush covered with fir and mountain mahogany covering extensive areas. Through the mid-elevations, pinyon and juniper trees are dominant and often form closed stands which prevent other vegetation from growing. As the elevation and moisture supply falls, the vegetation shifts towards a shrub-dominated community. Sagebrush is the most common shrub along the pinyon-juniper perimeter. Sagebrush gives way to white sage, black sage, saltbush and other "salt desert shrub" type communities. Salt desert shrub plants have evolved to survive the highly saline soils which developed after thousands of years of internal drainage of runoff waters. (BLM, 2008)

The majority of vegetation in the valley area is inter-mountain basins big sagebrush shrubland. Interspersed within the valley is Great Basin xeric mixed sagebrush shrubland. The greater part of the vegetation in the steep hill and mountain area is Great Basin pinyon-juniper woodland. Intermingled within the dominant vegetation is the

Inter-mountain basins montane sagebrush steppe. At the Project Area's highest elevation a small stand of Rocky Mountain montane mesic mixed conifer and woodland vegetation stands.

3.17 Visual Resources

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. The Project Area includes rolling to angular hills and ridges with steep side slopes. Vegetation colors include tawny gray, brown, dark green, gray-green, and green.

Visual resources are defined as natural scenic landscapes and visually sensitive use areas where the maintenance of the surrounding visual environment would be important to people's enjoyment of an area. Policies and goals for protecting these visual resources on public lands are stated in the visual resource management (VRM) programs.

Visual sensitivity is a measure of the public's concern for the visual environment. Visually sensitive use areas are typically defined to include lands that are valued, in part, for their visual settings, including recreational, transportation, or residential areas. In addition, landscapes valued as nature preserves or landscapes designated as areas of critical environmental concern also are of visual concern. The distance zone from which a viewer would see the project also influences the degree of sensitivity associated with a given use area (BLM, 1986a).

The BLM initiated the VRM program in accordance with the Federal Land Policy and Management Act of 1976. In determining the VRM class designation for a particular area, the inventory process considers the scenic value of the landscape, viewer sensitivity to the scenery, and the distance of viewer to subject landscape. These management classes identify various permissible levels of landscape alteration, while protecting the overall visual quality of the region.

BLM Visual Resource Management classes include:

- **Class I** - The objective of this class is to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.
There are no Class I visual resource areas within the plan of operation boundaries.
- **Class II** - The objective of this class is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Approximately 13,207 acres (48 percent) of the Project Area lies within the Class II VRM, due to the proximity to the Pony Express Trail viewshed.

- **Class III** – The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

About 7,088 acres (26 percent) of the Project Area lies within the Class III VRM. These are mostly corridors visible from major routes of travel.

- **Class IV** – The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

About 7,302 acres (26 percent) of the Project Area lies within the Class IV VRM.

In summary, the Project Area is comprised of three VRM classes (II, III, and IV) and is not within a Class I wilderness area (Figure 11).

3.17.1 Pony Express Trail

The Pony Express Trail is one of four recreation attractions in the Egan RA that comprise the “Loneliest Highway” Special Recreation Management Area. To date, the Trail is the only National Historic Register-listed resource in the Project Area. The National Park Service (NPS) provided guidance to the BLM which was used to establish a ten-mile wide corridor (five miles on each side) to protect the Pony Express Trail viewshed. Activities within this corridor may not necessarily occur within the viewshed. The cultural resource program also protects the viewshed of the Pony Express trail with more general criteria, requiring a visual assessment for any ground disturbing activity that occurs within the viewshed of the trail.

Approximately 2.5 miles of the Pony Express Trail crosses the Project Area. The protective buffer corridor along this stretch encompasses 13,207 acres within the Project Area. The viewshed from the Pony Express Trail is managed as a Class II VRM to preserve its historic nature (Figure 11).

3.18 Water Quality – Drinking, Surface and Ground Waters

There are no identified drinking water resources within the Project Area. Surface water generally involves the Johnson Spring and seasonal surface runoff which includes rainfall or snowmelt primarily during late spring.

As indicated in Table 8, the Project Area lies almost entirely in the Butte Valley (Southern Part) Hydrographic Basin 178B, which is not a designated groundwater basin.

Designated groundwater basins are basins where permitted ground water rights approach or exceed the estimated average annual recharge and the water resources are being depleted or require additional administration. Under such conditions, the state water officials would so designate a groundwater basin and, in the interest of public welfare, declare preferred uses (e.g., municipal and industrial, domestic, agriculture, etc.). The annual yield for Basin 178B is estimated at 14,000 acre-feet of water. Of that, 171.89 acre-feet have been appropriate for mining and milling, and 126.46 acre-feet for stock water.

The closed and reclaimed Golden Butte Mine, located in the western portion of the Project Area, describes static water elevation 1.5 miles west of the reclaimed heap leach pads in Butte Valley as 6,267 feet amsl (70 feet below ground surface (bgs)). The depth to groundwater increases to the east, into the Project Area and mountains. During siting operations, five well borings were drilled to depths between 300 and 385 feet bgs in the Golden Butte heap leach pad area to locate mine-process water. These borings extended into the volcanic rock below the alluvium, but no water was encountered. Groundwater was encountered in another boring located approximately 0.5 miles east of the heaps. This became the East Water Well. The water level in the East Water Well was measured at 41.6 feet bgs on November 5, 2002. Water quality from this sampling indicated mostly non-detects and no exceedences of NDEP Profile II comparative standards (MWH, 2003).

At this time, USG has not identified the specific source of water to be used for the exploration drilling program, as it is likely to vary depending on the active drilling location. USG would provide the BLM with the source locations and quantities of water necessary for each tiered analysis as that information become available.

3.19 Wild Horses and Burros

The Wild Free-Roaming Horse and Burro Act (Act), of 1971, as amended, (Public Law 92-195) directs the federal government to manage wild horses and burros as an integral part of the natural system of the public lands under the principle of multiple use. The Proposed Action lies entirely within the Butte Herd Management Area (HMA: NV-407) (Figure 12). The Butte HMA comprises approximately 430,770 acres (673 square miles), 99.3 percent of which is public lands. The Butte HMA has an Appropriate Management Level (AML) established at 95 wild horses. The current estimated population for the Butte HMA is 95 animals (excluding foals; as of March 1, 2008). In order to keep wild horse numbers in balance with their environment, the BLM periodically gathers wild horses from the HMA. The Butte HMA was last gathered August 2006 and 132 horses were gathered at that time.

3.20 Wildlife

Wildlife species presently occurring in the area of the Proposed Action include species common to the Nevada Great Basin: coyotes, mule deer, mountain lions, elk, pronghorn antelope, bighorn sheep, jack rabbits, cottontails, ground squirrels, reptiles, mourning doves, and chukar. The absence of surface water is a limiting factor for wildlife distribution. The water resources are limited to Johnson Spring, a cattle watering trough and ephemeral streams. Riparian habitat is limited in extent and the condition of the

habitat varies from poor to good, depending on the amount of use by livestock and wild horses.

Mule deer (*Odocoileus hemionus*) are found throughout the Project Area. The Project Area overlaps known mule deer annual and winter ranges (Figure 13). Seasonal movements occur between summer and winter ranges and are typically defined by available forage and water. No “critical” winter range occurs within the Project Area.

Also present in the Project Area are elk (*Cervus elaphus*) (Figure 14), pronghorn antelope (*Antilocapra Americana*) (Figure 15), and bighorn sheep (*Ovis canadensis*) (Figure 16).

No fisheries occur in the Project Area.

4.0 Environmental Consequences

The following analysis is presented on a programmatic level for the exploration program proposed by USG for the Limousine Butte Exploration Project. Additional site-specific analyses would be completed, as necessary, for future exploration actions when they are defined and ripe for analysis.

For consistency, the section titles from Chapter 3 and Table 5 have been kept the same.

4.1 Basis for Analysis

USG has incorporated best management practices 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 Limousine Butte Exploration Program. Cumulative impacts are discussed in Chapter 5.

The Proposed Action is based on 72.0 acres being disturbed within the 27,600-acre Project Area over the life of the exploration project. This is in addition to the 16.7 acres previously approved within the Project Area under mining notices. For administrative purposes, all 88.7 acres would be bonded under the one new exploration plan of operations. USG may use any or all of the exploration techniques described in Chapter 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 anticipates that USG would continue exploration activities on the 16.7 acres currently authorized for the locations identified in Figure 2. To date, all of the authorized acres for the Resurrection Ridge Notice have been disturbed; a portion of the Ticup Notice acreage has been used; and no disturbance has occurred on either the Cadillac Valley or Continental Valley notices.

4.2 Access and Land Use

Proposed Action

The Proposed Action would not disturb or disrupt existing land uses within the Project Area such as roads, and utility corridors. Some existing exploration roads constructed by previous operators and not reclaimed, may be reclaimed by USG in consultation with BLM. Survey monuments, claim markers, witness corners, reference monuments, bearing trees, etc., would be protected against destruction, obliteration or damage. When operations are concluded, USG would remove survey markers, stakes, flagging. Public access due to exploration activities would generally not be altered except for temporary obstructions to facilitate public safety 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 would occur over a smaller area (16.7 acres) and would be shorter in duration. Reclamation of this disturbance would occur sooner than under the Proposed Action.

4.3 Air Quality

Proposed Action

Direct, temporary impacts to air quality from fugitive dust, as well as gaseous pollutants such as nitrous oxides, carbon monoxide, and sulfur dioxide, would result from the Proposed Action activities for three to four years. Sources of gaseous pollutants would include equipment exhaust emissions, including mobile equipment and light vehicles. Sources of fugitive dust would include clearing, earth moving, drilling, and wind erosion from soil stockpiles. USG 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. In addition, Air Resources BMPs 1-4 (Appendix A) would be implemented in order to minimize the potential air quality impacts from fugitive dust.

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.

No Action Alternative

The 72 acres of additional surface disturbance and vehicular use would not occur; however, USG would continue exploration activities on the 16.7 acres of notice-level authorizations. These activities would generate temporary, short-term impacts to air quality as described for the Proposed Action. These impacts would be of a shorter duration under the No Action Alternative than the under the Proposed Action.

4.4 American Indian Religious Concerns

Proposed Action

No potential impacts to American Indian Religious Concerns are anticipated as a result of implementation of the Proposed Action. Local tribal members would have continued access to the Project Area for any religious activities and access to woodland products such as traditional food sources (i.e., pine nut gathering). Individual determinations would be made of site-specific impacts to pine nut gathering; however, the Proposed Action is not expected to affect the amount of pine nuts available or the ability to harvest them.

No Action Alternative

The potential impacts from the No Action Alternative are expected to be similar to those described for the Proposed Action but on a smaller scale due to the 75 percent smaller area of authorized disturbance.

4.5 Cultural Resources

Proposed Action

In addition to implementation of Cultural Resources BMPs 33-44 (Appendix A), USG would, and has contracted with a BLM-permitted and SHPO-approved archaeological company to conduct appropriate cultural surveys prior to site-specific exploration

activities in order to identify, record and evaluate all cultural resources within active disturbance areas.

The exact locations of the exploration drill sites and cross-country travel routes would be dependent on geological conditions and the results of ongoing drilling; therefore USG would identify potential areas for exploration drill sites in small allotments, each one individually analyzed.

Prior to any ground disturbance, a Class III cultural resource survey would take place within the area of projected effects and would include cross-country travel routes, constructed/improved roads, drill pads. The results of the survey would be submitted as a final written report to BLM by the contracting archaeologist. The report would be approved by BLM prior to ground disturbance activities.

If a cultural resource site is located, the preferred treatment, and the treatment adopted by USG, is avoidance including a buffer zone around the cultural resource. If that is not possible, then the site would be mitigated and eligibility may be determined by BLM. Mitigation and data recovery would be in accordance with the BLM, Nevada SHPO, and the Advisory Council on Historic Preservation Programmatic Agreement. Development of a treatment plan, data recovery, archaeological documentation, and report preparation would be based on "Cultural Resources Inventory General Guidelines" (BLM 1989) and "State Protocol Agreement" (BLM 2005). Additional information regarding identifying, recording, evaluating and mitigating cultural resources can be found in "Identifying and Evaluating Cultural Resources"; 36 CFR Part 60 - National Register of Historic Places; 43 CFR Part 7, and 43 CFR Part 10 and other appropriate documents.

Any activity planned within the viewshed of the Pony Express National Historic Trail, or other cultural resource within the area as considered appropriate by BLM, 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.

Implementation of the Proposed Action would result in the collection of additional cultural resource information for the Limousine Butte area that is not currently available.

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. However, the disturbance associated with the notice-level exploration (16.7 acres) has already been defined and appropriately managed. Future notices would require the same level of management.

4.6 Geology and Mineral Resources

Proposed Action

Minimal amounts of material would be removed during the exploration program to provide the data and samples needed to determine the size and shape of the potential ore body. Drill holes would be plugged in compliance with NRS 534. The Proposed Action may increase the likelihood of additional mineral extraction in the future.

No Action Alternative

The potential impact from the No Action Alternative would be the same as those described for the Proposed Action, with smaller amounts of material removed due to the fewer number of drill holes authorized. The probability of locating economic ore bodies would decrease compared to the Proposed Action, since the exploration program would be restricted, as there would be a limit to the number of exploration notices within the notice areas.

4.7 Invasive Non-native Species and Noxious Weeds

Proposed Action

Surface disturbance resulting from implementation of the Proposed Action has the potential to create conditions favorable for the establishment of invasive, non-native species and other undesirable vegetation, especially for road and drill pad construction. Weed infestations could arise from the spreading of existing local sources, or the introduction of new weed infestations by importing new seeds from sources outside of the Project Area.

A *Noxious and Invasive Weed Risk Assessment* was not necessary for this EA as there is no surface disturbance authorized for this EA; however, site-specific risk assessments would be completed for individual exploration target areas. The use of an approved seed mix, 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. Noxious and Invasive Weed Management BMPs 58-70 (Appendix A) would also require USG to actively treat noxious weeds upon discovery, which would also prevent these weed species from spreading and dominating the site. USG would follow the approved BMPs in order to prevent the spread of invasive weeds in the Project Area as described in Appendix A.

No Action Alternative

The potential for impacts from the No Action Alternative would be similar in nature but less than those described for the Proposed Action. The area of disturbance authorized under the No Action Alternative (16.7 acres) is 75 percent smaller; therefore the probability of occurrence of weed infestations would be equally reduced. Non-native, invasive and noxious weeds could, however, continue to spread in the area through other vectors such as recreational uses, other mining activities, or wildfires.

4.8 Migratory Birds

Proposed Action

Project construction (regardless of the season constructed) could result in the temporary loss and possible temporary conversion of up to 72 acres of potential migratory bird habitat on public land. This project is temporary (three to four years), and disturbance would be localized. Impacts include temporary individual or small numbers of birds being displaced from preferred to marginal habitat and potential for mortality or behavioral changes in the vicinity of the disturbance due to either interaction with

equipment or personnel or by being unable to move to already occupied habitat. Most birds would return to utilize habitat once the disturbance activity is finished.

Project-generated construction and drilling noise (estimated at an average 83 decibels at a distance of 50 feet) could also keep some migratory birds away from areas generating this noise (typically areas of new surface disturbance). Other indirect effects could result from general human activity, which could displace individuals or reduce breeding success of species that are sensitive to human activity. The indirect effects would be very localized and temporary. In addition, migratory birds would be able to re-occupy the disturbed areas upon completion of these short-term drilling operations, which would prevent residual impacts. Most surface disturbance would occur after July 15 and before April 15 (nesting season).

If ground-disturbing activities are planned during the migratory bird nesting season, implementation of mitigation would be necessary in order to avoid the potential for violation of the MBTA. A nest survey would be conducted by a qualified biologist (qualification determination to be made by the BLM Authorized Officer) within potential breeding habitat prior to any surface disturbance proposed during the avian breeding season (April 15 to July 15). If an active nest(s) (eggs or young present) is located, a protective buffer (the size depending on the habitat requirements of the species) would be delineated in consultation with the authorized officer. The buffer area would be avoided to prevent destruction or disturbance to the nest(s) until it is no longer active. The site characteristics used to determine the size of the buffer are: a) topographic screening; b) distance from disturbance to nest; c) the size and quality of foraging habitat surrounding the nest; d) sensitivity of the species to nest disturbances; and e) the protection status of the species.

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 due to the 75 percent smaller area of authorized disturbance, and shorter project duration.

4.9 Rangeland Resources

Proposed Action

The disturbance of 72 acres could result in the short-term loss of about 0.3 percent of forage in the grazing allotments within the Project Area. The disturbed areas would be seeded with the BLM-approved seed mix. Sumps would be fenced, as necessary, in areas where livestock are present to prevent access. Under no circumstances would livestock be willfully harassed. It is expected that there would be minimal impact to grazing resources from the 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 due to the 75 percent smaller area of authorized disturbance, and shorter project duration.

4.10 Recreation

Proposed Action

Road construction and drilling activities could create disturbances that may interfere with or displace the backcountry 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. 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 noise, the lack of solitude opportunities and the increased manmade structures and presence. Except for hunting season, there are generally few recreationists in the area of the Proposed Action, and ample opportunity for similar recreation experiences within adjacent areas for almost all recreational pursuits. As a result, and following implementation of Recreation BMPs 50-51 (Appendix A), the Proposed Action would have minimal impact on recreation.

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 due to the 75 percent smaller area of authorized disturbance, and the shorter project duration. The presence of drill rigs and drill crews could still interfere with or displace backcountry recreational pursuits in this area, but this potential impact would cease once drilling and reclamation have been completed. Backcountry pursuits in the project area occur only sporadically and in low numbers.

4.11 Riparian Resources

Proposed Action

Riparian resources are limited in the Project Area; however, USG would avoid seeps, springs and riparian areas by at least 100 feet or as determined in the site-specific exploration plans. Proposed exploration plans (and new disturbance) 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. The 16.7 acres of approved disturbance would be confined to the designated notice locations, as depicted on Figure 2, so the likelihood of encountering riparian resources would be reduced.

4.12 Socioeconomics

Proposed Action

The Proposed Action would provide employment for up to four drill crews over the next three to four years. Each drill crew generally consists of four individuals, for a total of up to 16 individuals. The source location of these employees has not been identified at this time. The drill crews would likely use local businesses for food and lodging as well as supplies. While the exploration activities would contribute to the economic stability in the local communities, the actual contribution of these 16 individuals to the local economy, and any positive socioeconomic impacts, would not be noticeable.

No Action Alternative

The potential socioeconomic impacts from the No Action Alternative would be even smaller in scale than those described for the Proposed Action. The duration of the No Action Alternative would be shortened, so the economic benefits to the local businesses would be reduced proportionately (i.e., 75 percent less). In addition, the restricted nature of the notice-level exploration program would reduce the likelihood of finding suitable mineral resources for future mine development.

4.13 Soils

Proposed Action

USG 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 to 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 BLM Authorized Officer), and require the use of specialized low-surface impact equipment (Soil Resources BMP 8 – Appendix A).

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 would contact the Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.

Most of the Project Area soil map units fall within WEG 5 through 8. These groups are not very susceptible to wind erosion. The western part of the project area that falls on and near the basin floor is within WEG 3 and 4. These areas have a medium susceptibility to wind erosion. No soils that are highly susceptible to erosion are located within the Project Area (Figure 8A). The BMP's outlined in Appendix A would aid in minimizing the effects of wind erosion. The locations with the more unstable, erodible soils may require the implementation of additional BMPs, such as restrictions on surface entry during periods of excessive runoff, avoidance of selected areas, and special reclamation techniques, which are already part of the Proposed Action.

Types of direct impacts to area soils 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 would be susceptible to wind and water erosion; however, this impact would be reduced by interim revegetation and adherence to Soil Resources BMPs 8-14 (Appendix A).

No Action Alternative

The potential impact from the No Action Alternative would be restricted to the soil units already defined by the drill pad and road locations provided in the authorized notices. These potential impacts would be similar, but would only involve approximately 13 of the 34 of the soil associations (or 38 percent) identified within the Proposed Action Project Area. As with the Proposed Action, no highly erodible soils are located within the notice boundaries.

4.14 Solid Wastes and Hazardous Materials

Proposed Action

USG would handle solid and hazardous materials according to state and federal regulations (including transportation regulations) as well as the approved Hazardous Materials BMPs 71-76 (Appendix A). Any spills of petroleum products would be cleaned and reported according to state regulations, and as stipulated in the *Spill Prevention Plan* included in Appendix B. Solid waste would be disposed of off site at an approved landfill facility. USG would adequately fence, post, or cover drilling sumps so as to warn members of the public who may venture too close to the active and/or closed drill pads. Any hazardous materials (including but not limited to petroleum products) would be properly contained, labeled, and secured for public safety. Public safety would be maintained throughout the life of the Project. Equipment and other facilities would be maintained and operated in a safe and orderly manner. No impacts from solid wastes or hazardous materials are anticipated.

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. With a 75 percent smaller authorized area of disturbance, and shorter duration of activity, the potential for spills of petroleum products would be proportionately reduced. The BMPs governing Hazardous Materials and the USG *Spill Prevention Plan* would remain in effect.

4.15 State-Protected, BLM-Sensitive Species

Proposed Action

During preparation of the site-specific EAs, the BLM would determine if new sensitive species have been added in the interim and whether a sensitive plant survey would be needed.

The bald eagle may be an occasional visitor to the area, but is not known to reside within the Project Area. The golden eagle does inhabit the Project Area. Burrowing owl, ferruginous hawk, and northern goshawk use the Project Area, but the negligible loss (0.3 percent) of habitat is not expected to affect these species. The woodlands provide

foraging habitat for bats, as well as some roosting habitat; however, the loss of habitat is not expected to affect sensitive bat species. Due to the amount of available habitat, this impact is anticipated to be minimal. Raptor nest sites would not be disturbed. USG would not conduct ground-disturbing activities 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, USG would work with BLM to avoid impacts.

Minimal localized impacts to populations of prey species could occur through changes in habitat. Raptors would be negligibly affected by the Proposed Action.

The increased noise level from the drill rig may interfere with territorial defense by birds with territories near the drill pad.

Some sagebrush would be removed during exploration activities. Seeding of all disturbed areas would occur during reclamation. Sagebrush is expected to recolonize the disturbed areas over time.

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. The likelihood of encountering state-protected and or BLM-sensitive species would be reduced by 75 percent, as the areas of disturbance would be smaller, and the duration of the project would be shorter.

A smaller amount of sagebrush would be removed during notice-level exploration activities. Seeding of all disturbed areas would occur during reclamation. Sagebrush is expected to recolonize the disturbed areas over time.

4.16 Vegetation

Proposed Action

Up to 72 acres of vegetation would be removed and reclaimed as a result of implementation of the Proposed Action. The disturbed areas would be seeded with a BLM-approved seed mix (Table 3). Reclamation at the closed Golden Butte Mine provides a history of reclamation success in the Project Area. 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 invasive, non-native species would likely occur. USG would follow BMPs to minimize colonization of invasive, non-native species. Ideally, the early seral species and invasive weeds 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. Some introduced species such as commercial crops (e.g., cereal rye, Table 2) may be used to displace the invasive weeds during the first growing season. These commercial species may be aggressive at first, but generally are short lived and do not survive past the first couple of growing seasons. This allows the slower growing natives to re-establish over time.

No Action Alternative

The potential impacts to vegetation from the No Action Alternative would be the same as those described for the Proposed Action but would be on a 75 percent smaller scale. Reclamation would occur in accordance with the notice specifications and 43 CFR 3809 regulations, but would occur sooner than under the Proposed Action. Therefore, successful revegetation would likely occur sooner as well.

4.17 Visual Resources

Visual resources are analyzed below according to the VRM Class where the disturbance may occur. As described in the Proposed Action, the Project Area encompasses Class II, III and IV VRM areas.

4.17.1 Class II VRM and Pony Express Trail

The objective of the Class II VRM is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Proposed Action

The ten-mile wide Pony Express Trail corridor is located within, and managed as a Class II VRM area to preserve the historic viewshed. The trail is located in an area in view of large-scale, historic mining. The Pony Express Trail crosses the Project Area unmarked for approximately 2.5 miles. The trail then branches into two distinct separate trails both east and west of the project boundary. The Pony Express Trail corridor covers 13,207 acres (48 percent) of the Project Area (Figure 11). According to the currently proposed RMP, any activity planned within the view shed of the Pony Express National Historic Trail and associated stations or other National Landscape Conservation System properties (currently anticipated to be five miles on either side of the Trail), listed National Register Districts, or eligible properties, must undergo a visual assessment. Activities potentially occurring within the viewshed would be analyzed on a site-specific basis. The site-specific visual assessments would be completed in relationship to the Class II VRM goals and objectives. Appropriate mitigation of visual impacts would be

implemented as necessary to keep the setting of the management corridor in as natural condition as possible.

Contrasts to the existing environment may last for a long period of time following the 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. However, incremental disturbance from exploration activities would be minor in the long term compared to the existing disturbance, and unlikely to catch the attention of someone traveling on the Pony Express trail.

Successful reclamation and revegetation of the exploration roads would minimize the long-term visual impacts, and the class objectives would be met.

No Action Alternative

The potential impacts from the No Action Alternative in the Pony Express Trail (Class II VRM) would be similar to those described for the Proposed Action but on a smaller scale. Three of the four notice areas (Ticup, Resurrection Ridge, and Cadillac Valley) occur within the Class II VRM area. These three areas have been authorized for a total disturbance of 13.4 acres of the 16.7 authorized acres. Successful reclamation and revegetation of the exploration roads would minimize the long-term visual impacts, and the class objectives would be met.

4.17.2 Class III VRM

The objective of the Class III VRM is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Proposed Action

Road and drill pad construction could result in short-term visual impacts in the Class III VRM, principally affecting the elements of line and color during active exploration. Horizontal and shallow diagonal lines from the drill roads and exploration trails would create low line contrasts with the characteristic landscape. Vegetation removal associated with road and drill pad construction could result in low to moderate color contrasts in this VRM class. Successful reclamation and revegetation of the exploration roads would minimize the long-term visual impacts, and the class objectives would be met.

No Action Alternative

The potential impacts from the No Action Alternative in the Class III VRM would be similar to those described for the Proposed Action but on a considerably smaller scale. Only one of the four notice areas (Continental Ridge) occurs within the Class III VRM area, encompassing 4.42 acres of the authorized 16.7 acres. Negligible changes to line and color are anticipated from the No Action Alternative in the Class III VRM. Successful

reclamation and revegetation of the exploration roads would minimize the long-term visual impacts, and the class objectives would be met.

4.17.3 Class IV VRM

The objective of the Class IV VRM is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements.

Proposed Action

Road and drill pad construction could result in minor short-term visual impacts in the Class IV VRM, principally affecting the elements of line and color during active exploration. Horizontal and shallow diagonal lines from the drill roads and exploration trails would create low line contrasts with the characteristic landscape. Vegetation removal associated with road and drill pad construction could result in low to moderate color contrasts in this VRM class. Successful reclamation and revegetation of the exploration roads would minimize the long-term visual impacts, and the class objectives would be met.

No Action Alternative

No are anticipated from the No Action Alternative in the Class IV VRM, as the existing notices do not extend into this area.

4.18 Water Quality – Drinking, Surface and Ground Waters

Proposed Action

There are no drinking water resources identified within the Project Area. USG would avoid seeps, springs, drainages and riparian areas by at least 100 feet or as determined in the site-specific exploration plan. Adherence to the proposed environmental protection measures and approved Water Resources BMPs 5-7 (Appendix A) would minimize the potential impacts to surface and ground water. All 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. The precise location of the source of water necessary for drilling has not yet been determined, and would depend on the location of the incremental drilling locations. Regardless, the amount of water used would be negligible. No impacts to surface water or groundwater resources are anticipated. No surface expressions of drinking water are located within the project area. Ground water wells around Golden Butte Mine meet drinking water standards but have not been specifically designated as drinking water. The Proposed Action would have no effect on these water sources.

No Action Alternative

Under the No Action Alternative, USG would continue to avoid seeps, springs, drainages and riparian areas by at least 100 feet. Adherence to the proposed environmental protection measures and approved Water Resources BMPs 5-7 (Appendix A) would minimize the potential impacts to surface and ground water. Given the smaller scale of the notice-level disturbances, no impacts to surface water, drinking water, or groundwater resources are anticipated under the No Action Alternative.

4.19 Wild Horses and Burros

Proposed Action

Disturbance of 72 acres within the Project Area could result in the short-term loss of about 0.02 percent of forage in the Butte Valley HMA. Movement of wild horses through the Project Area could be slightly disrupted due to the presence of drill crews, and the operation of equipment,

The disturbed areas would be seeded with the BLM-recommended seed mix. Under no circumstances would wild horses be willfully harassed. Sumps may be temporarily fenced and flagged, as necessary, in areas where wild horses are present to prevent access. To protect wild horses, any temporary fencing (as needed) would be flagged and road signs posted in accordance with Wild Horses BMPs 30-32 (Appendix A). The potential impacts to horses would be minimal and temporary.

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 (16.7 acres, or 0.004 percent of the forage in the HMA). Movement of wild horses through the notice areas could be slightly disrupted due to the presence of drill crews, and operation of equipment, but the likelihood is considerably less than under the Proposed Action.

4.20 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 72 acres. 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 (resulting in potential loss of these individuals from the population); and further fragmentation of the habitat from implementation of the Proposed Action.

The Proposed Action would result in the short-term loss of up to 72 acres (0.3 percent of the Project Area) of wildlife habitat. This habitat disturbance would result in the same primary impacts to mule deer, elk, and antelope as described above for wildlife in general. However, impacts from the proposed activities would be minimal because of the habitat in like adjacent areas and transient nature of the exploration activities. The

removal of pinyon-juniper vegetation, followed by subsequent reclamation to an herbaceous-shrub community would provide habitat similar to that which has been created by Nevada Department of Wildlife and BLM through woodland chainings. These openings in the woodland that provide forage may contribute to the long-term benefit of mule deer. However, eventually these areas would revert back to the successional climax community. In the interim, the reclaimed area would provide diversified forage for local wildlife.

Mule deer migration could be disturbed by the noise and activity associated with road construction and drilling activities. However, USG would be exploring in targeted areas for three to four 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.

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. 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 scale one-quarter that of the Proposed Action. The No Action Alternative would result in the short-term loss of up to 16.7 acres of wildlife habitat. .

5.0 Cumulative Impacts

This chapter analyzes the potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the USG proposed exploration program within a defined Cumulative Effects Study Area (CESA). As defined by federal regulations (40 CFR §1508.7), cumulative impacts are: "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions." Cumulative effects can result from individually minor, but collectively significant actions taking place over a period of time.

Therefore, as required under NEPA, this chapter addresses the cumulative effects on the identified environmental resources in the Cumulative Effects Study Areas (CESA) which could result from the implementation of the proposed exploration program.

Assumptions for analysis

In order to evaluate the cumulative environmental effects, several assumptions, common to all of the resources, were necessary. First, it was assumed that all of the existing post-FLPMA authorized mining-related disturbance (± 420 acres) within the CESA (excluding various open pits and designated access roads) has been completely reclaimed per BLM's requirements under its surface mining regulations (43 CFR §3809). It was also assumed that reclamation of all future and foreseeable disturbance would occur according to the same BLM guidance and reclamation requirements.

5.1 Cumulative Effects Study Areas

In general, unless otherwise noted, the CESA for this EA was developed as a combination of overlapping, relevant resource divisions, combined to form a single encompassing area of study. These principle individual resource subdivisions include:

- HUC 5 watershed (Butte Valley Hydrographic Basin No. 178B);
- Egan Basin watershed;
- Historic mining districts of Butte Valley, Cherry Creek, Gold Canyon, Telegraph, Hunter, and Granite;

Combined, these resource subdivisions encompass an area of 580,328 acres, or 907 square miles (Figure 17). The proposed Project Area covers about 27,600 acres, or 4.8 percent of the CESA, and the proposed disturbance (72 acres) constitutes 0.01 percent of the CESA and 0.3 percent of the Project Area.

The underlying area of study is the U.S. Geologic Survey's Hierarchical Unit Classification (HUC), fifth level hydrologic unit, or HUC 5 watershed. The U.S. is divided and sub-divided into successively smaller hydrologic units, which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged within each other, from the smallest (cataloging units) to

the largest (regions). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system. HUC 5, HUC 6, and HUC 7 refer to different sizes of hydrologic units or watersheds. A HUC 5 watershed ranges from 40,000 to 250,000 acres in size. A HUC 6 watershed, or sub-watershed, ranges from 10,000 to 40,000 acres in size, and is the typical size of watershed at which a landscape analysis is conducted. A HUC 7 watershed, or sub-sub-watershed, is typically less than 10,000 acres in size, averaging approximately 2,500 acres.

Because of the slight overlap to the east of the proposed Project Area with the adjoining Steptoe Valley HUC 5 Hydrographic Basin (a designated hydrographic basin), it was appropriate to include a portion of that basin into the CESA, as well as the Egan Basin watershed (which covers 44,472 acres).

Because the Ely District BLM generally manages resources by watershed, these watershed boundaries create an effective CESA that can be used to evaluate the cumulative impacts associated with the majority of the resources.

The study area also contains a portion of the relevant:

- Recreation Management Area
- Pony Express Trail VRM corridor; and
- Herd Management Area.

For the socioeconomics, the CESA boundary was defined as White Pine County, even though there is no way to determine precisely where the drill crews will be obtained; it is likely that they would reside in White Pine County during the exploration program.

The timeframe for analysis of this project is approximately ten years.

The following sections offer past actions, present actions, and reasonably foreseeable future actions for the area of the proposed USG exploration program. Mining, as well as cattle, sheep and wild horse grazing, are the primary past and present activities in this region. It is reasonable to expect that mining activities would continue to increase in this region based on the fact that this area is mineral rich, and the price of precious metals continues to climb. All of the actions and uses have the potential to affect the environmental resources of concern within the identified CESA.

The following sections provide details of the past and present activities within the Limousine Butte exploration plan CESA. Lands and mining information was obtained from the LR2000. The system is designed to provide reports on BLM-administered land and mineral use authorizations for oil, gas, and geothermal leasing, rights-of-ways, coal and other mineral development, land and mineral title, mining claims, withdrawals, classifications, and more on federal lands or on federal mineral estate.

5.2 Past Activities

5.2.1 Historic Mining Activities

The general region has a long history of mineral exploration and development activity dating back to the 1860's and extending to the present. According to the BLM GIS database, approximately 300 acres of Post FLPMA surface disturbance has occurred on public land within the CESA. This disturbance constitutes approximately 0.06 percent of the CESA, and is associated primarily with exploration and mining operations in the various mining districts. Nearly 50 percent of this disturbance (150 acres) is associated with the Golden Butte Mine (abandoned by Alta Gold when it went bankrupt in the year 2000). The Golden Butte Mine falls within the currently proposed Project Area for which this EA is being prepared. In addition, exploration through the use of seismic lines and the exploration of oil and gas resources have occurred in the region.

5.2.2 Ranching and Grazing

Livestock grazing has a long history in the region dating back to the late 1800's. To this day, it remains a prominent use of land within the CESA. Throughout its' history, ranching has remained a dispersed activity characterized by localized areas of more intensive use.

5.2.3 Wildfires

Nevada is prone to extended periods of drought. Under these conditions, wildfires can be frequent and quite damaging. BLM records indicate eight wildfires having occurred within the CESA. The largest fire, the Cherry Fire, located directly north of the Project Area, burned 8,400 acres (approximately 1.5 percent of the CESA) in 2000.

5.2.4 Recreation

Developed recreational opportunities are relatively sparse in this part of Nevada, and generally include off-highway vehicle use, hunting, and camping. Other recreational activities may 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, and most of the CESA, are located in an area "open" to off-road vehicle use.

There are no developed recreation opportunities within the CESA boundary. Dispersed recreation opportunities are primary tied to off-highway vehicles and hunting. Increase in use levels have coincided with the advent of the all-terrain vehicle (ATV), increases in technology, and increases in popularity nationwide. An annual re-enactment of the Pony Express Trail ride offers a recreational opportunity to experience the historical open space aspects of the trail area.

5.2.5 American Indian Traditional Use

Hunting and pine nut gathering have been traditional American Indian uses of the Project Area and CESA.

5.2.6 Power Transmission Corridors

Southwest Intertie Project (SWIP), a 500-mile, 500 kilovolt north-south transmission line which, for the first time, interconnects the transmission systems of Idaho Power Company, Sierra Pacific Power Company, and Nevada Power Company. The SWIP was conceived more than 20 years ago and a transmission right-of-way was granted to Idaho Power Company by the U.S. Bureau of Land Management in 1994. The SWIP would ultimately deliver up to 1800 megawatts in capacity from LS Power's coal-fired power plant and wind energy project which are under development in White Pine County. The SWIP crosses the southern part of the CESA and heads north just outside the eastern CESA boundary. The Robinson Wind project intercepts the southern section of CESA. This proposed project includes wind turbine farm and a transmission line that connects to the SWIP.

5.3 Present Activities

5.3.1 Locatable Mineral Activities

Locatable minerals are uncommon minerals, and typically consist of precious metals and/or base metals, but can also include uncommon varieties of rock that are considered rare in occurrence and are valuable for marketing. There are eight (authorized and/or pending mining plans and notices on file with the Ely District for locatable minerals within the designated CESA.

5.3.1.1 PoO-Level Activities in CESA

No active or authorized PoO-level operations currently exist within the CESA.

5.3.1.2 Notice-Level Activities in CESA

According to the LR2000 database, there are currently five authorized notice-level activities for locatable minerals within the CESA, including a two-acre notice for specialty stone. The remaining four notices have been issued to USG, and would be incorporated into the Proposed Action being evaluated herein. In addition, there are numerous notices that have been closed, and which constitute the remaining existing 3809-related disturbance on public land within the CESA.

5.3.2 Saleable Minerals

Saleable minerals include sand, gravel, stone, soil, and other common-variety mineral materials disposed through sales at not less than their appraised price or through free-use permits.

There are several gravel pits within the CESA that are used for maintenance of roads. In fact, there are 11 active and eight abandoned pits and an additional five pits that are both unnamed and without record. A decorative rock quarry is operated on private lands in the Gold Canyon Mining District.

5.3.3 Leasable Minerals

One Notice of Staking for oil and gas has been recorded; however, the proposed activity is awaiting approval of their Application for Permit to Drill (APD). Most of the CESA is open for mineral leasing.

5.3.4 Ranching and Grazing

Livestock grazing occurs throughout most of the CESA. Table 10 provides information on all of the allotments that have all or a portion of their area within the CESA boundary.

Table 10: CESA Grazing Allotment Information

Allotment Name (Allotment No.)	Public Acres	Active Cattle AUMs	Active Sheep AUMs	Total Active AUMs
Cherry Creek (403)	153,107	6,261	-	6,261
Gold Canyon (413)	23,640		1,068	1,068
Goshute Basin (402)	9,397	99	350	449
Medicine Butte (501)	287,368	3,552	3,674	7,226
North Butte (502)	26,467	179		179
South Butte Seeding (506)	968	242		242
South Butte (504)	26,081	389		389
Steptoe (415)	44,025	2,836		2,836
Thirty Mile Spring (503)	178,716	3,419	4,924	8,343

5.3.5 Wildfires

Nevada is currently in an extended period of drought. Under these conditions, wildfires can be frequent and quite damaging. BLM records indicate eight wildfires having occurred within the CESA. The largest fire, the Cherry Fire, located directly north of the Project Area, burned 8,400 acres (approximately 1.5 percent of the CESA) in 2000.

5.3.6 Recreation

Developed recreational opportunities are relatively sparse in this part of Nevada, and tend to be limited to off-highway vehicle use, dirt bike riding, hunting, and camping. Other recreational activities may include mountain biking, horseback riding, sightseeing, outdoor photography, nature study, wildlife viewing, bird watching, and rock collecting. Except for hunting, these activities are much dispersed and occur sporadically in low numbers. Under the Egan RMP the proposed Project Area, and most of the CESA, are located in an area “open” to off-road vehicle use.

5.3.7 American Indian Traditional Use

Hunting and pine nut gathering have been traditional American Indian uses of the Project Area and CESA.

5.4 Reasonably Foreseeable Future Actions

Reasonably Foreseeable Future Actions (RFFAs) include continued use of the area for livestock grazing, wildlife habitat, wild horse habitat, mining exploration and development (if exploration is successful), and dispersed recreation. While livestock grazing is expected to continue, adjustments in season of use or numbers of livestock may be made periodically to meet resource objectives. Range improvements, such as water developments or pasture fences, could be installed to facilitate the grazing program.

With a continuing rise in mineral commodity prices, especially that of gold and silver, it would be reasonable to assume that one or more new precious metal mines could be developed within the CESA, especially in and around the historic mining districts. There is no way to accurately predict the size and extent of these future mines, though it can be reasonably assumed that they would be at least as large as the former Golden Butte Mine.

Wildlife use, especially yearlong habitat for mule deer and sage-grouse, is likely to continue. Habitat improvement projects are not planned for the area.

Management of wild horses is also likely to continue. The implementation of grazing plans and revisions based on allotment monitoring is expected to improve the range condition. Any improvement in the range condition would lessen the impacts of surface disturbance on the livestock, wildlife, and wild horses.

With the ongoing drought conditions in Northern Nevada, it can be expected that periodic wildfires (both natural and anthropogenic) with would occur throughout the CESA. The extent of these fires, and thus the potential impacts to vegetative and water resources, would depend on site-specific and meteorological conditions at the time, and cannot be predicted. Even in the absence of wildfires, the ongoing drought conditions could adversely affect vegetative and water resources in the area. In some cases, access roads would need to be constructed in order to facilitate the movement of firefighting equipment and personnel. In most cases, this disturbance would be managed and reclaimed by the BLM and/or participating agencies.

The ever-increasing need for energy, both from fossil fuel and renewable resources will play a considerably larger role in northern and eastern Nevada, as more coal is discovered along the western slope of the Rocky Mountains, and operators find favorable power generating locations in Utah and Nevada. Corridors for electrical transmission lines, pipelines for oil and gas, and rail lines to transport coal and spent nuclear waste, will crisscross Nevada, and, in some cases, may traverse the CESA of this project. These ROW and easement disturbances are typically permanent, at least with respect to the ten-year evaluation period of this assessment. The Robinson Wind project

intercepts the southern-most section of CESA. This proposed project includes wind turbine farm and a transmission line that connects to the SWIP.

5.5 Cumulative Impacts

In accordance with the guidance document, "Considering Cumulative Effects Under the National Environmental Policy Act" (CEQ, 1997), the potential cumulative impacts to the CESA for all of the resources presented and evaluated in Chapters 3 and 4, are discussed below.

5.5.1 Access and Land Use

Past Actions that have had impacts on land use within the CESA include the ROWs, mining operations, mineral exploration, grazing, wild horses, and recreation (especially off-road vehicle use) as the area is designated for multiple use.

Present Actions that are affecting land use include all of the actions identified above excluding the mining operation and in addition wind energy activity. Present Actions also include the notice-level mineral exploration activities being conducted by USG.

Reasonably foreseeable activities would disturb and disrupt small sections of the CESA existing land use for safety and security reasons that would be limited in duration to the life of the operations. Expectations are that the present activities described above, including livestock grazing, wildlife habitat, wild horse habitat, and dispersed recreation, would also continue into the future.

5.5.2 Air Quality

Past Actions that have had direct and temporary impacts to air quality, specifically particulate levels from fugitive dust, include mining operations, mineral exploration, grazing, wild horses, wildfires, and recreation (especially off-road vehicle use). The sources of fugitive dust are typically from any surface disturbance by either animal or man. Wind then erodes the disturbed soils and disperses the dust and debris. In the case of mineral exploration and development, the sources of fugitive dust would include clearing, earth moving, drilling, and wind erosion from waste rock dumps and growth media stockpiles.

Direct and temporary impacts to past air quality relating to gaseous pollutants include mineral exploration and recreation from equipment exhaust emissions, including mobile equipment and light vehicles. In addition, the former Golden Butte Mine may have had temporarily contributed chemical vapor emissions during the beneficiation of ores. These sources would have contributed to a reduction of air quality within the CESA.

Present Actions that are affecting air quality through either fugitive dust and gaseous emissions include all of the actions identified above, including the notice-level mineral exploration activities being conducted by USG.

Fugitive dust and vehicular combustion engine emissions associated with mineral exploration and development, oil and gas exploration and development, and wind energy generation is likely within the next ten years. These types of operations would

have direct and temporary, effects on air quality that would be limited in duration to the life of the operations. Expectations are that the present activities described above would also continue into the future.

5.5.3 Cultural Resources

Early humans tended to concentrate in areas with easy access to water resources. Because the Ely District manages resources on a watershed basis, the identified CESA is considered adequate for the cumulative impact assessment of cultural resources associated with these early inhabitants.

Generally, Past Activities that may have impacted cultural resources in the CESA have been relatively low key, resulting from ranching, scattered mining, wildfires, recreation, and unauthorized removal of archaeological artifacts. The actions were pre-FLPMA earth disturbing activities, and very little archaeological inventory has been completed to record past disturbance. This would have included historic mining activities, and even early historic mining and the Pony Express Trail (which may have itself destroyed artifacts and resources from earlier periods).

Present Actions that may affect cultural resources include mineral exploration and development, and land actions (exchanges, ROWs, easements, etc.). However, because these activities are post-FLPMA, the cultural survey and inventory requirements tend to lead to new discoveries, rather than the damage and obliteration of cultural resources. Discoveries made because of required surveys provide more information about past cultures, and allows for the avoidance and/or proper mitigation of resources, and is an important benefit of this minerals exploration project.

Like Present Actions, Future Actions would be governed by the same post-FLPMA requirements that are designed to identify and protect cultural resources. This would include any future mineral exploration and/or mine development, oil and gas exploration and development, and wind energy development. Wildfires in the area, however, would still have the potential to damage or destroy both known and unknown cultural resources. Reasonably foreseeable actions would continue to require cultural inventory, avoidance, and/or mitigations, and are not expected to differ much from the past and present impacts. Cumulative disturbance of cultural resources is expected to be minimal, while the inventory of these resources continues to increase.

Finally, increases in human activity in an area often result in deterioration of cultural resources due to such factors as unauthorized removal of artifacts, off-road vehicular travel, increased erosion, etc. Such impacts in the current Project Area are expected to be relatively low since work crews would be small and good access to the Project Area already exists. In addition, workers would be instructed on the proper actions to take if cultural resources are encountered. The implementation of the new Ely District RMP would also provide management direction for future land use, especially in the vicinity of the Pony Express Trail, which has very specific cultural and VRM protection requirements.

5.5.4 Geology and Mineral Resources

Past Actions that directly impacted geology and mineral resources are principally the exploration and mining of mineral deposits, thus reducing the known reserves of these mineral resources.

Present Actions that are affecting geology and mineral resources are the active mineral and oil exploration projects throughout the CESA.

Within the next ten years, there exists a higher potential for ongoing and future mineral exploration and development, as well as oil and gas exploration and possible development.

5.5.5 Invasive, Non-Native Species

Past Actions that have had effects on the occurrence and spread of invasive, non-native species include mining, mineral exploration, livestock and wild horse grazing, and any other activities that involved the disturbance of surface soils and vegetation enough to allow for the establishment of invasive, non-native species. This would also include the use of recreational, off-road vehicles that can not only create surface disturbance, but can transport invasive, non-native species into the area. Historically, these have been completely unregulated activities. Past fuels reduction projects as a means of creating fire breaks and "defensible space" in and around the town of Cherry Creek, has also resulted in the encroachment and establishment of invasive, non-native species.

The Present Actions that are affecting the establishment of invasive, non-native species are the same as the past actions, including the current exploration activities being conducted by USG under the approved notices. In addition, the gathering and removal of livestock and wild horses from the CESA has had the beneficial result of reducing the establishment of invasive, non-native species. Expectations are that the present activities described above would also continue into the future.

Reasonably foreseeable activities would have direct cumulative effects on the potential encroachment of invasive, non-native species. In addition, continued livestock grazing, dispersed recreation and wildfires are likely to increase the potential for encroachment and infestation of invasive, non-native species within the CESA.

5.5.6 Migratory Birds

See Section 5.5.19 – Wildlife.

5.5.7 American Indian Religious Concerns

In the past, activities involving the movement of non-native peoples through the area currently defined by the CESA were sometimes hostile in nature, especially along the Pony Express Trail corridor. Populations tend to colonize where water is available and travel is relatively easy, such as within watersheds. Therefore, the CESA is considered suitable for assessment of cumulative impacts to American Indian Religious Concerns (AIRC) from the Proposed Action.

The Present Actions that may be affecting NARC are the same as the past actions.

Within the next ten years, with the exception of potential mine development resulting from ongoing mineral exploration, there are no planned activities that would substantively affect NARC.

5.5.8 Rangeland Resources

Past Actions that have had effects on rangeland resources include livestock grazing, mineral exploration and mining, livestock water developments and wildfires.

The Present Actions that may be affecting range resources are the same as the past actions. Currently, term permits are being issued and are anticipated to continue to be issued in accordance with Title 43 CFR 4130.2(a). Grazing permits or leases shall be issued to qualified applicants to authorize use on the public lands and other lands under the administration of the BLM that are designated as available for livestock grazing through land use plans. These permit renewals are based on a determination of achievement of the Standards and Guidelines for grazing. Based on this determination, changes may or may not be made to these permits.

Reasonably foreseeable activities may restrict small portions of the CESA from use as range resource, and would have direct, but often temporary effects on range resource that would be limited in duration to the life of the operations. Expectations are that the present activities described above, including livestock grazing, wildlife habitat, wild horse habitat, and dispersed recreation, would also continue into the future.

5.5.9 Recreation

The CESA, which includes the major HUC 5 watershed and the smaller Egan Basin, watershed effectively covers the appropriate area for characterizing and quantifying recreation resources and management planning.

Past Actions that have had direct and temporary impacts to recreation, include mining operations, mineral exploration, grazing, and wildfires.

Present Actions that are affecting recreation include all of the actions identified above, including the notice-level mineral exploration activities being conducted by USG. Expectations are that the present activities would also continue into the future.

Reasonably foreseeable activities may temporarily restrict portions of the CESA from recreation for safety and security reasons, and could, as in the case of power generation and transmission, have direct and potentially permanent effects on recreation.

5.5.10 Riparian Zones

Past Actions that have impacts on riparian zones include livestock and wild horse grazing, and surface disturbance from animal or recreational travel.

The Present Actions that may be affecting riparian zones are the same as the past actions.

Within the next ten years there are no additional known sources that would affect riparian zones. However, expectations are that the present activities described above would also continue into the future.

5.5.11 Socioeconomics

Direct revenue from taxes, and indirect revenue from increased spending within the White Pine County would increase slightly, but the cumulative impact to White Pine County would be minimal from both the Proposed Action and No Action Alternatives. Due to continuing development within the CESA, cumulative impacts would increase. Depending on the nature of the reasonably foreseeable future projects that may be developed such a new mine, oil and gas development, and wind farms, the cumulative impact could be noticeable.

5.5.12 Soils

Past Actions that have had impacts on soil resources include mineral exploration where vegetation clearing, excavation, grading, and salvage of growth media soil disturbance, has occurred. Soil disturbances would have impeded maturation of soil development, degraded soil structure, and hindered soil biological activity. Wildlife, livestock, and wild horse habitat and recreational travel have also created surface disturbance, and exposed soils have been made susceptible to wind and water erosion.

The Present Actions that are affecting soil resources are the same as the past actions.

The access and construction disturbance associated with mineral exploration and development, oil and gas exploration and development, and wind energy generation is likely within the next ten years. These types of operations would have direct cumulative effects on soil resources through ground disturbing activities. Expectations are that the present activities described above would also continue into the future.

5.5.13 Solid Waste and Hazardous Materials

Past Actions that have had impacts to hazardous and solid materials include mining operations, mineral exploration, and casual recreation (especially off-road vehicle use).

The former Golden Butte Mine previously used hazardous materials and generated solid wastes. These sources have since been remediated or disposed of at approved facilities during reclamation.

Present Actions that are affecting hazardous materials and solid waste include all of the actions identified above, including the notice-level mineral exploration activities being conducted by USG. Currently, USG handles solid waste and hazardous materials, like fuel, according to state and federal regulations and BMPs. Any spills of petroleum products would be cleaned up and reported according to state regulations. Solid waste would be disposed at an off site approved facility.

Reasonably foreseeable activities would have direct and mostly temporary, effects on the amount of hazardous materials and solid waste that may be introduced into the area. Strict state and federal regulations should make any cumulative impacts limited and minimal.

5.5.14 State-Protected, BLM-Sensitive Species

See Section 5.5.19 – Wildlife.

5.5.15 Vegetation

Vegetation resources are typically connected with the hydrological regime of a given area. As such, the CESA, which includes the major HUC 5 watershed and the smaller Egan Basin, watershed effectively covers the appropriate area for characterizing cumulative impacts potentially resulting from the implementation of the Proposed Action.

Past Actions that have had impacts on vegetation include mineral exploration where vegetation clearing, excavation, grading, and salvage of growth media soil disturbance, has occurred. Wildlife, livestock, and wild horse habitat and recreational off-road travel have also created surface disturbance, resulting in the loss of vegetation.

The Present Actions that are affecting vegetation are the same as the past actions. Expectations are that the present activities described above would also continue into the future.

Reasonably foreseeable activities would have direct effects on vegetation within the CESA. Expectations are that the present activities described above would also continue into the future.

5.5.16 Visual Resources

Visual resources are typically assessed and managed according to the VRM areas. However, the three VRMs within the Project Area are each extensively larger than both the Project Area and the chosen CESA, so any effect would be insignificant relative to the size of the VRMs. Therefore, the smaller CESA more appropriately covers an area for characterizing and quantifying visual resource management and planning for purposes of evaluating this Proposed Action and any cumulative effects it may have.

Past Actions that have had direct and long-term impacts to visual resources include historic mining operations, whereas mineral exploration, grazing, wild horses, wildfires, and casual recreation (especially off-road vehicle use and hunting) have had direct and short-term impacts to visual resources.

Present Actions that are affecting visual resources include all of the actions identified above; including the notice-level mineral exploration activities being conducted by USG.

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. 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. The manmade features and mining disturbances are present and the proposed 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.

Wind energy generation is likely within the next ten years. This type of operation would have direct and permanent effects on visual resources. Likewise, wind turbines would also become a permanent fixture on the skyline. Expectations are that the present activities described above would also continue into the future. In the long term, mining activities could possibly continue within the view shed of the sites now on the National Register of Historic Places, and sites that may be nominated to the NRHP. In that event, view shed mitigation and treatments would need to be revisited at that time. Long-term disturbance to the look and feel of historic places is a cumulative effect that will need to be addressed prior to mining activities.

5.5.17 Water Quality – Drinking, Surface and Ground Waters

5.5.17.1 *Drinking Water*

There are no designated drinking water resources identified within the Project Area. A search of the Nevada Division of Water Resources database did not indicate any domestic water rights within the CESA (Hydrographic Basin 178B). No cumulative impacts to drinking water would occur.

5.5.17.2 *Surface Water*

The CESA boundary effectively covers the major watersheds and water basin that are used in characterizing and quantifying water quality resources and management planning.

Past Actions that have had effects on surface water quality involve surface disturbances that allow erosion that could enter drainages as runoff sediment. These surface disturbances include road construction, off-road travel, mining operations, mineral exploration, grazing, wild horses, recreation, and wildfires.

Present Actions that may be affecting surface water quality include the same activities, although no mines are currently in operation within the CESA.

Within the next ten years, continued mineral exploration and development, oil and gas exploration and development, and the development of wind energy within the CESA is highly probable. The development phases of these activities would likely require considerable disturbance and construction, especially new road construction. Expectations are that the present activities described above, including livestock grazing, wildlife habitat, wild horse habitat, and dispersed recreation, would also continue into the future.

Stormwater runoff from the Proposed Action could create additional erosion from constructed roads in the Project Area. The cumulative new disturbances could create additional erosion that could migrate to local drainages. However, this type of surface water only occurs during rare storm events and is very limited in duration. Overall, the minimal amount of surface water in the area should experience almost non detectable cumulative impacts even with future development of the CESA.

This sediment (considered to be negligible since drill water will be contained, and roads will be reclaimed) could migrate to local drainages. Only during major and rare storm events would this type of erosion be observed.

5.5.17.3 Groundwater

The CESA boundary effectively covers the major watersheds and water basin that are used in characterizing and quantifying water quality resources and management planning.

Past Actions that have had effects on groundwater include mineral exploration (subsurface drilling), mine development (Golden Butte Mine water production wells and mine dewatering), and ranching (livestock watering wells). Indirectly, any disruption of surface water flows could have had an impact on the recharge of groundwater within localized areas. The past actions, for the most part, tended to be pre-FLPMA, and therefore, unregulated. The Golden Butte Mine, however, was regulated by the Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation under Water Pollution Control Permit No. NEV8902. While some concern was raised over a leak of cyanide-containing solution from the ROM pregnant pond during its operation, groundwater in the vicinity of the mine is quite deep, and any impacts are considered unlikely.

Present Actions that may be affecting groundwater quality include the same activities, although no mines are currently in operation within the CESA. Expectations are that the present activities (including groundwater pumping for livestock watering) described above would also continue into the future.

Future actions could include a new mine in the area if exploration drilling is successful. Cumulative impacts to surface water from continued development within the CESA would depend on the type of development. Projects requiring a ground water source such as energy development and continued mining could tap water supplies, but recent ground water studies as documented in the environmental analysis of Golden Butte Mine indicate that development beyond the reasonably foreseeable future actions would need to occur to see a noticeable impact to ground water.

5.5.18 Wild Horses and Burros

Past Actions that have had effects on wild horses and burros include livestock grazing, mineral exploration and mining, water development springs, and wildfires. While most result in the degradation of suitable habitat for wild horses, wildfires have an added benefit of creating new forage for wild horses following reseeding and reclamation activities.

The Present Actions that may be affecting wild horses are the same as the past actions.

Within the next ten years, there are no additional known activities that would substantively affect wild horses. However, expectations are that the present activities described above would also continue into the future. Cumulative impacts on the wild horses in the CESA include the slight improvement (i.e., increase in forage) of disturbed habitat following reclamation of temporary ground disturbing activities, fragmentation

of existing habitat, displacement from increased noise in the area, and possibly bodily injury from motorized vehicle traffic. Most of these impacts would be temporary, transient and dispersed over several years depending on the nature of the development or action.

5.5.19 Wildlife (Including Threatened and Endangered Species (TES) and Migratory Birds)

Past Actions that have had effects on wildlife include livestock grazing, mineral exploration and mining, water developments, and wildfires. While most result in the degradation of suitable habitat for wildlife, TES species, and migratory birds, wildfires have an added benefit of creating new forage and habitat for some animals following reseeding and reclamation activities.

The Present Actions that may be affecting wildlife and TES species are the same as the past actions, including the current mineral exploration activities being conducted by USG. Expectations are that the present activities described above would also continue into the future.

The access and construction disturbance associated with wind energy generation, and the SWIP corridor, is likely within the next ten years. The potential of another mine exists if exploration is successful. These operations would have direct cumulative effects on available forage and wildlife habitat.

5.6 Irreversible and Irrecoverable Commitment of Resources

No irreversible and irretrievable commitment of resources is expected.

5.7 Cumulative Impact Conclusion

The Proposed Action, in combination with other past, present and reasonably foreseeable future actions, would add incrementally to the existing disturbance within the CESA for a variety of resources as analyzed above. The access and construction disturbance associated with mineral exploration and development, oil and gas exploration and development, and wind energy generation is likely within the next ten years. These types of operations would have direct cumulative effects on resources through ground disturbing activities. Expectations are that the present activities described above would also continue into the future. Overall, however, these cumulative impacts would be minor.

The No Action Alternative is expected to have the same cumulative impacts to groundwater resources as the Proposed Action, but on a smaller scale.

6.0 Mitigation and Monitoring

6.1 Proposed Mitigation

No additional mitigation is proposed as a result of the impact analysis. Best Management Practices, which are part of the proposed action and identified in Appendix A, serve to mitigate anticipated impacts. Additional mitigation would be reconsidered on a site-specific basis in the subsequent site-specific EAs, if necessary.

6.2 Proposed Monitoring

No additional monitoring is proposed as a result of the impact analysis. Additional monitoring would be reconsidered on a site-specific basis in the subsequent site-specific EAs, as warranted.

7.0 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; consultation with Native American tribes; review of company and agency files; field reconnaissance; and review of supporting documentation.

7.1 List of Preparers

7.1.1 U.S. Bureau of Land Management - Ely District Office

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Kathleen L McConnell	Cultural Resources
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7.1.2 SRK Consulting (U.S.), Inc.

Mark Willow	Project Manager
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7.2 Persons, Groups, or Agencies Consulted

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

7.2.1 US-Gold

Jim Smithson Environmental Manager

Devon Parker Exploration Geologist

7.2.2 Nevada Department of Wildlife

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7.2.3 Nevada Natural Heritage Program

Eric S. Miskow Biologist III/Data Manager

7.2.4 Nevada Bureau of Mining Regulation and Reclamation

Todd Seussmith Permit Writer, Reclamation Branch

7.3 Public Notice and Availability

On February 8, 2008 a public letter was sent out to inform the local tribes of the Proposed Action. The documents are available on the Ely District website.

http://www.blm.gov/nv/st/en/fo/ely_field_office.html

Scoping letters were sent to interested persons and organizations on the Ely District mailing list, including the Nevada State Clearing House, interested horse advocacy groups, the affected grazing permittees, local Native American tribe, and other interested parties, including those identified earlier as having ROWs within the Project Area. Copies of the Limousine Butte Exploration Program Environmental Assessment can be obtained at the BLM Ely District or on the web at:

http://www.blm.gov/nv/st/en/fo/ely_field_office.html

Native American Consultation

Native American coordination between the Ely BLM and the Duckwater Shoshone tribes took place during the February 14 coordination meeting. Tribes unable to participate were mailed a CD-R (Compact Disc-Recordable) disc containing notes of the meeting and maps. This process gives tribes the opportunity to participate in the NEPA process prior to public release of the draft document.

No comments were received during the public and Native American scoping period.

8.0 References

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The following federal statutes were reviewed during the preparation of this environmental assessment:

- American Indian Religious Freedom Act 1978 (42 U.S.C. 1996)
- Clean Water Act of 1977 (33 U.S.C. 1251 *et seq.*)
- Clean Air Act as amended (42 U.S.C. 7401 *et seq.*)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended (42 U.S.C. 9615)
- Endangered Species Act of 1973 as amended (16 U.S.C. 1531)
- Executive Order 11988, as amended, Floodplain Management. May 24, 1977.
- Executive Order 11990, Protection of Wetlands. May 24, 1977.
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. February 11, 1994.
- Federal Land Policy and Management Act of 1976. (43 U.S.C. 1701 *et seq.*)
- National Historic Preservation Act as amended (16 U.S.C. 470)
- Public Rangelands Improvement Act of 1978

- Resource Conservation and Recovery Act of 1976 (42 U.S.C. 6901 *et seq.*)
- Safe Drinking Water Act as amended (42 U.S.C. 300f *et seq.*)
- Surface Mining Control and Reclamation Act of 1977 (30 U.S.C. 1201 *et seq.*)
- Wild and Scenic Rivers Act as amended (16 U.S.C. 1271)
- Wilderness Act of 1964 (16 U.S.C. 1131 *et seq.*)

Figures

Appendix A

Best Management Practices

BEST MANAGEMENT PRACTICES (BMPs)

Air Resources

1. Use dust abatement techniques on unpaved, unvegetated surfaces to minimize airborne dust.
2. Post and enforce speed limits (e.g., 25 miles per hour) to reduce airborne fugitive dust.
3. Cover construction materials and stockpiled soils if they are a source of fugitive dust.
4. Use dust abatement techniques before and during surface clearing, and excavation activities.

Water Resources

5. Construct a containment barrier around all pumps utilized within 100 feet (30.5 meters) of a stream channel. The containment barrier would be of sufficient size to contain all fuel being stored or used on site.
6. A water well may be accepted by the BLM Ely District upon completion of operations. The BLM authorized officer will make the determination whether to accept the well based upon the submission of the well completion forms and relevant hydrogeologic data reports. The well must be installed by drillers licensed by the state of Nevada according to specifications in Nevada Revised Statutes Title 48, Chapter 534.
7. All drill holes must be plugged per Nevada State statute (Division of Water Resources "Regulations for Water Well and Related Drilling") as warranted. 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 District 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.

Soil Resources

8. Require the use of specialized low-surface impact equipment (e.g., balloon tired vehicles) or helicopters, as determined by the BLM Authorized Officer, for activities in off-road areas where it is deemed necessary to protect fragile soils and other resource values.
 9. During periods of adverse soil moisture conditions caused by climatic factors such as thawing, heavy rains, snow, flooding, or drought, suspend activities on existing roads that could create excessive surface rutting. When adverse conditions exist, the operator would contact the BLM Authorized Officer for an evaluation and decision based on soil types, soil moisture, slope, vegetation, and cover.
 10. When preparing the site for reclamation, include contour furrowing, terracing, reduction of steep cut and fill slopes, and the installation of water bars, as determined appropriate for site-specific conditions.
 11. Restoration requirements include reshaping, re-contouring, and/or resurfacing with topsoil, installation of water bars, and seeding on the contour. Removal of structures such as culverts, concrete pads, cattle guards, and signs would usually be required. Fertilization and/or fencing of the disturbance may be required. Additional erosion control measures (e.g., fiber matting and barriers) to discourage road travel may be required.
 12. 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.
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13. 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.
14. 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.

Vegetation Resources

15. Where seeding is required, use appropriate seed mixture and seeding techniques approved by the BLM Authorized Officer.
16. Keep removal and disturbance of vegetation to a minimum through construction site management (e.g., using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.).
17. Generally, conduct reclamation with native seeds that are representative of the indigenous species present in the adjacent habitat. Document rationale for potential seeding with selected nonnative species. Possible exceptions would include use of nonnative species for a temporary cover crop to out-complete weeds. In all cases, ensure seed mixes are approved by the BLM Authorized Officer prior to planting.
18. An 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. Use the Nevada Guidelines for Successful Revegetation prepared by the Nevada Division of Environmental Protection, the BLM, and the U.S. Department of Agriculture Forest Service (or most current revision or replacement of this document) to determine if revegetation is successful.
19. Reclamation bond release criteria would include the following:
 - The perennial plant cover of the reclaimed area would equal or exceed perennial cover of selected comparison areas (normally adjacent habitat). If the adjacent habitat is severely disturbed, an ecological site description may be used as a cover standard. Cover is normally crown cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST- 96/002+1730. The reclamation plan for the area project would identify the site-specific release criteria and associated statistical methods in the reclamation plan or permit.
20. Respread weed-free vegetation removed from the right-of-way to provide protection, nutrient recycling, and seed source.
21. 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.

Fish and Wildlife

22. Install wildlife escape ramps in all watering troughs, including temporary water haul facilities,. Pipe the overflow away from the last water trough on an open system to provide water at ground level.
 23. As appropriate, mark certain trees on BLM-administered lands for protection as wildlife trees.
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24. Protect active raptor nests in undisturbed areas within 0.25 mile of areas proposed for vegetation conversion using species-specific protection measures. Inventory areas containing suitable nesting habitat for active raptor nests prior to the initiation of any project.
25. Any new disturbance commencing between April 15 and July 15 must first be surveyed for nesting migratory birds. If nests are found, the project may be moved or delayed until July 15.
26. Mule Deer Habitat BMP - 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.

Special Status Species

27. Do not conduct noxious and invasive weed control within 0.5 mile of nesting and brood rearing areas for special status species during the nesting and brood rearing season.
28. To the greatest extent possible, survey all mine adits and shafts slated for closure for bat presence and use prior to being closed. Minimize impacts to bat roosts and bat habitat through the use of current science, guidelines, and methodologies when closing and abandoning mine adits.
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.
 - Pygmy Rabbit. BMP - Within the Ely District, there are favorable habitats selected by pygmy rabbits as burrowing areas. Therefore, prior to entry into these areas the operator will discuss the proposed activities with the Bureau of Land Management's 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.

Wild Horses

30. To protect wild horses and wildlife flag all new fences every 16 feet with white flagging that is at least 1 inch wide and has at least 12 inches hanging free from the top wire of the fence.
 31. If a project involves heavy or sustained traffic, require road signs for safety and protection of wild horses and wildlife.
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32. Under no circumstances will wild horses, burros, wildlife, or livestock be willfully harassed. When traveling roads, all livestock gates will be closed after use.

Cultural Resources

33. Cultural Resource inventories will be completed by BLM or BLM-approved cultural resource permit holders.
 34. A complete Class I map and archive search will be conducted at the Ely District archives prior to ground disturbing activities, and a prehistoric and historic context and a treatment plan will be developed and written prior to fieldwork, as per BLM Protocol and Section 106.
 35. A Fieldwork Authorization will be obtained by the contracting company, from the Ely District, prior to fieldwork.
 36. 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. This includes roads that will be graded or re-graded, drill sites, cross-country travel routes where repeated travel, more than three times, is anticipated, also well sites that will provide the water needed for drilling operations.
 37. The BLM may approve cross-country operations of seismic trucks and support vehicles on bare frozen ground or over sufficient snow depth (vehicle traffic does not reveal the ground) so as to prevent surface disturbance.
 38. 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 mitigation in that area is completed.
 39. Ensure that all activities within 100 meters of the discovery are halted and the discovery is appropriately protected, until the BLM authorized officer issues a Notice to Proceed. A Notice to Proceed may be issued by the BLM under any of the following conditions:
 - Evaluation of potentially eligible resource(s) results in a determination that the resource(s) are not eligible;
 - The fieldwork phase of the mitigation and treatment has been completed; and
 - The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work.
 40. Archaeological monitors may be required in special cases to avoid cultural resources in close proximity to where mineral activities will be carried out. The BLM archaeologist will be informed prior to mineral activities in close proximity to these cultural resources that require monitoring.
 41. The operator will inform all persons associated with the project that knowingly disturbing cultural resources (historic or archaeological) or collecting artifacts is illegal.
 42. Ground disturbing activities within the view shed of sites now on the National Register of Historic places will be discussed with the BLM archaeologist prior to proceeding.
 43. View sheds of cultural resources now on the National Register of Historic places will be reclaimed after mining exploration activities, to as natural a condition as possible.
 44. A Final Report of Cultural Resources will be written by the contracting company, reviewed by the BLM archaeologist, and approved by SHPO at the end of mining exploration activities.
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Paleontological Resources

45. When paleontological resources of potential scientific interest are encountered (including all vertebrate fossils and deposits of petrified wood), leave them intact and immediately bring them to the attention of the BLM Authorized Officer.

Visual Resources

46. During the implementation of vegetation treatments, create irregular margins around treatment areas to better maintain the existing scenic character of the landscape.
47. 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.

Travel Management and Off-highway Vehicle Use

48. Design access roads requiring construction with cut and fill to minimize surface disturbance and take into account the character of the landform, natural contours, cut material, depth of cut, where the fill material would be deposited, resource concerns, and visual contrast. Avoid construction of access roads on steep hillsides and near watercourses where alternate routes provide adequate access.
49. Where adverse impacts or safety considerations warrant, limit or prohibit public access when authorizing specific routes to areas or sites under permit or lease.

Recreation

50. Do not allow surface or underground disturbance to occur within 100 yards (horizontally or vertically) of known cave resources.
51. Where appropriate, do not allow ground disturbing activities within 100 yards of cave entrances, drainage areas, subsurface passages, and developed recreation sites. Do not dispose of waste material or chemicals in sinkholes or gates by cave entrances. If during construction activities any sinkholes or cave openings are discovered, cease construction activities and notify the BLM authorized officer.

Mineral Exploration and Extraction

52. Notify the BLM authorized officer within 5 days of completion of reclamation work so that timely compliance inspections can be completed.
 53. Any change or amendment to your minerals operation must be brought to the attention of the Ely District Manager or an authorized officer prior to implementation of the change on the ground.
 54. 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.
 55. All survey monuments, claim markers, witness corners, reference monuments, bearing trees, etc., must be protected against destruction, obliteration or damage. When operations are
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concluded, the operator will remove all survey markers, stakes, flagging, etc., for which the operator has no further need.

56. 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.

Fire Management

57. Within the area of operation, every effort will be made to prevent, control, or suppress any fire. Fire-fighting equipment may be required to be on site while operations are in progress, depending on hazards inherent in the type of operation and fire hazard levels. Report uncontrolled fires immediately to the BLM Ely District 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.

Noxious and Invasive Weed Management

58. 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.
 59. 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 and tires, and on the undercarriage. Special emphasis will be applied to axels, 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 global positioning systems or other mutually acceptable equipment and provided to the District Weed Coordinator or designated contact person.
 60. 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. These sites will be recorded using global positioning systems or other Ely District approved equipment and provided to the District Weed Coordinator or designated contact person.
 61. 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 importance of controlling existing populations of weeds will be explained.
 62. 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
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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. Further all source sites such as borrow pits, fill sources, or gravel pits used to supply inorganic materials used for construction, maintenance, or reclamation will be inspected and found to be free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District. Inspections will be conducted by a weed scientist of qualified biologist.

63. 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, appropriated 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-administered 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. 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 the fiscal year follow chemical application.
 64. 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.
 65. No noxious weeds will be allowed on the site for reclamation release. Any noxious weeds that become established will be controlled. Bonds will be retained for weed control until the site is returned to desired vegetative conditions
 66. To eliminate the introduction of noxious weed seeds, roots, or rhizomes all interim and final seed mixes, hay, straw, hay/straw, or other organic products used for reclamation or stabilization activities, feed, bedding will be certified free of plant species listed on the Nevada noxious weed list or specifically identified by the BLM Ely District.
 67. Removal and disturbance of vegetation would be kept to a minimum through construction site management (e.g. using previously disturbed areas and existing easements, limiting equipment/materials storage and staging area sites, etc.)
 68. Reclamation would normally be accomplished with native seeds only. These would be representative of the indigenous species present in the adjacent habitat. Rationale for potential seeding with selected nonnative species would be documented. Possible exceptions would include use of non-native species for a temporary cover crop to out-compete weeds. Where large acreages are burned by fires and seeding is required for erosion control, all native species could be cost prohibitive and/or unavailable. In all cases, seed mixes would be approved by the BLM Authorized Officer prior to planting.
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69. Mixing of herbicides and rinsing of herbicide containers and spray equipment would be conducted only in areas that are safe distance from environmentally sensitive areas and points of entry to bodies of water (storm drains, irrigation ditches, streams, lakes, or wells).
70. Methods used to accomplish weed and insect control objectives would consider seasonal distribution of large wildlife species.

Hazardous Materials

71. Properly dispose of all deleterious materials or substances. Take measures to isolate, control, and properly dispose of toxic and hazardous materials.
 72. Remove and properly dispose of all trash, garbage, debris, and foreign matter. Maintain the disposal site and leave it in a clean and safe condition. Do not allow burning at the site.
 73. Do not drain oil or lubricants onto the ground surface. Notify the BLM Authorized Officer, the NDEP, and the National Response Center of all reportable quantities of hazardous substances and or oil released on public land as required; spills must be cleaned up in accordance with local, state and federal regulations.
 74. The operator will work with the BLM Authorized Officer on the containment of drilling fluids and drill hole cuttings. Adequately fence, post, or cover mud and separation pits, and hazardous material storage areas.
 75. Containerized petroleum products such as gasoline, diesel fuel, helicopter fuel, and lubricants in approved containers. Properly store hazardous materials in separate containers to prevent mixing, drainage, or accidents.
 76. 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.
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Appendix B

Spill Prevention Plan

Appendix C

Bird Species, Including Migratory Species, Possibly Occurring in the Ely District

Table C-1: Bird Species Including Migratory Species Possibly Occurring in the Ely District

*SAGE-GROUSE	BROAD-TAILED HUMMINGBIRD	AMERICAN ROBIN	SPOTTED SANDPIPER
BREWER'S SPARROW	*LEWIS' WOODPECKER		WILSON'S SNIPE
SAGE SPARROW	WILLIAMSON'S SAPSUCKER	YELLOW-RUMPED WARBLER	BLACK-CHINNED HUMMINGBIRD
*VESPER SPARROW	DOWNY WOODPECKER	BLACK-THROATED GRAY WARBLER	YELLOW WARBLER
BLACK-THROATED SPARROW	HAIRY WOODPECKER		MACGILLIVRAY'S WARBLER
SAGE THRASHER	NORTHERN FLICKER	WESTERN Tanager	SONG SPARROW
*BURROWING OWL	WESTERN WOOD PEWEE	GREEN-TAILED TOWHEE	BLACK-HEADED GROSBEAK
*LOGGERHEAD SHRIKE	HAMMOND'S FLYCATCHER	SPOTTED TOWHEE	LAZULI BUNTING
*FERRUGINOUS HAWK	GRAY FLYCATCHER	CHIPPING SPARROW	RED-WINGED BLACKBIRD
*PRAIRIE FALCON	DUSKY FLYCATCHER	LARK SPARROW	YELLOW-HEADED BLACKBIRD
*FLAMMULATED OWL	CORDILLERAN FLYCATCHER	SAVANNAH SPARROW	BREWER'S BLACKBIRD
*RED-NAPED SAPSUCKER	SAY'S PHOEBE	FOX SPARROW	GREAT-TAILED GRACKLE
*GRAY VIREO	ASH-THROATED FLYCATCHER	WHITE-CROWNED SPARROW	BULLOCK'S ORIOLE
*PINYON JAY	WESTERN KINGBIRD	DARK-EYED JUNCO	GADWALL
*JUNIPER TITMOUSE	PLUMBEOUS VIREO	WESTERN MEADOWLARK	MALLARD
*BLACK ROSY-FINCH	WARBLING VIREO	BROWN-HEADED COWBIRD	CINNAMON TEAL
*NORTHERN GOSHAWK	STELLER'S JAY	CASSIN'S FINCH	NORTHERN SHOVELER
*GOLDEN EAGLE	WESTERN SCRUB JAY	HOUSE FINCH	NORTHERN PINTAIL
*SHORT-EARED OWL	CLARK'S NUTCRACKER	RED CROSSBILL	GREEN-WINGED TEAL
*LONG-EARED OWL	BLACK-BILLED MAGPIE	PINE SISKIN	CANVAS BACK
*PEREGRINE FALCON	AMERICAN CROW	HOUSE SPARROW (EXOTIC)	REDHEAD
VIRGINIA'S WARBLER	COMMON RAVEN	TURKEY VULTURE	RING-NECKED DUCK
CHUKAR (EXOTIC)	HORNED LARK	CALIFORNIA QUAIL	RUDDY DUCK
GRAY PARTRIDGE (EXOTIC)	TREE SWALLOW	COMMON POORWILL	EARED GREBE
RUFFED GROUSE (EXOTIC)	VIOLET-GREEN SWALLOW	CLIFF SWALLOW	DOUBLE-CRESTED CORMORANT
SOOTY/DUSKY GROUSE	BARN SWALLOW	BLACK-CAPPED CHICKADEE	AMERICAN BITTERN
NORTHERN HARRIER	MOUNTAIN CHICKADEE	BEWICK'S WREN	GREAT BLUE HERON
SHARP-SHINNED HAWK	BUSHTIT	NORTHERN MOCKINGBIRD	VIRGINIA RAIL
COOPER'S HAWK	RED-BREASTED NUTHATCH	CEDAR WAXWING	SORA
*SWAINSON'S HAWK	WHITE-BREASTED NUTHATCH	ORANGE CROWNED WARBLER	AMERICAN AVOCET
RED-TAILED HAWK	BROWN CREEPER	INDIGO BUNTING	WILLET
AMERICAN KESTREL	ROCK WREN	SCOTT'S ORIOLE	NORTHERN ROUGH-WINGED SWALLOW
KILLDEER	CANYON WREN	AMERICAN DIPPER	
MOURNING DOVE	HOUSE WREN	*YELLOW-BREASTED CHAT	MARSH WREN
WESTERN SCREECH OWL	RUBY-CROWNED KINGLET	*SANDHILL CRANE	SWAINSON'S THRUSH
GREAT HORNED OWL	BLUE-GRAY GNATCATCHER	*LONG-BILLED CURLEW	COMMON YELLOW THROAT
COMMON NIGHTHAWK	MOUNTAIN BLUEBIRD	PIED-BILLED GREBE	WILSON'S WARBLER
WHITE-THROATED SWIFT	TOWNSEND'S SOLITAIRE	WHITE-FACED IBIS	LESSER GOLDFINCH
CALLIOPE HUMMINGBIRD	HERMIT THRUSH	AMERICAN COOT	WILSON'S PHALAROPE

*-sensitive species

Appendix D

Special Status Species

Special Status Species that May Occur within the Ely District

Common Name	Scientific Name	Habitat Type	Special Status Species	
			U. S. Fish and Wildlife Service	BLM Sensitive Species
MAMMALS				
Pallid bat	<i>Antrozous pallidus</i>	All		X
Pygmy rabbit	<i>Brachylagus idahoensis</i>	SB; MDV		X
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	All		X
Spotted bat	<i>Euderma maculatum</i>	All		X
Silver-haired bat	<i>Lasionycteris noctivagans</i>	R-W; PJ; MC/A		X
Hoary bat	<i>Lasiurus cinereus</i>	R-W; PJ; MC/A		X
Californis myotis	<i>Myotis californicus</i>	All		X
Small-footed myotis	<i>Myotis ciliolabrum</i>	All		X
Long-eared myotis	<i>Myotis evotis</i>	All		X
Little brown myotis	<i>Myotis lucifugus</i>	All		X
Fringed myotis	<i>Myotis thysanodes</i>	All		X
Long-legged myotis	<i>Myotis volans</i>	Pj; MC/A		X
Yuma myotis	<i>Myotis yumanensis</i>	All		X
Desert Bighorn sheep	<i>Ovis canadensis nelsoni</i>	MM		X
Western pipistrelle bat	<i>Pipistrellus hesperus</i>	All		X
Brazilian free-tailed bat	<i>Tadarida brazilliensis</i>	All		X
BIRDS				
Northern goshawk	<i>Accipiter gentiles</i>	MC/A; R-W; SB		X
Golden Eagle	<i>Aquila chrysaetos</i>	All		X
Short-eared owl	<i>Asio flammeus</i>	R-W		X
Long-eared owl	<i>Asio otus</i>	R-W; MC; MDV		X
Western burrowing owl	<i>Athene cunicularia hypugea</i>	SB; MDV		X
Juniper titmouse	<i>Baeolophus griseus</i>	MC; SB; MDV		X
Ferruginous hawk	<i>Buteo regalis</i>	PJ; R-W; MDV;		X

Common Name	Scientific Name	Habitat Type	Special Status Species	
			U. S. Fish and Wildlife Service	BLM Sensitive Species
		SB		
Swainson's hawk	<i>Butea swainsoni</i>	PJ; MDV; SB		X
Greater sage grouse	<i>Centrocercus urophasianus</i>	R-W; SB		X
Western snowy plover	<i>Charadrius alexandrinus nivosus</i>	R-W		X
Black tern	<i>Chlidonias niger</i>	R-W		X
Praire falcon	<i>Falco mexicanus</i>	MDV		X
Sandhill crane	<i>Grus canadensis</i>	R-W		X
Pinyon jay	<i>Gymnorhinus</i>	R-W; MC; MDV		X
Bald eagle	<i>Haliaeetus leucocephalus</i>	R-W	LT	
Yellow-breasted chat	<i>Icteria virens</i>	R-W		X
Least bittern	<i>Ixobrychus exilis</i>	R-W		X
Loggerhead shrike	<i>Lanius ludovicianus</i>	PJ; SB		X
Black rosy-finch	<i>Leucosticte atrata</i>	SB;		X
Lewi's woodpecker	<i>Melanerpes lewis</i>	R-W		X
Long-billed curlew	<i>Numenius americanus</i>	R-W		X
Flammulated owl	<i>Otus flammeolus</i>	PJ; MC/A		X
Vesper sparrow	<i>Pooecetes gramineus</i>	SB; MDV; PJ		X
Red-naped sapsucker	<i>Sphyrapicus nuchalis</i>	MC; R-W		X
REPTILES				
Sonoran mountain kingsnake	<i>Lampropeltis pyromelana</i>	R-W; MC; SB; MDV		X
Short-horned lizard	<i>Phrynosoma douglassii</i>	WC; SB; MDV		X
AMPHIBIANS				
Northern leopard frog	<i>Rana pipens</i>	R-W		X
FISH				
White river desert sucker	<i>Catostomus clarki intermedius</i>	R-W		X
Preston White River springfish	<i>Crenichthys baileyi albivallis</i>	R-W		X

Common Name	Scientific Name	Habitat Type	Special Status Species	
			U. S. Fish and Wildlife Service	BLM Sensitive Species
Pahrump poolfish	<i>Empetrichthys latos</i>	R-W	LE	
Newark Valley tui chub	<i>Gila bicolor newarkensis</i>	R-W		X
Railroad Valley tui chub	<i>Gila bicolor ssp.</i>	R-W		X
White River spinedace	<i>Lepidomeda albivallis</i>	R-W		X
Bonneville cutthroat trout	<i>Oncorhynchus clarki utah</i>	R-W		X
Relict dace	<i>Relictus solitarius</i>	R-W		X
White River speckled dace	<i>Rhinichthys osculus ssp.</i>	R-W		X
INVERTEBRATES				
White River wood nymph	<i>Cercyonis pegala pluvialis</i>	R-W		X
Baking Powder Flat Blue	<i>Euphilotes bernadino minuta</i>	MDV		X
Koret's checkerspot	<i>Euphydryas editha koreti</i>	MC/A		X
White River uncas skipper	<i>Hesperia uncas grandiosa</i>	R-W		X
Schell Creek mountainsnail	<i>Oreohelix nevadensis</i>	R-W		X
Steptoe Valley crescent spot	<i>Phyciodes arenacolor pascoensis</i>	R-W		X
Transverse gland pyrg	<i>Pyrgulopsis cruciglans</i>	R-W		X
Spring Mountains pyrg	<i>Pyrgulopsis deaconi</i>	R-W		X
Landyes pyrg	<i>Pyrgulopsis landeyi</i>	R-W		X
Sub-globose Steptoe Ranch pyrg	<i>Pyrgulopsis orbiculata</i>	R-W		X
Bifid duct pyrg	<i>Pyrgulopsis peculiaris</i>	R-W		X
Southern Steptoe pyrg	<i>Pyrgulopsis sulcata</i>	R-W		X
PLANTS				
Eastwood milkweed	<i>Asclepias eastwoodiana</i>	PJ; SB; MDV; MC		X
White River catseye; Welsh catseye	<i>Cryptantha welshii</i>	PJ		X
Waxflower	<i>Jamesia tetrapetala</i>	MM		X
Tunnel Springs beardtongue	<i>Penstemon concinnus</i>	PJ		X

Common Name	Scientific Name	Habitat Type	Special Status Species	
			U. S. Fish and Wildlife Service	BLM Sensitive Species
Parish phacelia; playa phacelia	<i>Phacelia parishii</i>	MDV		X
Jan's catchfly; Nachlinger catchfly	<i>Silene nachlingerae</i>	MC/A		X
Rock violet	<i>Viola lithion</i>	MC/A		X

USFWS Status

- LE - Federally listed as endangered
- LT - Federally listed as threatened

Habitat Type

- PJ - Pinyon-Juniper Woodlands
- A – Aspen
- C - High-elevation Conifer
- R-W - Riparian-Wetlands
- MM - Mountain Mahogany
- SB – Sagebrush
- SDS - Salt Desert Shrub
- MDV - Mojave Desert Vegetation
- NNS - Non-Native Seedings
- MC - Mixed Conifer
- MG - Mixed Grasses

