

# PRELIMINARY ENVIRONMENTAL ASSESSMENT

DOI-BLM-NV-WO10-2012-021-EA

Stockpile Reserves, LLC.

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Fencemaker Antimony Mining Project



Photograph: View of proposed operation area and existing mine entrance.

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*Prepared by:*

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**STOCKPILE RESERVES LLC.  
FENCEMAKER ANTIMONY MINING PROJECT  
PERSHING COUNTY, NEVADA  
PRELIMINARY ENVIRONMENTAL ASSESSMENT**

**TABLE OF CONTENTS**

	Page
<b>ACRONYMS</b> .....	iv
<b>1 INTRODUCTION</b> .....	1
1.1 Introduction.....	1
1.2 Purpose and Need .....	2
1.3 Land Use Conformance Statement .....	2
1.4 Relationship to Laws, Regulations, and Other Plans.....	2
1.5 Issues.....	2
<b>2 ALTERNATIVES INCLUDING THE PROPOSED ACTION</b> .....	4
2.1 Proposed Action.....	4
2.2 Existing Facilities.....	4
2.2.1 Location and Access .....	5
2.2.2 Underground Mining .....	5
2.2.3 Operations Area .....	5
2.2.4 Safety and Access .....	6
2.2.5 Work Force .....	6
2.2.6 Security .....	6
2.2.7 Equipment.....	6
2.2.8 Water Use.....	7
2.2.9 Solid and Hazardous Materials .....	7
2.2.10 Reclamation.....	8
2.2.11 Surface Occupancy .....	9
2.2.12 Monitoring.....	9
2.2.13 Environmental Protection Measures .....	9
2.3 No Action Alternative.....	12
2.4 Alternatives Considered but Eliminated from Detailed Study .....	12
2.4.1 Open Pit Alternative .....	12
<b>3 AFFECTED ENVIRONMENT</b> .....	13
3.1 Introduction.....	13
3.2 Air Quality .....	16
3.3 Cultural Resources .....	16
3.4 Invasive and Nonnative Species .....	17
3.5 Migratory Birds.....	18
3.6 Native American Religious Concerns.....	18
3.7 Water Quality.....	19
3.8 Geology.....	20
3.9 Paleontology .....	20
3.10 Public Access .....	21
3.11 Rangeland Management.....	21

3.12	Recreation .....	22
3.13	Soils.....	22
3.14	Special Status Species.....	22
3.15	Vegetation.....	24
3.16	Visual Resources.....	25
3.17	Wildlife.....	25
<b>4</b>	<b>ENVIRONMENTAL CONSEQUENCES.....</b>	<b>27</b>
4.1	Proposed Action.....	27
4.1.1	Air Quality .....	27
4.1.2	Cultural Resources .....	27
4.1.3	Invasive and Nonnative Species .....	27
4.1.4	Migratory Birds.....	28
4.1.5	Native American Religious Concerns.....	28
4.1.6	Water Quality.....	29
4.1.7	Geology.....	29
4.1.8	Paleontology .....	30
4.1.9	Public Access.....	30
4.1.10	Rangeland Management .....	30
4.1.11	Recreation .....	31
4.1.12	Soils .....	31
4.1.13	Special Status Species.....	31
4.1.14	Vegetation.....	32
4.1.15	Visual Resources.....	32
4.1.16	Wildlife.....	32
4.2	No Action Alternative.....	32
4.2.1	Air Quality .....	33
4.2.2	Cultural Resources .....	33
4.2.3	Invasive, Nonnative Species .....	33
4.2.4	Migratory Birds.....	33
4.2.5	Native American Religious Concerns.....	34
4.2.6	Water Quality.....	34
4.2.7	Geology.....	34
4.2.8	Paleontology .....	34
4.2.9	Public Access.....	34
4.2.10	Rangeland Management .....	35
4.2.11	Recreation .....	35
4.2.12	Soils .....	35
4.2.13	Special Status Species.....	35
4.2.14	Vegetation.....	35
4.2.15	Visual Resources.....	35
4.2.16	Wildlife.....	35
<b>5</b>	<b>CUMULATIVE IMPACTS.....</b>	<b>36</b>
5.1	Assumptions for Analysis.....	36
5.2	Past and Present Actions.....	37
5.3	Reasonably Foreseeable Future Actions.....	38
5.4	Cumulative Impacts .....	39
5.4.1	Air Quality .....	39

5.4.2	Invasive, Nonnative Species .....	39
5.4.3	Migratory Birds.....	40
5.4.4	Native American Religious Concerns.....	41
5.4.5	Geology.....	42
5.4.6	Public Access.....	42
5.4.7	Soils .....	42
5.4.8	Special Status Species.....	43
5.4.9	Vegetation.....	43
5.4.10	Visual Resources.....	44
5.4.11	Wildlife .....	45
<b>6</b>	<b>MITIGATION AND MONITORING.....</b>	<b>46</b>
6.1	Proposed Action.....	46
6.2	No Action Alternative.....	48
<b>7</b>	<b>LIST OF PREPARERS.....</b>	<b>49</b>
<b>8</b>	<b>CONSULTATION AND COORDINATION.....</b>	<b>50</b>
<b>9</b>	<b>PUBLIC INVOLVEMENT.....</b>	<b>51</b>
<b>10</b>	<b>REFERENCES.....</b>	<b>60</b>

**LIST OF FIGURES**

<b>Figure 1:</b>	<b>General Location Map</b>
<b>Figure 2:</b>	<b>Project Location Map</b>
<b>Figure 3:</b>	<b>Existing Disturbance and Proposed Project Map</b>
<b>Figure 4:</b>	<b>Proposed Action Map</b>
<b>Figure 5:</b>	<b>Cumulative Assessment Map</b>

**LIST OF TABLES**

<b>Table 2.1-1:</b>	<b>Existing and Proposed Project Disturbance.....</b>	<b>4</b>
<b>Table 2.1-2:</b>	<b>Anticipated Reclamation Schedule.....</b>	<b>8</b>
<b>Table 2.1-3:</b>	<b>Proposed Seed Mix.....</b>	<b>9</b>
<b>Table 3.1-1:</b>	<b>Supplemental Authorities (Critical Elements of the Human Environment) .....</b>	<b>15</b>
<b>Table 3.1-2:</b>	<b>Additional Affected Resources.....</b>	<b>15</b>

## ACRONYMS

amsl	above mean sea level
BAPC	Bureau of Air Pollution Control
BLM	Bureau of Land Management
BMPs	Best Management Practices
BMRR	Bureau of Mining Regulation and Reclamation
CESAs	Cumulative Effects Study Areas
CFR	Code of Federal Regulations
CO	carbon monoxide
EA	Environmental Assessment
ESA	Endangered Species Act
°F	degrees Fahrenheit
HRFO	Humboldt River Field Office
HUC	Hydrologic Unit Code
FLPMA	Federal Land Policy and Management Act
MBTA	Migratory Bird Treaty Act
MDB&M	Mount Diablo Base and Meridian
MFP	Management Framework Plan
MOU	Memorandum of Understanding
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDWR	Nevada Division of Water Resources
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NNHP	Nevada Natural Heritage Program
NSAAQS	Nevada State Ambient Air Quality Standards
NO <sub>x</sub>	nitrogen oxide
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSPL	National System of Public Lands
PFYC	Potential Fossil Yield Classification
Plan	Plan of Operations
PM <sub>10</sub>	Particulate matter less than 10 micrometers
PMU	Population Management Unit
RFFAs	reasonably foreseeable future actions
ROW	right-of-way
SHPO	State Historic Preservation Office
SO <sub>2</sub>	sulfur dioxide
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management

**STOCKPILE RESERVES LLC  
FENCEMAKER ANTIMONY MINE PROJECT  
PRELIMINARY ENVIRONMENTAL ASSESSMENT**

**1 INTRODUCTION**

**1.1 Introduction**

The Winnemucca District Office of the United States Department of the Interior Bureau of Land Management (BLM) received a Plan of Operations in July 2005. The proposed Plan of Operations provided for the resumption of mining activities at an existing underground antimony mine. The components of the Plan of Operations are collectively referred to as the Proposed Action in this Document.

The Fencemaker Antimony Mine Project (Project) is located in Fencemaker Pass on the western side of the Stillwater Range, in Pershing County, Nevada. The Project encompasses approximately 0.63 total acres and is approximately 5,520 feet in elevation above mean sea level (amsl). The Project would consist of approximately 0.25 acres of new surface disturbance located on public lands administered by the BLM Winnemucca District Office, Humboldt River Field Office (HRFO). The Project is located within Township 26 North, Range 37 East (T26N, R37E), Section 31, Mount Diablo Base and Meridian (MDB&M) (Project Area) approximately 38 miles east-southeast of Lovelock, Nevada and 62 miles south-southwest of Winnemucca, Nevada (Figures 1 and 2).

Ken A. Vogel originally proposed to resume underground mining activities at the location that reportedly ceased in the early 1980s. Therefore, in accordance with 43 Code of Federal Regulations (CFR) 3809, Mr. Vogel submitted a Plan of Operations (Record No. N80596) to the BLM in July 2005. The Plan of Operations (Plan) was reviewed and found complete. Since the proposed project is less than 5 acres in disturbance, a Permit for Reclamation was not required by the Nevada Division of Environmental Protection (NDEP) Bureau of Mining Regulation and Reclamation (BMRR). Mining-related activities would include using an existing cleared and leveled area (0.38 acres) and clearing an addition 0.25 acres (0.63 acres total) for parking vehicles, staging ore, equipment maintenance, temporary storage sheds, parking a watchman trailer, and maintaining existing roads (Proposed Action) within the less than one acre Project Area. After starting the analysis process, the project was placed on hold. In 2008, the Operator Ken Vogel was changed to Stockpile Reserves LLC and the project and the environmental analysis resumed. This Environmental Assessment (EA) has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) as amended, to analyze the effects of the Proposed Action.

The operator currently has a mining notice at the site. Under a notice, activities that do not disturb more than five acres of surface or remove more than 1,000 tons of presumed ore is allowed. While the notice has been inactive since 2007, no mining-related activity other than securing the entrance to the existing adit has occurred.

## **1.2 Purpose and Need**

The purpose of this Federal action is to respond to a plan of operations and to take any action necessary to prevent unnecessary or undue degradation of the lands and provide the current operator, Stockpile Reserves LLC (Stockpile Reserves), the opportunity to conduct underground mining and exploration at an existing underground mine. These activities would facilitate Stockpile Reserves ability to verify mineral resources and establish existing conditions.

The need for action is established by the BLM's responsibility under its 2008 Energy and Mineral Policy, the Federal Land Policy and Management Act of 1976 (FLPMA), and BLM Surface Management Regulations at 43 CFR 3809.

## **1.3 Land Use Conformance Statement**

The Proposed Action described in this EA is in conformance with the Sonoma-Gerlach Management Framework Plan (MFP) (BLM 1982), which states that the BLM should “make no land use decisions that would interfere with mineral development in areas (mining districts) of significant current and past mining activity.”

## **1.4 Relationship to Laws, Regulations, and Other Plans**

On lands open to location under the General Mining Law of 1872, as amended (Mining Law), the BLM administers the surface acres of public land and federal subsurface mineral estates under the Mining Law and the FLPMA. FLPMA also governs the BLM's administration of public lands not open to location under the Mining Law.

## **1.5 Issues**

A scoping process was conducted in order to determine the scope of this environmental analysis. The scoping process began with an interdisciplinary team meeting held at the BLM office in Winnemucca on October 3, 2005. Input regarding this project was also provided by, then operator Ken Vogel, and his consultant. Based on scoping, the BLM defined issues and made initial determination of what needed to be analyzed in this EA (see Chapter 3 Affected resources), data needs, possible alternatives, and public outreach needs.

The BLM contacted the Lovelock Paiute Tribe by letter, meeting and follow-up telephone calls regarding this project. A Traditional Cultural Property site in the vicinity of the Project Area was identified by the Tribe and a consultation field trip was held with the Tribe. A Native American consultation tour of the project area on November 22, 2005, was attended by members of the Lovelock Tribe. Since the Traditional Cultural Property would be avoided by the proposed mining project and all disturbance associated with the proposed action would be reclaimed, it was determined that the proposed action would not impact the Traditional Cultural Property site.

Based on scoping, issues raised and identified regarding the proposal are listed below:

- What would be the impact on:

- Pygmy rabbits and pygmy rabbit habitat?
- Bats and bat habitat?
- Raptors and raptor habitat?
- Migratory birds and migratory bird habitat?
  
- What water sources would be used?
  
- What are the access routes currently through the project area and how would these be impacted?
  
- Would dispersed recreationists involved in hunting, rock collecting and other recreation activities still be able to access through project area?
  
- What impacts would there be on cultural resources?
  
- What impacts would there be on visual resources?
  
- What impacts on air quality are expected?
  
- Would there be impacts to range improvements?
  
- Would there be impacts on Native American Religious Concerns?
  
- Would there be impacts on Sacred Sites/Traditional Cultural Properties?
  
- What would the cumulative impacts on affected resources be from implementing the Proposed Action?

## 2 ALTERNATIVES INCLUDING THE PROPOSED ACTION

### 2.1 Proposed Action

The Proposed Action consists of expanding Notice-level exploration activities within the 0.63-acre Project Area to mine antimony ore. Expanded activities would include the construction of a mine portal structure, placement of a temporary office trailer, maintenance area, storage sheds, ore stockpile/surge pile, compressor and generator, water tanks, safety berms, drainage ditches or culverts, and the maintenance of existing road and parking area. The Proposed Action would increase surface disturbance of 0.38 to a total of 0.63 acres. A right-of-way would need to be acquired for the existing Fencemaker Pass Road from the Project Area to the nearest county road. Figures 3 and 4 show existing disturbance and the proposed action. All Project activities would be located on National System of Public Lands (NSPL) administered by the BLM. The Notice-level and proposed surface disturbance is outlined by type of activity in Table 2.1-1.

**Table 2.1-1: Existing and Proposed Surface Disturbance**

	<b>Existing Surface Disturbance (acres)</b>	<b>Proposed Surface Disturbance (acres)</b>	<b>Total Disturbance (acres)</b>
Adit Entrance	0.05	0.00	0.05
Operations Area	0.18	0.25	0.43
Fencemaker Pass Road (unpaved)	0.08	0.00	0.08
Other road (unpaved)	0.07	0.00	0.07
<b>Total</b>	<b>0.38</b>	<b>0.25</b>	<b>0.63</b>

As outlined in Table 2.1-1, Stockpile Reserves has projected that the total surface disturbance would equal 0.63 acres.

### 2.2 Existing Facilities

The Fencemaker underground antimony mine was operated by Silver Bell Mining Company from 1966 to 1981. Disturbance at the site from previous mining operations consist of an adit, approximately 0.05 acre of disturbance at the adit entrance north of an existing access road (Fencemaker Pass Road), and 0.25 acre of disturbance south of the adit and existing access road. The Fencemaker Pass Road which travels through the Project Area services one microwave stations on Fencemaker Peak and provides access to the woodcutting and pinenut gathering area to the east. A right of way (ROW) for the road (Fencemaker Pass Road) was granted to AT&T communications in 1961, and is currently assigned to High Sierra Communications Inc.

### **2.2.1 Location and Access**

The Project is located in T26N, R37E, section 31 in Pershing County, Nevada (Figures 1, 2 and 3). The Project can be found on the United States Geological Survey (USGS) 7.5-minute topographic quadrangle Fencemaker Pass. The Project is accessed by traveling northeast from Lovelock on U.S. Interstate 80 (I-80) to the Coal Canyon exit, then traveling approximately 25 miles east and then south on maintained dirt roads. Dispersed recreationists involved in pine nut collecting, rock collecting and other recreation activities would still be allowed access through the project area although the main road (Fencemaker Pass Road) would be temporarily blocked for short periods of time (15-20 minutes) during blasting activities and while removing ore from the mine to the operational area across the road.

### **2.2.2 Underground Mining**

Underground mining would occur in an existing adit. Stockpile Reserves would resume driving the existing drift horizontally, following an apparent ore body using typical cut and fill methods. Based on the reported high grade of the ore and previous mining experience, none to minimal waste rock would be removed as part of the mining operations. Any waste or lower grade material produced during mining may be used, if suitable, for backfill material. No waste rock material would be disposed on public land. Mining advancement would be accomplished by two to three small blasts, creating a drift approximately twelve feet wide by ten feet tall, performed each day (approximately 15 blasts per week). Blast holes would be drilled utilizing a manual pneumatic jackleg. A 125 cubic foot per minute (cfm) 45 horsepower (hp) air compressor would be placed at the adit entrance to drive the jackleg. Electricity would be provided by a mobile 250 hp diesel generator. Muckpiles (excavated rock) would be removed with a small front end loader such as a bobcat or equivalent, and transferred to the operations area. Up to approximately one hundred tons of material would be removed from the adit per day.

### **2.2.3 Operations Area**

Mined material would be transported from the adit to an operations area located across the Fencemaker Pass road. Material would be transferred off-site on a daily basis. A six ton dump truck would be utilized to haul blasted ore off-site. The truck would use the operations area for a turnaround prior to being loaded. A small front end loader would load the ore on the truck utilizing a loading ramp with an anticipated footprint of six-feet wide and 15 feet long. Power would be provided to the operations area by a 100 hp diesel generator. All equipment would be painted earth tone colors with low reflectivity to reduce visual impacts of the operation.

General access to the Stillwater Range would not otherwise be affected as a result of mining operations. Project related traffic would yield to public traffic at all times. At no time would Project-related activities block the road with the exception of the aforementioned blasting periods.

#### **2.2.4 Safety and Access**

The Fencemaker Pass Road proximal to the mine would be closed during blasting to ensure public safety. Road closures would be approximately 15 to 20 minutes in length. Signs would be posted on the road in both directions, approximately 0.5 mile from the adit entrance. In addition, a flag person/persons would be employed during blasting to assist in public notification.

General access to the Stillwater Range would not otherwise be affected as a result of mining operations. Project-related traffic would yield to public traffic at all times. At no time would Project related activities block the road with the exception of the aforementioned blasting periods. Equipment would have to cross the road on a regular basis throughout a normal workday. Equipment would yield to all traffic not related to the Proposed Action and would not interfere with access to the traditional cultural property, pinenutting and woodcutting areas. In the event that blasting related closures would affect access to these areas, Stockpile Reserves would adjust blasting times to minimize the impact.

#### **2.2.5 Work Force**

The work force would consist of up to six individuals working per twelve-hour shift with up to two shifts per day. In addition to the miners there may be additional personnel such as security, supervisors and truck drivers on-site. The workforce would consist of Stockpile Reserves employees or possibly their contractors. Operations would occur six days a week, on a year round basis. Employee vehicles would be parked on existing disturbance and would not block or obstruct the access road.

#### **2.2.6 Security**

An approximately 30-foot long security trailer would be located in the operations area (Figure 4). Two security personnel would be on site during weekends, holidays, and after shift as necessary. The security trailer would act as the Project office during working hours. The trailer would be connected to a small generator. Waste water created by individuals utilizing the trailer would be hauled off-site for disposal at an approved disposal facility and would not be dumped in the Project Area. While a security presence is proposed, there may be periods when the site would be unoccupied for periods of time and therefore a potential need for temporary fencing (i.e., 6 to 8-foot high chain link fencing) around some storage areas.

The security trailer would be painted earth-tone colors with low reflectivity.

#### **2.2.7 Equipment**

Stockpile Reserves would conduct mining with a small front end loader. Other equipment would include an air compressor, generator, up to two twelve feet by twelve feet work/maintenance sheds and up to two metal conex-type metal containers (for storage). The mined material would be loaded into up to two end-dump hauling trucks or 40-foot long belly-dump hauling trucks for off-site processing. If necessary a stockpile (not to exceed 10 feet by 30 feet) of material may be stored on-site not to exceed 48 hours.

Stockpile Reserves would take steps to prevent fires by ensuring that each field vehicle carries hand tools and a fire extinguisher. All portable equipment would be removed from the Project Area during extended periods of non-operation.

Emission producing equipment at the site would include up to six personal vehicles, one bobcat front loader, one dump truck and a generator. For a given 12-hour work day, the personal vehicles and dump truck would be primarily parked (not running) at the site during most activities. The bobcat would be used to move ore material from the mine to the dump truck and would be parked when not in use. The generator would operate lights, ventilation and mining equipment during mining activities and would potentially be operating during the entire work day.

All equipment would be properly muffled and equipped with suitable and necessary fire suppression equipment, such as fire extinguishers and hand tools. All Project-related traffic would observe prudent speed limits to enhance public safety, protect wildlife and livestock, and minimize dust emissions. All activities would be conducted in conformance with applicable federal and state health and safety requirements.

### **2.2.8 Water Use**

Water would be used for dust suppression and during mining. Water would be obtained from an offsite private water source. At this time the water would be obtained from the City of Lovelock, although if an arrangement with a nearby private ranch could be reached then water may be provided from that location. It would be transported to the site in a mobile 600 gallon tank as often as needed. Water would be stored on the project in two temporary 500-750 gallon tanks. Potable water for drinking and emergency wash station would be transported in reusable containers. If necessary, appropriate water use/rights permits would be obtained as required.

### **2.2.9 Solid and Hazardous Materials**

All Project-related regulated refuse would be removed from the Project Area and disposed of in a state, federal, or local designated area on a daily basis. No refuse would be disposed of on site. A portable sanitary facility would be available in the Project Area for use by Project personnel.

Solid and hazardous materials utilized within the Project Area would include diesel fuel, gasoline, and lubricating grease. Approximately 200 gallons of diesel fuel and gasoline would be stored in fuel delivery systems on vehicles in a secondary containment area. Approximately 10 pounds of lubricating grease would be stored on the trucks. All containers of hazardous substances would be labeled and handled in accordance with Nevada Department of Transportation (NDOT) and BMRR. In the event hazardous or regulated materials were spilled, measures would be taken to control the spill, and the BLM and NDEP would be notified as required. Any hazardous substance spills would be handled in accordance with Stockpile Reserves Spill Contingency Plan which stipulates the immediate clean-up of the spilled substance and any resulting waste (e.g., oil, noxious fluids, chemicals, or contaminated materials) transferred off site in accordance with all applicable federal, state, and local regulations. On-site personnel would maintain spill kits on site for use in case of a spill.

The purpose of the Spill Prevention Plan is to reduce or prevent spilled petroleum products and drilling fluids from encountering potential seasonal surface water (i.e., spring run-off). This plan includes maintaining equipment in good and leak free condition and cleaning up and containing spilled material as soon as possible. In addition, all containers of hazardous substances would be labeled and handled in accordance with the NDOT and the NDEP regulations.

**2.2.10 Reclamation**

Reclamation would be completed to the standards described in 43 CFR 3809.420. Reclamation activities on public land for the Proposed Action would be designed to achieve post mining land uses consistent with the BLM's land use management plans for the area. Reclamation would begin at the earliest practicable time when mining has been deemed inactive, without potential, or completed.

Earthwork (e.g., regrading and reshaping) and revegetation activities would be limited by the time of year during which they can be effectively implemented. 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. Seeds would be sown in late fall to take advantage of winter and spring precipitation and optimum spring germination potential. Early spring seeding may be utilized for areas not seeded in the fall. In either case, seeding would not take place when the ground is frozen or snow covered. Site conditions and/or yearly climatic variations may require that this schedule be modified to achieve maximum revegetation success. Reclamation activities would be coordinated with the BLM as necessary. Complete recontouring of the surface disturbance and seeding of the Proposed Action is expected to take place within approximately one year from the time of commencement of final reclamation activities. Revegetation success is anticipated to take approximately three years from the time of seeding.

**Table 2.1-2: Anticipated Reclamation Schedule**

TECHNIQUES	Quarter				Year(s)
	1 <sup>st</sup> Jan.- Mar.	2 <sup>nd</sup> April- June	3 <sup>rd</sup> July- Sept.	4 <sup>th</sup> Oct.- Dec.	
Earthwork					Within one year of Project completion
Seeding					Within one year of Project completion
Monitoring					Minimum of three years beyond recontouring and reseeding

Note: Shading indicates activities could occur during this quarter.

The proposed seed mix is in Table 2.1-3, is based on known soil and climatic conditions and was selected to establish a plant community that would support the post-exploration land use. The mix is designed to provide species that can exist in the environment of northwestern Nevada, and are proven species for revegetation native and introduced plant species. Introduced species to be used are in compliance with Executive Order 13112 Invasive Species. Broadcast seeding would be at a rate of approximately 8.6 pounds of pure live seed per acre. Changes and/or adjustments to the seed mix and/or application rate would be completed in consultation with and approval by, the BLM.

Post-closure management would commence on any reclaimed area following completion of the recontouring and re-seeding for that area. Post-closure management would extend until the reclamation of the site or component has been accepted by the BLM.

**Table 2.1-3: Proposed Seed Mix**

Common Name*	Scientific Name	Pounds/Acre (pure live seed)
Fourwing saltbush	<i>Atriplex canescens</i>	3.0
Forage kochia	<i>Kochia prostrata</i>	0.5
Crested wheatgrass	<i>Agropyron cristatum</i>	2.5
Blue flax	<i>Linum lewisii</i>	0.5
Alfalfa	<i>Medicago sativa</i>	1.8
<b>Total</b>		<b>8.3</b>

\* Seed mixtures may change during concurrent and final reclamation. The changes would be based on targeting specific soil/disturbance types and experience gained during concurrent reclamation during the life of the Project, on test plot results, and changes in agency recommendations.

**2.2.11 Surface Occupancy**

Under CFR 3809 Part 710 Section 3715.01, occupancy means full or part-time residence on the public lands. It also refers to activities that involve residence; the construction, presence, or maintenance of temporary or permanent structures that may be used for such purposes; or the use of a watchman or caretaker for the purpose of monitoring activities. Residences or structures include, but are not limited to, barriers to access, fences, tents, motor homes, trailers, cabins, houses, buildings, and storage of equipment or supplies. Stockpile Reserves plans to utilize a portable security trailer that is approximately 30 feet long and eight feet wide. Fencing may be used to protect ore or equipment storage areas that may pose a hazard or nuisance to the public, wildlife, or livestock. Both the portable trailer and all fencing would be removed during final reclamation activities.

**2.2.12 Monitoring**

Monitoring of the project area would include periodic visual inspections, primarily after storm events to identify potential erosion concerns. If erosion occurs, or seems likely to occur, those areas would be repaired.

**2.2.13 Environmental Protection Measures**

Stockpile Reserves has committed to the following environmental protection measures to prevent unnecessary or undue environmental degradation during construction, operation, and reclamation activities of the Proposed Action. The measures are derived from the general requirements established in BLM Surface Management Regulations at 43 CFR 3809, as well as other water, air quality, and environmental protection regulations.

### *Air Quality*

- Emissions of fugitive dust from disturbed surfaces would be minimized by utilizing appropriate control measures. Surface application of water is the control measure that would be employed at the site to control dust. Speeds would be limited to 15 miles per hour on the unpaved roads to control dust. Loaded dump trucks would be covered/tarped prior to leaving the Project Area.

### *Cultural Resources*

- Any cultural resource discovered by the operator, or any person working on their behalf, during the course of activities on federal land would be immediately reported to the authorized officer by telephone, with written confirmation. The operator would suspend all operations in the immediate area of such discovery and protect it until an evaluation of the discovery can be made by the authorized officer. This evaluation will determine the significance of the discovery and what mitigation measures are necessary to allow activities to proceed. The operator is responsible for the cost of evaluation and mitigation. Operations may resume only upon written authorization to proceed from the authorized officer.

### *Invasive and Nonnative Weeds*

- Noxious weeds would be controlled through implementation of the following BMPs: concurrent reclamation efforts; operator control; removal of invasive, nonnative, and noxious weeds on reclaimed areas; washing vehicles prior to entering the Project Area; and avoiding areas of known invasive, nonnative, and noxious weeds during periods when the weeds could be spread by vehicles.

### *Migratory Birds*

- Land clearing or other surface disturbance associated with the Proposed Action would be conducted outside of the avian breeding season, whenever feasible, to avoid potential destruction of or disturbance to active bird nests (with eggs or young). When surface disturbance must be created during the avian breeding season (March 1 through August 31), a qualified biologist would survey the area prior to land clearing or other disturbance activities. This survey would include a search for nesting raptors within ½ mile line-of-sight. This survey should be performed no more than 10 days and no less than 1 day prior to the proposed activity. The survey will be conducted within the time frame of one hour pre-sunrise to 2 hours post-sunrise and/or 1 hour pre-sunset to 2 hours post-sunset when birds are most active. If active nests (including raptor nests) are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, and/or transporting food) is observed, the BLM biologist will be notified to determine pre-disturbance mitigation. In addition, results (positive or negative) of the nesting survey would be reported to the BLM biologist in writing within 7 working days of survey completion. Any questions about the Migratory Bird Treaty Act should be referred to the Reno Office of the U.S. Fish and Wildlife Service at (775) 861-6300, or email at [asknevada@fws.gov](mailto:asknevada@fws.gov).

### *Native American Religious Concerns*

- Pursuant to 43 CFR 10.4(g), Stockpile Reserves would notify the BLM authorized officer, by telephone, and with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2). Further pursuant to 43 CFR 10.4 (c) and (d), the operator would immediately stop all activities in the vicinity of the discovery and not commence again for 30 days or when notified to proceed by the BLM authorized officer.
- In the event that the noise related to the Proposed Action negatively affects the TCP, noise reduction measures (such as increased sound muffling devices on equipment or modifying work times) would be employed immediately.

### *Waste, Hazardous or Solid*

- Stockpile Reserves would follow an approved Spill Prevention Plan.
- All solid wastes, including grey water, would be disposed of in a state, federal, or local designated site.
- Pursuant to 43 CFR 8365.1-1(b)(3), no sewage, petroleum products, or refuse would be dumped or discharged from any trailer or vehicle onto the project area.

### *Water Quality (surface and ground)*

- Surface water drainage control would be accomplished by diverting precipitation event surface flow (run-on) away from the surface disturbance at the mine area, isolating runoff, from the surface disturbance, and utilizing appropriate control measures.

### *Geology*

- Any survey monuments, witness corners, or reference monuments would be protected to the extent economically and technically feasible.

### *Paleontology*

- In the event that previously undiscovered paleontological resources are discovered in the performance of any surface disturbing activities, the item(s) or condition(s) would be left intact and immediately brought to the attention of the authorized officer of the BLM. If significant paleontological resources are found, avoidance, recordation, and/or data recovery would be required.

### *Public Access*

- Stockpile Reserves would comply with all applicable state and federal fire laws and regulations and all reasonable measures would be taken to prevent and suppress fires in the Project Area.

- Public safety would be maintained throughout the life of the Project. All equipment and other facilities would be maintained in a safe and orderly manner.

### *Visual*

- Stockpile Reserves would utilize directional lighting directed downward, to protect “dark-skies”, on the pertinent site and away from adjacent areas. Stockpile Reserves would utilize lighting that is hooded and shielded so as not to allow the bulb to shine up or out.

## **2.3 No Action Alternative**

Under the No Action Alternative, the area would remain available for other multiple use activities, as approved by the BLM. The proposed operator currently has a notice at the site that would allow up to 5 acres of surface disturbance and removal of up to 1,000 tons of presumed ore. Under the No Action Alternative, the notice would remain in effect unless it expires. Accordingly, up to five acres on the notice could be disturbed or re-disturbed and mining at the location can proceed up to the removal of 1,000 tons of presumed ore. After 1,000 tons of presumed ore has been removed then testing activities must cease or a plan of operations approved. After activities have been completed reclamation must be completed. Reclamation of authorized Notice-level activities includes backfilling the adit, removal of the portal structure, recontouring, and reseeding.

## **2.4 Alternatives Considered but Eliminated from Detailed Study**

### **2.4.1 Open Pit Alternative**

This alternative would utilize open pit technology to mine the antimony deposit. At this time, this alternative does not meet the purpose and need of the Proposed Action, which is to resume mining as an underground operation with minimal surface disturbance. An open pit alternative would increase surface disturbance and visual impacts that potentially would affect a nearby traditional cultural property and possibly pinenutting activities.

### **3. AFFECTED ENVIRONMENT**

#### **3.1 Introduction**

Public lands administrated by the BLM comprise all of the land within the Project Area. Public lands within the Project Area are managed for multiple uses such as watershed, rangeland management, mineral exploration and development, recreation, and wildlife habitat. One of the objectives in the BLM's Sonoma-Gerlach MFP is to make public lands and federally-controlled minerals available for exploration and development (BLM 1982).

The Project Area is a high-desert environment characterized by arid-to-semiarid conditions, with bright sunshine, low annual precipitation, and large daily ranges in temperatures. The climate is controlled primarily by the rugged and varied topography to the west, in particular the Sierra Nevada Mountain Range. Prevailing westerly winds move warm, moist Pacific air over the western slopes of the Sierra Nevada where the air cools, condensation takes place, and most of the moisture falls as precipitation. As the air descends the eastern slope, compressional warming takes place resulting in minimal rainfall. There is strong surface heating during the day and rapid nighttime cooling because of the dry air, resulting in wide daily ranges in temperature. Even after the hottest days, the nights are usually cool. Long periods of extremely cold weather are rare, primarily because the mountains east and north of the State act as a barrier to the intensely cold continental arctic air masses. However, on occasion, a cold air mass spills over these barriers and produces prolonged cold waves.

Meteorological data collected from the Paris Ranch station, which is located approximately 14 miles northeast of the Project Area, collected over a period from 1966 through 1991; indicate that the average temperature was 52°F, with temperatures ranging from 96°F to 19°F. Annual precipitation in the Project Area during the same period ranged from 4.81 to 17.35 inches (Western Regional Climate Center, 2005).

Atmospheric dispersion is influenced by several parameters, including wind speed, temperature inversions (mixing heights), and atmospheric stability. Prevailing winds at the Lovelock Nevada Airport Station, approximately 40 miles west of the Project Area, were from the north-northeast, with average annual wind speeds at 7.2 miles per hour (mph). Month-to-month variations were small, with average wind speeds ranging from 5.4 to 9 mph (Western Regional Climate Center, 2005). These wind speeds tend to promote atmospheric mixing, and generally transport locally generated air emissions away from the area. Inversions restrict vertical movement of the air in the lower atmosphere, thereby preventing atmospheric pollutants from mixing with the air above the inversion layer. Lower mixing heights can be expected to produce higher pollutant concentrations since the volume of air with which the pollutants can mix is limited. As is typical of cold night/hot day weather patterns, mixing heights can be quite high in the afternoon. Conversely, mixing heights can be quite low at night and early morning due to nighttime cooling.

The Fencemaker Mine is located in the Table Mountain district in the north portion of the Stillwater Range. It is presumed that the antimony ore that was reportedly shipped from the district in the 1880s was from the Fencemaker Mine. Two tons of ore was shipped from the mine again in 1940. In 1957, the mine was developed by two adits totaling approximately 115 feet of workings (Lawrence, 1963). Mining activities resumed in the mid 1960's and continued to 1981.

A review of the local geology indicates rocks at the proposed project area identified as Jurassic-age Boyer Ranch Formation and Jurassic-age gabbro (Johnson, 1977). The gabbro in the project area has also been identified as a diabase dike. Jurassic diorite intrudes the sequence approximately 250 feet northeast of the mine. A narrow band of calc-silicate skarn is developed along the margin of the intrusion. The sedimentary package near the adits dips approximately 30 degrees to the east-southeast. The main workings are along the contact between a limestone bed and a dike. The dike is 12 to 30 inches in width and dips 35 degrees to the southeast. The dike and hanging wall limestone is highly brecciated and fractured. Stibnite occurs as small pods, streaks, rosettes, and individual crystals within this highly permeable zone (Lawrence 1963). There is no record of fossils being found in the project area.

The Project is located in the Buena Vista Valley Hydrographic Groundwater Basin. The basin is defined by the Humboldt River on the north, the East Range on the east, Stillwater Mountains on the east and south boundary, and the Humboldt Range on the west. The valley floor is a relatively flat area of playas, small dunes, and some terraces. Buena Vista Valley Basin is a closed basin with groundwater accumulating within the central portion of the basin and no discharge to adjacent basins. Groundwater within the basin is found mainly in alluvial and lacustrine sediments within the valley, but also occurs in joints, fractures, and faults within the metamorphic, volcanic, and sedimentary bedrock of the mountains defining the edges of the basin. Most precipitation falling on the mountains travels downslope in ephemeral streams toward the valley floor. Recharge from the runoff enters the regional ground water system as it crosses the alluvial fan deposits of the valley at the base of the mountains. Ground water moves through these deposits toward the alluvial aquifer beneath the valley floor, where large quantities of ground water are stored. Based on well log data, the regional ground water in Buena Vista Valley is estimated to be approximately 3,900 feet amsl on the valley margins.

Based on the records of the Nevada Division of Water Resources, six permitted wells are located within a five-mile radius of the Project Area. Ground water uses in the area include domestic, mining, gas exploration, and stock watering. The nearest permitted drinking water sources to the Project Area are domestic wells located in and around the town of Unionville approximately four miles to the northwest from the Project Area.

Site-specific ground water data for the Project Area are limited. Based on the Project Area's topography and geology, groundwater is assumed to flow west-northwest, toward Buena Vista Valley, similar to the ephemeral stream that runs through the project area. The existing mine adit has on occasion shown water accumulation on the floor. This water is possibly the result of rain and snow entering through the entrance and/or some infiltration through fractures and joints from above. The observed volume of water has not been sufficient to exit the mine opening.

Tables 3.1-1 and 3.1-2 outline the supplemental authorities (critical elements of the human environment) and additional affected resources for the Project.

**Table 3.1-1: Supplemental Authorities (Critical Elements of the Human Environment)**

<b>Element</b>	<b>Not Present</b>	<b>Present, Not Affected</b>	<b>Present, Potentially Affected</b>	<b>Reference Section</b>
Air Quality			X	See Section 3.2.
Areas of Critical Environmental Concern	X			Element is not present.
Cultural Resources		X		See Section 3.3.
Environmental Justice	X			No environmental justice issues are associated with the Project.
Flood Plains	X			Element is not present.
Invasive and Nonnative Species			X	See Section 3.4.
Migratory Birds			X	See Section 3.5.
Native American Religious Concerns			X	See Section 3.6.
Prime or Unique Farmlands	X			Element is not present.
Threatened or Endangered Species	X			Element is not present.
Wastes, Hazardous or Solid	X			Element is not present
Water Quality (Surface and Ground)			X	Surface water, see Section 3.7. Ground water not affected, see Section 3.1.
Wetlands and Riparian Zones	X			Element is not present.
Wild and Scenic Rivers	X			Element is not present.
Wilderness	X			Element is not present.

**Table 3.1-2: Additional Affected Resources**

<b>Other Resources</b>	<b>Present, Potentially Affected</b>	<b>Reference Section</b>
Geology	X	See Section 3.8
Paleontology	X	See Section 3.9
Public Access	X	See Section 3.10
Rangeland Management	X	See Section 3.11
Recreation	X	See Section 3.12
Soils	X	See Section 3.13
Special Status Species	X	See Section 3.14
Vegetation	X	See Section 3.15
Visual Resources	X	See Section 3.16
Wildlife	X	See Section 3.17

## **Supplemental Authorities**

### **3.2 Air Quality**

Ambient air quality and the emission of air pollutants are regulated under both federal and state laws and regulations. Both the federal government and the State of Nevada have established ambient air quality standards for criteria air pollutants. Criteria pollutants are carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particular matter smaller than 10 microns (PM<sub>10</sub>), particular matter smaller than 2.5 microns (PM<sub>2.5</sub>), ozone, nitrogen dioxide (NO<sub>2</sub>) and lead (Pb). Regulations potentially applicable to the Proposed Action and alternatives include the following: National Ambient Air Quality Standards (NAAQS); Nevada State Ambient Air Quality Standards (NSAAQS); Prevention of Significant Deterioration (PSD); New Source Performance Standards (NSPS); Federal Operating Permit Program (Title V); and State of Nevada air quality regulations (NAC 445B).

The Project is located in the Buena Vista Valley Air Quality Management Area (BVAQMA), which is currently unclassified for all pollutants having an air quality standard (40 DFR 81.329). The area is bounded by the crest of the Stillwater Mountain Range to the east, the East Range to the northeast, and the crest of Humboldt Range to the west. The Project is located in north-central Nevada in Pershing County. Air quality in the Project Area is governed by pollutant emissions and meteorological conditions. As discussed in Section 3.1 above, wind speeds, mixing heights, and stability all affect the circulation and dilution of emissions in the area.

Air emissions were calculated from the proposed activities and modeled using the HARP model. Criteria emissions were calculated at about 1,260 tons/year for Total Suspended Particulate, about 589 tons/year for PM<sub>10</sub>, about 174 tons/year for PM<sub>2.5</sub>, about 285 tons/year for CO, about 0.010 tons/year for NO<sub>2</sub>, about 3.7 tons/year for Toxic Organic Gases, about 1.2 tons/year for Reactive Organic Gases/Volatile Organic Compounds, and about 0.785 tons/year for SO<sub>x</sub>.

The six key greenhouse gases include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. The proposed project has potential to only emit quantities of carbon dioxide and methane, primarily from combustion of fuels used on the site. Greenhouse gas emissions were modeled using the EPA Climate Leaders Simplified GHG Emissions Calculator. Carbon dioxide emissions were calculated at about 1,060 tons/year and methane emissions were calculated at about 0.0013 tons/year.

Stockpile Reserves proposes to protect the air quality during the proposed project by undertaking road maintenance activities including operations area, adit entrance, and the area of the access road traveled by the small loader to reduce fugitive dust emissions. In addition, the loaded dump trucks would be covered/tarped prior to leaving the Project Area. Approximately 15 truck loads of material would leave the site over a one week period.

### **3.3 Cultural Resources**

The underground mining activities would be located almost entirely within areas of existing disturbance. A Class III cultural resources survey, CR2-2939(P) was completed by R.K. Vierra and Associates in the Project Area in October 2005. The inventory was negative.

### **3.4 Invasive and Nonnative Species**

An "invasive species" is defined as a species that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112). Invasive, nonnative species are species that are highly competitive, highly aggressive, and spread easily. They include plants designated as "noxious" and animals designated as "pests" by federal or state law.

The Nevada Department of Agriculture maintains a Nevada Noxious Weed List. The BLM defines "noxious weed" as "a plant that interferes with management objectives for a given area of land at a given point in time." The strategy for noxious weed management is to "prevent and control the spread of noxious weeds through local and regional cooperative efforts... to ensure maintenance and restoration of healthy ecosystems on BLM-managed lands." Noxious weed control would be based on a program of "...prevention, education, detection, and quick control of small infestations." Animal and plant species designated as "pests" are generally species that are injurious to agricultural and nursery interests or vectors of diseases, which may be transmissible and injurious to humans. There are no known invasive, nonnative animal species (pests) that are mandated for control in the Project Area; therefore pests are not further addressed in this EA.

The Nevada Department of Agriculture classifies weeds into three categories (NAC 555.010). Category A weeds are defined as "weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations." Category B weeds are defined as "weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur." Category C noxious weeds are defined as "weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer."

The Project Area has occurrences of invasive weeds, specifically hoary cress (*Cardaria draba*) and saltcedar (*Tamarix L.*) in the previously disturbed portion of the proposed operations area. Hoary cress is listed as an invasive weed by the BLM. It generally occurs in areas of alkaline and disturbed soils. The plant is very aggressive and drought resistant making it highly competitive with other plants. Hoary cress currently inhabits more than a quarter million acres of public and private lands in the United States.

Saltcedar is listed as an invasive weed by the BLM. Saltcedar is a durable Asian ornamental shrub that collects along riparian areas in the southwestern United States. It accumulates salt in its tissues, which is later released into the soil, making it unsuitable for many native species. Saltcedars have the ability to exploit suitable germinating conditions over a long time period and can exist in drought and flood conditions which give it a considerable advantage over native riparian species. Under good conditions, weedy saltcedars can grow nine to 12 feet in a single season. Under drought conditions, a saltcedar survives by dropping its leaves. After summer rains, saltcedar seedlings quickly colonize moist areas due to the constant availability of seeds. Mature plants can re-sprout vegetatively after fire, flood, or treatment with herbicides and can adapt to wide variations in soil and mineral gradients. Saltcedar can grow at elevations up to 5,400 feet and prefer saline soils and typically occupy sites with intermediate moisture, high

water tables, and minimal erosion (<https://www.denix.osd.mil/denix/Public/ES-Programs/Conservation/Invasive/deserts.html#salt>).

### **3.5 Migratory Birds**

Migratory birds are protected and managed under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 *et. seq.*) and Executive Order 13186. Under the MBTA nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Executive Order 13186 directs federal agencies to promote the conservation of migratory bird populations.

The area surrounding the proposed project is characterized by pinyon-juniper woodland and big sagebrush/mixed sagebrush shrubland communities. Migratory birds associated with these vegetative communities may include: black-throated sparrow (*Amphispiza bilineata*), Brewer's blackbird (*Euphagus cyanocephalus*), Brewer's sparrow (*Spizella breweri*), canyon wren (*Catherpes mexicanus*), gray flycatcher (*Empidonax wrightii*), green-tailed towhee (*Pipilo chlorurus*), loggerhead shrike (*Lanius ludovicianus*), rock wren (*Salpinctes obsoletus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), western meadowlark (*Sturnella neglecta*), vesper sparrow (*Pooecetes gramineus*), gray vireo (*Vireo vicinior*), pinyon jay (*Gymnorhinus cyanocephalus*), mountain bluebird (*Sialia currucoides*), western scrub-jay (*Aphelocoma californica*), juniper titmouse (*Baeolophus ridgwayi*), black-throated gray warbler (*Dendroica nigrescens*), Cassin's finch (*Carpodacus cassinii*), chucker (*Alectoris chukar*), common raven (*Corvus corax*), and common nighthawk (*Chordeiles minor*) (Floyd et al.,2007).

Raptors that may use these habitat types include: Ferruginous hawk (*Buteo regalis*), golden eagle (*Aquila chrysaetos*), prairie falcon (*Falco mexicanus*), red-tailed hawk (*Buteo jamaicensis*) and great horned owl (*Bubo virginianus*).

The golden eagle, ferruginous hawk, pinyon jay, loggerhead shrike, sage thrasher, and Brewer's sparrow are designated BLM sensitive species. See sections 3.14, 4.1.13 and 5.4.10, for more discussion about these sensitive species.

### **3.6 Native American Religious Concerns**

Numerous laws and regulations require consideration of Native American concerns. These include the National Historic Preservation Act of 1966 as Amended (NHPA), the American Indian Religious Freedom Act of 1978 (AIRFA) as amended, Executive Order 13007 (Indian Sacred Sites), Executive Order 13175 (Consultation and Coordination with Tribal Governments), the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA), the Archaeological Resources Protection Act of 1979 (ARPA) as well as NEPA and FLPMA.

The Stillwater Range has been traditionally used by the Northern Paiute for many generations and is regarded as having great cultural and sacred importance. Because of this, the Fallon Paiute Tribe has recommended the Stillwater Range as an Area of Critical Environmental Concern (ACEC). The Fencemaker Pass area was, and continues to be, a popular pine nut gathering area for the Northern Paiute generally accessed during the months of September and October. An approximately 670 acre area located approximately 0.5 mile east of the Project Area has been

identified as a Traditional Cultural Property (TCP) by the Lovelock Paiute. The TCP is currently being evaluated for National Register eligibility (McGuckian, 2003).

The Lovelock Paiute Tribe and the Fallon Paiute Tribe were consulted regarding the proposed action by letter and follow-up phone calls. The BLM met with the Lovelock Tribe at their Tribal Building in Lovelock on October 10, 2005 and presented the proposed action. The Tribe requested a site tour. A site tour was set up for November 22, 2005. The Fallon Tribe was also invited to the site tour and accepted, but subsequently cancelled due to health reasons.

Concerns expressed by representatives of the Lovelock Tribe focused on safety and access to traditional pine nut harvest areas. The Tribe was concerned that road closures would cut off access to pine nut harvest areas. It was explained that the road would remain open except when blasting 15-20 minutes a day and signs would be posted for safety. The Tribe suggested an additional safety measure of a flagger to alert travelers prior to and during the blasting period. It was agreed to add this to the plan. The Lovelock Tribe agreed that this would protect Tribal members and others traveling the road during blasting. The Tribe also agreed that access to their pine nut harvest areas would not be unduly restricted by the temporary road closure.

Additional issues discussed included impacts to visual resources and the setting of the TCP (noise and visual), mining safety, and tree cutting. It was agreed that the color of the surface equipment would be selected to blend with the surroundings. The proponent at that time, Mr. Vogel, said that the crusher would run 8 hours a day, but maintained that it would not be very noisy. Since this meeting the proponent has decided to move offsite crushing activities, if any, to a private parcel by Lovelock, Nevada.

The Lovelock Paiute Tribe felt that if the above measures were implemented travelers would be adequately protected and access to the pine nuts would not be unduly restricted. The Fallon Tribe agreed with the Lovelock Tribe's position.

### **3.7 Water Quality**

Given the dry environment, surface water features are minimal in the general area. Surface water in the area includes drainages that may have seasonal flow and springs and seeps. Some of the springs and seeps flow year round but sometimes with season-related reduced flows.

The Project is located on the east flank of the Stillwater Range in the Fencemaker Canyon. There are no permanent sources of surface water located within the Project Area. An ephemeral drainage flows through the Project Area in a westerly direction, and then turns northwest towards Buena Vista Valley. The presence of surface water is associated with storm events and snowmelt. Mustang Spring is located within this drainage at the foot of the Stillwater range in T26N, R35E, section 25, approximately 1.5 miles downgradient from the Project. Flows from Mustang Spring infiltrate into the alluvial and lacustrine deposits within Buena Vista valley. Most of the precipitation runoff infiltrates, evaporates, or adds to soil moisture before reaching the valley floors. No water quality information is available for this drainage as it only flows ephemeral after storm events and snowmelt. Sediments from erosion of the adjacent Fencemaker Pass Road and the project area may have entered the drainage during these events. There is also no water quality data from Mustang Spring as it is only used for stock water

## **Additional Affected Resources**

### **3.8 Geology**

The Fencemaker mine is located in the Table Mountain district in the north portion of the Stillwater Range. Triassic limestone, dolomite, and shale are exposed in the vicinity of the workings. A Jurassic diorite intrudes the sequence approximately 250 feet northeast of the mine. A narrow band of cal-silicate skarn is developed along the margin of the intrusion. The sedimentary rock near the adits dips approximately 30 degrees to the east-southeast. The main workings are along the contact between a limestone bed and a dike. The dike is 12 to 30 inches in width and dips 35 degrees to the southeast. The dike and hanging wall limestone is highly brecciated and fractured. Stibnite occurs as small pods, streaks, rosettes, and individual crystals within this highly permeable zone (Lawrence 1963).

Mining of the antimony vein would result in removal of some of the adjacent limestone and dolomite that hosts the antimony vein. A total of ten samples representative of the material to be mined were submitted for laboratory analysis and evaluated regarding the potential to generate acid runoff. The laboratory reported the pH for all samples were basic and ranged from 7.34 to 10.60. The material to be mined is not anticipated to be acid producing.

### **3.9 Paleontology**

The BLM manages paleontological resources under a number of federal laws including: FLPMA Sections 310 and 302(b), which direct the BLM to manage public lands to protect the quality of scientific and other values; 43 CFR 8365.1-5, which prohibits the willful disturbance, removal, and destruction of scientific resources or natural objects; 43 CFR 3622, which regulates the amount of petrified wood that can be collected for personal, noncommercial purposes without a permit; and 43 CFR 3809.420 (b)(8), which stipulates that a mining operator "shall not knowingly disturb, alter, injure, or destroy any scientifically important paleontological remains or any historical or archaeological site, structure, building or object on Federal lands." Informational Memorandum (IM) No. 2008-009, effective October 15, 2007, defines the BLM classification system for paleontological resources on public lands. The descriptions for the classes used in the Potential Fossil Yield Classification (PFYC) system are intended to serve as guidelines rather than strict definitions. Knowledge of the geology and the paleontological potential for individual units or preservational conditions should be considered when determining the appropriate class assignment. In addition, IM No. 2009-011, effective October 10, 2008, provides guidelines for assessing potential impacts to paleontological resources in order to determine mitigation steps for federal actions on public lands under the FLPMA and the NEPA. Together, these two IMs, with the PFYC system, provide guidance for the assessment of potential impacts to paleontological resources, field survey and monitoring procedures, and recommended mitigation measures that protect paleontological resources impacted by federal actions.

Surface disturbing activities may cause direct impacts to paleontological resources through the damage or destruction of fossils; or loss of valuable scientific information by the disturbance of the stratigraphic context in which fossils are found. Indirect impacts may be created by increased accessibility to important paleontological resources leading to looting or vandalism. Land tenure adjustments may result in the loss of significant paleontological resources to the public if

paleontological resources pass from public ownership. Generally, the Project proponent is responsible for the cost of implementing mitigation measures including the costs of investigation, salvage, and curating of paleontological resources.

There is no record of fossils being found in the project area. The proposed project area has not been rated in the WDO PFY GIS database. A review of the local geology indicates the proposed project area identified Jurassic-age Boyer Ranch Formation and Jurassic-age gabbro. The gabbro in the project area has also been identified as a diabase dike (Johnson, 1977). An analysis of the formations identified in the proposed project area PFY potential is as follows:

**Boyer Ranch Formation** – This geologic unit contains quartz sandstone, basal conglomerate and limestone. The formation does contain some stratigraphic layers that have the potential to yield fossils, however no known fossils have been found in the project area. The PFY GIS database has not classified this geologic unit in the project area; however, a suggested classification of Class 3b—Unknown Potential would be appropriate.

**Jurassic Gabbro** – Igneous and metamorphic rocks are normally classified as a 1, because they are very unlikely to contain fossils. The PFY GIS database has not classified this geologic unit in the project area, however, a suggested classification of 1 – very low potential would be appropriate.

### **3.10 Public Access**

The Fencemaker Pass Road was reportedly constructed in the 1960s under a right-of-way grant to AT&T in 1961. The right-of-way is currently held by High Sierra Communications Inc.

### **3.11 Rangeland Management**

The Project Area is located entirely within the South Rochester Allotment administered by the HRFO. This grazing allotment consists approximately 170,180 acres of public and private lands. There are three cattle grazing authorizations on this allotment and one sheep grazing authorization for a total permitted and active use of 2,665 animal unit months (AUMs). Although the allotment is administered entirely by the HRFO, one of the cattle authorizations is handled by the Carson City District Office. The Carson office bills the rancher for his yearly use and that is it, the HRFO handles everything else related to this authorization on the South Rochester Allotment. The permitted season of use for cattle grazing extends from March 1 through February 28, for a total of 2,554 AUMs, while the sheep permit is limited to the month of April each year for a total annual authorization of 111 AUMs. There are numerous range improvements within the South Rochester Allotment; however, the only existing range improvement that is in the proximity of the Project Area is the Mustang Spring stockwater development. This stockwater development is located approximately 1.5 miles to the west of the Project Area at Fencemaker Camp and south of the Fencemaker Canyon Road.

### **3.12 Recreation**

Recreational uses within the Project Area and surrounding area are relatively small compared to the overall area of the Winnemucca District Office boundaries. The Project Area is in a remote portion of the Stillwater Range. There are no established trails, campgrounds or permitted recreational activities within or immediately adjacent to the project area. Possible dispersed recreation that does occur adjacent to the Project Area includes OHV (off-highway vehicle) use, hunting, rock and mineral collecting and pine-nutting.

### **3.13 Soils**

The soils found in the Project Area have been mapped and described by the Natural Resource Conservation Service (NRCS) in their Soil Survey of Pershing County Area, Nevada, East Part (NRCS 1989). The project area is situated on two soil associations with the Fencemaker Pass roadway defining the approximate boundary between them. The Kram-Hopeka-Rock outcrop association is identified north of the road in the project area (where the adits exist) and the Jobpeak-Teguro-Rock outcrop association is identified south of the road in the project area (where the clearing and storing would occur).

The Kram-Hopeka-Rock outcrop association is characterized as a very gravelly loam to very fine sandy loam. These soils tend to be located on foot slopes and side slopes of mountains. The Jobpeak-Teguro-Rock outcrop association is characterized as a very gravelly to very stony loam. These soils tend to be located on side slopes of mountains.

Both soil associations are characterized with moderate or moderately slow permeability. Hazard of erosion by water is generally higher than by wind and ranges from moderate to severe. The soils have a slight erosion hazard by wind. These soils are primarily derived from weathering of residual limestone or dolostone materials (residuum).

### **3.14 Special Status Species**

Special status species include federally listed, proposed and BLM sensitive species, which include both federal candidate species and delisted species within 5 years of delisting. In January, 2012, a list of federally listed, proposed or candidate species was requested from the U.S. Fish and Wildlife Service (USFWS) for the Project. They responded that, to the best of their knowledge, no listed, proposed or candidate species occur in the project area.

BLM sensitive species are species that require special management consideration to avoid potential future listing under the Endangered Species Act and that have been identified in accordance with procedures set forth in BLM Manual 6840.

The Nevada Natural Heritage Program, part of the State of Nevada Department of Conservation and Natural Resources database (NNHP, 2011) and the Nevada Department of Wildlife diversity database (NDOW, 2010), were reviewed for occurrences of BLM sensitive species. These databases have no sensitive species occurrences recorded within or near (2-mile radius) the Project. They indicated the occurrences of several sensitive species beyond the 2-mile radius but

within the cumulative assessment area (Figure 5). These include: several bat species, Lahontan beardtongue, golden eagle and bald eagle.

Baseline surveys, for a concurrent project, through Fencemaker Canyon were conducted in May and June, 2011. Surveys were done along the canyon road (Fencemaker Pass Road) and within approximately .3 miles of the road through the canyon. Aerial surveys for eagles included a 4-mile area on either side of the road. Sensitive species that were documented or may occur in this area are discussed below.

**Desert Bighorn Sheep** (*Ovis canadensis nelsoni*) —The Stillwater Range is identified as occupied habitat for desert bighorn sheep. Bighorn sheep occur in mesic to xeric, alpine to desert grasslands or shrub-steppe in mountains, foothills, or river canyons. Access to mineral lick may be important for Rocky Mountain and desert bighorns, especially in spring. Suitable escape terrain (cliffs, talus slopes, etc.) is an important feature of the habitat. Bighorns are primarily grazers of grass and forbs, but diet can also include significant amounts of shrubs (NatureServe, 2012). The area to be disturbed does not contain a water source or any distinguishing food or habitat sources for wildlife. The Project would not prevent wildlife from moving through the canyon.

**Bats** – Most bats in Nevada are year-round residents. In general terms, bats eat insects and arthropods during the warmer seasons and hibernate in underground structures during the cooler seasons. Bats commonly roost in caves, mines, outcrops, buildings, trees and under bridges. Bats may eat flies, moths, beetles, ants, scorpions, centipedes, grasshoppers, and crickets. Bats thrive where the plant communities are healthy enough to support a large population of prey (Bradley et. al 2006). Most species of bats in the Winnemucca District are BLM sensitive. The Project adit consists of a drift approximately 75 feet long and does not provide habitat for hibernating or for maternity purposes. It may provide roosting habitat for a few individuals.

**Lahontan beardtongue** (*Penstemon palmeri* var. *macranthus*) – This plant is a tall perennial herb with wand-like stems and showy pink tubular flowers with darker markings and may be found along washes, roadsides and canyon floors, particularly on carbonate-containing substrates, usually where subsurface moisture is available throughout most of the summer. It flowers in the late spring, May-July (NatureServe, 2012). Three plants were recorded on the perimeter of the proposed Project Area during the May 2011 survey. Over 400 other lahontan beardtongue plants were found along the survey route through the canyon.

**Ferruginous hawk** - Prefers open country, primarily prairies, plains and badlands; sagebrush, saltbush-greasewood shrubland, desert, periphery of pinyon-juniper and other woodland. It nests in tall trees or willows along streams or on steep slopes, in junipers (Utah), on cliff ledges, river-cut banks, hillsides, on power line towers, sometimes on sloped ground on the plains or on mounds in open desert. It generally avoids areas of intensive agriculture or human activity. Mammals are the primary prey during the breeding season, although birds, amphibians, reptiles, and insects also are taken (NatureServe, 2012).

**Golden Eagle** - Golden eagles are primarily cliff nesters and would utilize the area to forage for prey species such as jackrabbits and other small mammals. Golden eagles are protected under the Bald and Golden Eagle Protection Act. Nevada's golden eagle population is thought to be stable to increasing. They are widespread and frequently encountered (Floyd et al. 2007). Aerial surveys were conducted within an approximate 4-mile radius of the Project on June 28<sup>th</sup> and 29<sup>th</sup>,

2011. No eagle nests or other raptor nests were observed within ½ mile of the Project during the 2011 surveys. One active eagle nest was located approximately 3.5 miles southwest of the Project. Two active nests were located just over 4 miles from the Project.

**Pinyon Jay** – This bird is gregarious and lives in complex social organization; gregarious, and lives in loose flocks of multiple breeding pairs and their offspring from previous nesting seasons. It inhabits pinyon-juniper woodland, less frequently pine; in nonbreeding season, it also occurs in scrub oak and sagebrush. Pinyon jays eats pinyon and other pine seeds, berries, small seeds, and grain and communally caches large numbers of seeds. It also eats insects (larvae, nymphs, and adults); beetles, grasshoppers, caterpillars, ants, and may eat bird eggs, and hatchlings (NatureServe, 2012).

**Loggerhead Shrike** – This bird may be found in open country with scattered trees and shrubs, savanna, desert scrub (southwestern U.S.), and, occasionally, open woodland; often perches on poles, wires or fenceposts (Tropical to Temperate zones). Suitable hunting perches are an important part of the habitat. Feeds primarily on large insects (especially beetles and orthopterans), also other invertebrates, small birds, lizards, frogs, and rodents; sometimes scavenges. Sometimes impales food items on a plant thorn or on barbed wire; such items may be eaten later or fed to young (NatureServe, 2012).

**Sage Thrasher** – During the breeding season the sage thrasher utilizes sagebrush plains, primarily in arid or semi-arid situations, rarely around towns. In northern Great Basin, it breeds and forages in tall sagebrush/bunchgrass, juniper/sagebrush/bunchgrass, mountain mahogany/shrub, and aspen/sagebrush/bunchgrass communities. It feeds on a wide variety of insects, including grasshoppers, beetles, weevils, ants, bees, etc. It also feeds on fruits and berries (NatureServe, 2012).

**Brewer's Sparrow** – This bird is strongly associated with sagebrush over most of its range, in areas with scattered shrubs and short grass. It can also be found to a lesser extent in mountain mahogany, rabbit brush, bunchgrass grasslands with shrubs, bitterbrush, ceonothus, manzanita and large openings in pinyon-juniper. In the spring and summer it consumes many insects (e.g., alfalfa weevils, aphids, beet leafhoppers, caterpillars, beetles). In the fall and winter it feeds on seeds. The Brewer's sparrow forages mainly on the ground. It drinks free water when available and will bathe in standing water; but is adapted to arid environments and can physiologically adjust to water deprivation, obtaining water from foods (NatureServe, 2012).

### **3.15 Vegetation**

The project area is situated within two vegetation communities with the Fencemaker Pass roadway defining the approximate boundary between them. The Sagebrush Scrub community is identified north of the road in the project area (where the adits exist) and the Great Basin Pinyon-Juniper Woodland Community is identified south of the road in the project area (where the clearing and storing would occur).

Sagebrush Scrub Community. Sagebrush scrub communities are typically dominated by big sagebrush (*Artemisia tridentata* spp.) and associated bunchgrasses. The big sagebrush prefers moderate to deep, well-drained soils. These communities provide cover, habitat and a food source for various mammals including mule deer, pronghorn antelope, reptiles and birds.

Pinyon-Juniper Woodland Community. Pinyon-Juniper woodlands are dominated by the singleleaf pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*). In general the pinyon pines dominate the upper elevations while the juniper is more dominant in the lower elevations. It is common for a big sagebrush scrub communities to inhabit the interspaces between pinyon and juniper trees. These communities provide cover, habitat and a food source for various mammals including mule deer, desert bighorn sheep, reptiles and birds. The pinyon provides a source for pine nuts and Christmas trees and the junipers provide a source for firewood.

### **3.16 Visual Resources**

The Project Area is located in the northern Great Basin section of the Basin and Range physiographic province. The Great Basin is defined by a rhythmic pattern of isolated mountain ranges and broad basins. Clear skies and broad, open vistas characterize this landscape. The area is covered with a homogeneous pattern of sagebrush and grasses at lower elevations and pinyon-juniper and mixed shrubs at higher elevations. Vegetation colors include tawny gray, brown, and dark green. Soils range from beige to a chalky off-white which, when exposed, contrast highly with the surrounding vegetation. Rock Colors vary from light to dark brown to burnt orange.

The Project Area is located in a Class IV Visual Resources Management (VRM) area. The objective of this class is to provide for management activities that allow for major modification of the existing character of the landscape. Management activities would be allowed to dominate the visual landscape and be the main 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 of line, form, color, and texture (BLM 1986).

Previous mining and exploration activities have occurred in the Project Area and an existing road bisects the project area. There are presently no known light sources in the general vicinity of the project.

### **3.17 Wildlife**

The area in and around (2-mile radius) the Project area provides habitat for species common to the Great Basin. Some of the large mammal species includes mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), and badger (*Taxidea taxus*). Various small common mammals, primarily rodents, and common reptiles may also be found in this area.

**Mule Deer** - Deer are generally classified as browsers, with shrubs and forbs making up the bulk of their annual diet. The diet of mule deer is quite varied; however, the importance of various classes of forage plants varies by season. In winter, especially when grasses and forbs are covered with snow, their entire diet may consist of shrubby species. The mule deer habitat within the Stillwater Range has been classified as year-round habitat, although relatively scarce water sources limit the herd size in this area.

**Pronghorn** – Rangelands with a mixture of grasses, forbs, and shrubs provide the best habitat for pronghorns. Pronghorn seem to prefer habitats with shrub heights between 10-25 inches. The Project is on the eastern edge of year-round habitat for pronghorn. Pronghorn use in the project area would be very limited, as they prefer to utilize the more open areas to the west, outside of the pinyon and juniper communities.

## **4 ENVIRONMENTAL CONSEQUENCES**

The direct and indirect effects to affected resources caused by implementation of the Proposed Action and the No Action Alternative are analyzed in this chapter. Cumulative impacts are discussed separately in Chapter 5.

### **4.1 Proposed Action**

#### **Supplemental Authorities**

##### **4.1.1 Air Quality**

The Project has the potential to disturb 0.63 acres; disturbance would occur over a fifteen-year period. Travel on dirt access road would create fugitive dust, explosives and vehicle emissions which would have an impact to air quality from PM<sub>10</sub> (about 589 tons/year), PM<sub>2.5</sub> (about 174 tons/year), SO<sub>2</sub> (about 0.785 tons/year), NO<sub>2</sub> (about 0.010 tons/year), CO (about 285 tons/year), CO<sub>2</sub> (about 1,060 tons/year), CH<sub>4</sub> (about 0.0013 tons/year) and VOCs (1.2 tons/year). Fugitive dust and vehicle emissions would occur for short periods (i.e., when vehicles are driven on unpaved roads and explosions occur) during active mining. It is not anticipated that vehicle travel or explosions with their associated emissions would be continual throughout the work period.

Fugitive dust would be caused by the operation of the following equipment: dump trucks (either end dump or belly dump); personal vehicles (pickup trucks); contractor explosives transport vehicle; truck with trailer for water transport bobcat front loader; air compressor; Vehicle emissions would occur anytime the internal combustion engines on the vehicles are operating.

Fugitive dust would be controlled by minimizing surface disturbance and following speed limits. Speed limits (e.g., 15 mph on unpaved roads) on access roads and roads within the Project Area would be observed. Impacts would be controlled by using water trucks for dust suppression. Reclamation of surface disturbance at closure would gradually eliminate fugitive dust from wind erosion.

##### **4.1.2 Cultural Resources**

No impacts to archeological or historic resources are anticipated.

##### **4.1.3 Invasive and Nonnative Species**

The strategy for invasive and nonnative weed management is to, “prevent and control the spread of invasive and nonnative weeds through local and regional cooperative efforts...to ensure maintenance and restoration of healthy ecosystems on BLM managed lands.” Invasive and nonnative weed control would be based on a program of “prevention, education, detection and rapid response (control) of small infestations.” New surface disturbance from the Proposed

Action would increase the potential for and promote the spread of existing hoary cress (*Cardaria draba*) and saltcedar (*Tamarix L.*) and establishment of invasive and nonnative species. These impacts would be minimal based on implementation of the environmental protection measures outlined for invasive and nonnative weeds in Section 2.1.11, which includes the following BMPs: concurrent reclamation efforts; operator control; removal of invasive and nonnative weeds on reclaimed areas; washing vehicles prior to entering the Project Area; and avoiding areas of known invasive and nonnative weeds during periods when the weeds could be spread by vehicles; and reclamation.

#### **4.1.4 Migratory Birds**

The wildlife environmental protection measure outlined in Section 2.2.13 would prevent direct impacts to migratory birds in the Project Area. Potential indirect impacts occur to migratory birds as a result of vegetation removal and activities associated with the Proposed Action and could include loss of .25 acres of habitat, forage, and cover. Migratory birds foraging in the Project Area during mining activities would likely leave the immediate area, resulting in a temporary spatial redistribution of individuals or habitat-use patterns during the Project. Such redistribution would not have a long-term effect because undisturbed and suitable habitat exists around the Project Area. No long-term impacts are likely to occur because reclamation and reestablishment of vegetation would take place within approximately three years of Project completion.

#### **4.1.5 Native American Religious Concerns**

The Proposed Action would be located on both sides of the Fencemaker Pass road which serves as the main access road to traditional pine nut areas frequented by the Northern Paiute, including a TCP recommended by the Lovelock Paiute Tribe located 0.5 miles to the east. The Proposed Action would result in temporary delays on the road during blasting activities. Blasting activities are expected to occur up to twice a day. The Fencemaker Pass road would be closed for safety reasons approximately 0.5 mile in either direction from the adit for 15 to 20 minutes per blast up to two times a day. Equipment would have to cross the road on a regular basis throughout a normal workday. Equipment would yield to all traffic not related to the Proposed Action and would not interfere with access to the TCP. In the event that blasting related closures would affect access to the proposed TCP, Stockpiles Reserves would adjust blasting times to minimize the impact. Therefore only temporary and minimal impacts to access to traditional pine nut areas are anticipated. Impacts to safety of Native Americans utilizing the area are not anticipated.

The security trailer would be visible from a small portion of the western area of the proposed TCP. However, since the trailer would be earth-tone colors with low reflectivity, visual impacts to the setting of the TCP would be anticipated to be temporary and minimal.

Some operational noise would be associated with the Proposed Action, including blasting, drilling, and equipment engine noise. Blasting up to two times a day would occur underground limiting the audible noise in both duration and area. Drilling activities would also occur underground and would be barely audible outside of the adit entrance. The small compressor located outside of the adit would be audible for a greater distance. With the exception of the

beginning and end of a work day when workforce vehicles would arrive and depart from the Project Area, engine noise would consist of a small diesel fueled loader. While, it is possible that noise related to the Proposed Action would be audible from the areas of the TCP located closest to the Proposed Action it is not anticipated that the noise level would be distracting to Native Americans visiting the TCP. In the event that the noise related to the Proposed Action negatively affects the TCP, noise reduction measures would be employed immediately. Therefore, only temporary and minimal noise impacts to the setting of the TCP are anticipated.

#### **4.1.6 Water Quality**

##### *Surface Water*

The Proposed Action could indirectly result in impacts to surface water quality within ephemeral drainages as a result of spills and sedimentation from surface disturbance. The impacts to potential seasonal surface water (spring run-off) quality from spilled petroleum products and drilling fluids would be minimized by the implementation of the Spill Prevention Plan included in the Plan. The potential impacts to surface water quality from sedimentation would be minimized by the implementation of environmental protection measures outlined in Section 2.2.13

#### **Additional Affected Resources**

#### **4.1.7 Geology**

The Proposed Action, by its very nature, impacts geology. The project involves the removal of the mineral antimony from the mine. Underground mining would occur in an existing adit. Stockpile Reserves would resume driving the existing horizontal drift; following the apparent ore body using typical cut and fill mining methods. Based on the reported high grade of the ore and previous mining experience, minimal waste rock would be removed as part of the mining operations. Any waste or lower grade material produced during mining may be used, if suitable, for backfill material. There would be no impacts to geology outside of the mining activities.

#### **4.1.8 Paleontology**

The potential for significant paleontological resources in the Project Area ranges from very low, to unknown and there are no known paleontological sites in the project area. Given the proposed mining in and adjacent to a stibnite-containing vein system that has undergone structural and chemical alteration during emplacement of the stibnite mineralization, any previously existing paleontological resources may have already been obscured. Accordingly, there is little potential for impacts to paleontological resources even if they were present. Therefore no impacts to paleontological resources are anticipated. If any significant paleontological resources are found during operations, impacts would be mitigated through avoidance and/or data recovery.

#### **4.1.9 Public Access**

The Proposed Action is located entirely on public land administered by the BLM and designated for multiple uses. The Fencemaker Pass Road travels through the Project Area and provides access to a microwave station on Fencemaker Peak as well as access to the woodcutting and pine nut gathering area to the east.

The Proposed Action has the ability to impact passage on Fencemaker Pass Road. The roadway would be closed during daily blasting to ensure public safety. Road closures would be approximately 15 to 20 minutes in length. Signs would be posted on the road in both directions, approximately ½ mile from the adit entrance. In addition, a flag person/persons would be employed during blasting to assist in public notification.

General access to the Stillwater Range would not otherwise be affected as a result of mining operations. Project-related traffic would yield to public traffic at all times. At no time would Project related activities block the road with the exception of the aforementioned blasting periods.

#### **4.1.10 Rangeland Management**

Direct effects resulting from the Proposed Action is limited to an additional 0.25 acres of site disturbance at the immediate vicinity of the existing adit entrance. This added soil and vegetation disturbance is not expected to affect the forage base currently permitted on the South Rochester Allotment or require the adjustment of the involved grazing authorizations.

The Proposed Action also would not directly affect existing range improvements located in the South Rochester Allotment. The closest permitted range improvement to this Project Area is a stockwater development located at the Mustang Spring located 1.5 miles downhill and to the west of the Project Area. Except for an expected increase daily traffic along the Fencemaker Canyon Road attributed to the Proposed Action, this alternative is not anticipated to interfere or otherwise disrupt livestock use or access at this stockwater development, or affect grazing distribution in the southeast portion of the South Rochester Allotment.

Due to the minor nature of disturbances resulting from this mine development, minimal impacts from the Proposed Action are expected to livestock grazing management.

#### **4.1.11 Recreation**

The Proposed Action has the ability to impact recreation uses by restricting use of the Fencemaker Pass Road during blasting activities. As discussed in Section 4.1.10, for public safety access on the roadway would be blocked for 15 – 20 minute time periods during approximately twice daily during blasting activities. As this area is remote and there are no established recreation activities in the immediate vicinity, the impact to recreation users is expected to be minimal.

The total use of the 0.63 acres for the mining activities is not expected to impact recreational users. This area has no significant features desirable to a recreation user. There are no trails, water sources or geographical features within the Project Area. Camping would not be expected to occur, and as discussed in Chapter 3, the site does not contain habitat desirable to wildlife to attract wildlife-watchers or hunters.

#### **4.1.12 Soils**

The Proposed Action's impact on soils is anticipated to be minimal. The total Project Area is 0.63 acres with approximately 0.25 acres being new disturbance. The 0.25-acre disturbance would include the removal of any existing vegetation and the temporary compaction of the area for use with the mining activities. Following conclusion of the mining activities the area would be reclaimed.

#### **4.1.13 Special Status Species**

**Desert Bighorn Sheep** – Bighorn sheep would likely avoid the Project area due to increased human presence, noise and light. The area to be disturbed does not contain a water source or any distinguishing food or habitat sources for wildlife. The Project would not prevent wildlife from moving through the canyon. The habitat loss of less than an acre (.25) would not affect the bighorns in a measurable amount.

**Bats** –The Project adit consists of a drift approximately 75 feet long and does not provide habitat for hibernating or for maternity purposes. It may provide roosting habitat for a few individuals. The proposed mining activity would cause any roosting bats to vacate the adit to find other suitable roosting habitat. Bats that forage in the area of the Project, may avoid it due to disturbance.

**Lahontan beardtongue** – The three plants that were located on the perimeter of the Project Area, in May, 2011 may be damaged or destroyed by the proposed action. The survey also located over 400 plants along the survey route through the canyon. The possible loss of three plants would not threaten the lahontan beardtongue population as a whole.

**Golden Eagle, and Ferruginous Hawk** – Impacts to these raptors from the Project would be the same as was discussed in Section 4.1.4 Migratory Birds. No eagle nests or other raptor nests were observed within ½ mile of the Project during the 2011 surveys. Because no nests were found (within ½ mile) during the survey and because of the environmental protection measures pertaining to raptor nest searches prior to implementation of the proposed action (Section 2.2.13), no impacts to nesting raptors would occur.

**Pinyon Jay, Loggerhead Shrike, Sage Thrasher, Brewer's Sparrow** – Impacts to these species would be the same as for other migratory birds discussed in Section 4.1.4, Migratory Birds.

#### **4.1.14 Vegetation**

The Proposed Action would remove approximately 0.25 acres of existing vegetation. No special designation vegetation species have been identified within the Project Area. Vegetation to be removed would be from the Sagebrush Scrub Community and the Pinyon-Juniper Community.

#### **4.1.15 Visual Resources**

The Proposed Action would result in visual impacts principally affecting the visual element of color for the anticipated 10-15 year life of project. Existing disturbance of the mine adit and the adjacent leveled parking area would be utilized with the addition of 0.25 acres of leveled area. Disturbance of vegetation would cause moderate, temporary color contrasts. With successful revegetation, long-term visual impacts would be minimized. Environmental measures to lessen the potential visual impact of the project include the shielding of exterior light sources to eliminate offsite lighting and the reclamation of the site upon project completion. The effects of the Proposed Action on visual resources would be consistent with BLM prescribed Class IV VRM objectives.

Mining activities could occur 24 hours per day and could occur in any part of the Project Area. Drilling during the night would require the use of lights. As stated in the Proposed Action (Section 2.1.13), Stockpile Reserves would utilize directional lighting with shields allowing the crew to carry out its duties in a safe manner while isolating and minimizing the glow of light that would be seen from a distance. The effect of any remaining light after application of the environmental protection measures would be for the anticipated 10-15 year life of project.

#### **4.1.16 Wildlife**

Impacts to wildlife would be the same as those discussed in Section 4.1.13 Special Status Species, Desert Bighorn Sheep. Small or subsurface species may be injured or killed in the surface disturbance area.

### **4.2 No Action Alternative**

Under the No Action Alternative, none of the proposed activities associated with the Proposed Action would occur. The existing mine and surrounding area would remain as it is today. There is currently an active notice at the site. Under the No Action Alternative the notice may remain active. Under the notice up to five acres of surface disturbing activities and removal of up to 1,000 tons of presumed ore could be performed at the site. Reclamation of any notice-related disturbances would be required and would include recontouring and reseeded of notice-related surface disturbances.

## **Supplemental Authorities**

### **4.2.1 Air Quality**

The No Action Alternative would leave the existing air quality conditions in place. There is currently an active notice at the site. Under the No Action Alternative the notice may remain active. Under the notice up to five acres of surface disturbing activities and removal of up to 1,000 tons of presumed ore could be performed at the site. Reclamation of any notice-related disturbances would be required and would include recontouring and reseeding of notice-related surface disturbances. If removal of presumed ore occurs under the notice, there would be vehicle exhaust and potential gases from mining equipment and explosives at the site while the ore material is removed. Vehicles would still travel on the dirt Fencemaker Pass Road, although the number of vehicles accessing the road would be less than with the Proposed Action. The road services three microwave stations on Fencemaker Peak and provides access to the woodcutting and pine nut gathering area to the east. These vehicles currently have the ability to create fugitive dust and emissions, causing a minor impact to air resources.

### **4.2.2 Cultural Resources**

No impacts to archeological or historic resources are anticipated.

### **4.2.3 Invasive, Nonnative Species**

There is currently an active notice at the site. Under the No Action Alternative the notice may remain active. Under the notice up to five acres of surface disturbing activities and removal of up to 1,000 tons of presumed ore could be performed at the site. Reclamation of any notice-related disturbances would be required and would include recontouring and reseeding of notice-related surface disturbances. If removal of presumed ore occurs under the notice, there would be for vehicle traffic and potential surface disturbing activities up to five acres. These activities may cause the spread of salt cedar and hoary cress and/or introduce other invasive, nonnative species at the site.

Under the No Action with an active notice the operator would be responsible for controlling all noxious weeds and other undesirable invading plant species in the reclaimed area until the revegetation activities have been determined to be successful by the BLM authorized officer. The site would be periodically inspected and invasive, nonnative weeds may be identified and treated.

### **4.2.4 Migratory Birds**

Under the No Action Alternative, with an active notice, the operator would be responsible for conducting migratory bird surveys, as described in Section 2.2.13, to avoid direct impacts to migratory birds. Impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **4.2.5 Native American Religious Concerns**

Under the No Action Alternative, there would be no impacts to Native American religious concerns.

Under the No Action with an active notice the operator would be required to implement the following: Pursuant to 43 CFR 10.4(g) the holder of a notice must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the immediate vicinity of the discovery and protect it from your activities for 30 days or until notified to proceed by the authorized officer.

#### **4.2.6 Water Quality**

##### *Surface Water*

Under the No Action Alternative, given the general lack of surface water in the area of the project, there would be no impacts to surface water quality. The site conditions would remain as they exist today.

There is currently an active notice at the site. Under a notice an operator would be responsible for avoiding any impacts to surface water, and cleaning up any spills that may occur.

#### **Additional Affected Resources**

#### **4.2.7 Geology**

There is currently an active notice at the site. Impacts to geology resources would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **4.2.8 Paleontology**

There is currently an active notice at the site. No impacts to paleontology resources would be expected. Under the No Action with an active notice the operator would be required to leave any discovered paleontological resources (i.e., vertebrate and uncommon invertebrate or plant fossils) intact and immediately contact the BLM authorized officer.

No further analysis of this resource will be conducted in this EA.

#### **4.2.9 Public Access**

The existing Fencemaker Pass Road right-of-way would still be accessible by the public with the No Action alternative. No changes to the existing use of the right-of-way would occur.

#### **4.2.10 Rangeland Management**

The impacts to rangeland management under the No Action Alternative would be minimal due to the small and dispersed nature of the permitted surface disturbance and this impact is similar to but less than the Proposed Action. Notice-level disturbance is not expected to overlap with rangeland improvements, including the fence line or pipeline, located in the Project Area. Therefore, no impacts to rangeland improvements are expected as a result of the No Action Alternative.

There is currently an active notice at the site. No impact to rangeland management from the implementation of this notice is anticipated.

#### **4.2.11 Recreation**

There is currently an active notice at the site. Impacts to recreation resources would be similar to impacts under the Proposed Action at either a reduced duration or intensity.

#### **4.2.12 Soils**

There is currently an active notice at the site. There is a potential for disturbance of up to five acres of soil under the No Action.

#### **4.2.13 Special Status Species**

There is currently an active notice at the site. Impacts to special status species would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **4.2.14 Vegetation**

There is currently an active notice at the site. There is a potential for removal of up to five acres of vegetation under the No Action.

#### **4.2.15 Visual Resources**

There is currently an active notice at the site. Impacts to visual resources would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **4.2.16 Wildlife**

There is currently an active notice at the site. Impacts to wildlife would be similar to impacts under the proposed action at either a reduced duration or intensity.

## **5. CUMULATIVE IMPACTS**

A cumulative impact is defined under federal regulations as follows:

"...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 impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

As required under the NEPA and the regulations implementing NEPA, this chapter addresses those cumulative effects on the environmental resources in the Cumulative Effects Study Area (CESA) that could result from the implementation of the Proposed Action and No Action Alternative. The length of time for cumulative effects analysis will vary according to the duration of impacts from the Proposed Action and the No Action on the particular resource.

### **5.1 Assumptions for Analysis**

Direct and indirect consequences of the Proposed Action were evaluated previously in Chapter 4 for the various environmental resources. Analyzed in this chapter are those resources from Chapter 4 that have the potential to be incrementally impacted by the Proposed Action within the identified CESAs. Resources that are not anticipated to receive a cumulative impact will not be analyzed in this chapter. These resources are cultural, paleontology, rangeland management, water and recreation.

The HUC 12 subwatershed-based CESA boundary for this EA was determined by the BLM interdisciplinary team (IDT) (Figure 5). Utilizing a water-shed approach the scale context, magnitude and intensity of the Proposed Action; the potentially affected resources; and scoping were taken into account in determining the CESA. Factors considered included the incremental project effects to high value bighorn sheep and potential sage-grouse habitats and pinyon-juniper woodlands located in the northern Stillwater Range; existing right-of-ways (ROWs); permits located in the area the developed and expanding geothermal resources in the Dixie Valley; and the exploration and development of geothermal resources in Buena Vista and Antelope Valleys located to the west of the Proposed Action. Hydrologic resources and water quality effects associated with the Proposed Action was also a consideration during this designation.

Based on these resource considerations and current and foreseeable activities occurring on BLM administrative lands, this CESA includes the northern Stillwater Range from the south end of Table Mountain north to Grayson Canyon and spring. Due to the current and expanding geothermal development in the area, this CESA was expanded to the east and the west to include past and ongoing geothermal development occurring in Dixie Valley and Buena Vista Valleys respectively.

This CESA selected represents approximately 273,000 acres and includes portions of the Buena Vista Valley groundwater basin (No. 129) to the west and the Dixie Valley groundwater basin (No. 128) to the east.

## **5.2 Past and Present Actions**

Land at and in the vicinity of the Proposed Action is federally-managed by the BLM. Small private parcels are scattered throughout the CESA. This area is relatively undeveloped and the majority of the area is permitted for livestock grazing. The Department of Defense conducts training of low-level supersonic flight operations in the Stillwater Range and to the south. Pine nut, firewood and Christmas tree harvesting (BLM, 2003) are regularly permitted by the BLM in the Stillwater Range. In the past, range fires have impacted portions of the CESA. A total of approximately 4,450 acres within the 273,000 acres CESA have been impacted by fire since 1994. Dispersed recreation occurs throughout the CESA; however, there is no data on the level of use.

The Fencemaker mine is located in the historic Table Mountain mining district in the north portion of the Stillwater Range. It is presumed that the antimony ore that was reportedly shipped from the district in the 1880s was from a Fencemaker mine. Two tons of ore was shipped from the mine again in 1940. In 1957, the mine was developed by two adits totaling approximately 115 feet of workings (Lawrence, 1963). Mining activities resumed in the mid 1960's and continued to 1981. Other mines and prospects are present in the area. Review of the BLM Legacy Rehost (LR) 2000 reporting system indicated numerous active ROWs, and geothermal permits in the CESA. These existing uses include two mining notice-level activities (including the notice-level activity at the project area and a second one north of the project area; total disturbance approximately 5 acres), geothermal exploration, and ROWs for telecommunications, power transmission, community mineral borrow pits, and roadways. Fifteen ROWs encompassing approximately 1,779 acres are authorized in the CESA.

Several existing ROWs or other uses have been granted on public lands near the project area. These include ROWs for transmission and telecommunication lines, telecommunication sites, and roads. Following the Fencemaker Pass Road is the BLM ROW corridor for an existing AT&T fiber optic telephone line. Also utilizing the Fencemaker Pass area is an existing Sierra Pacific Power Co. transmission line. Several telecommunication sites are also located at the highest reaches of Fencemaker Pass and access for facility maintenance is permitted through Fencemaker Pass Road. All these existing uses are located in close proximity to the project area with those following the footprint of the Fencemaker Pass Road transecting the project area.

An additional existing use in this CESA is an approximately five acre community borrow pit located adjacent to the Fencemaker Pass Road approximately two miles east of its junction with the McKinney Pass Road in Buena Vista Valley. This borrow pit is permitted to the Pershing County Road Department. This existing community borrow pit is approximately 3.5 miles to the west of the project area.

The BLM LR 2000 also indicates continued geothermal exploration in Dixie Valley. Located to the east of project area and on the east slope of the Stillwater Range, these existing uses would not directly affect or be directly affected by the Proposed Action. Geothermal exploration is also active on the west side of the project area in lower Buena Vista Valley and south toward Antelope Valley. One geothermal project is located immediately to the west and down slope of the project area. The New York Canyon Geothermal Exploration Project was approved by the BLM in a decision dated October 2010 (BLM, 2010a and 2010b). This project allows for geothermal exploration within a 15,934-acre lease located three miles to the west and south of the project area. Authorized activities include the drilling of up to 15-10,000 foot deep

observation wells, one temporary water well, construction of access roads, well pads, surface pipelines and ancillary facilities (including a man-camp) for geothermal exploration. Total estimated disturbance area associated with this exploration is 81.8 acres.

Seven grazing allotments are located within the CESA. These allotments are administered by the BLM Humboldt Regional Field Office (HRFO), BLM Mount Lewis Field Office (MLFO) out of the Battle Mountain District Office (BMDO) and the Stillwater Field Office (SFO) out of the Carson City District Office (CCDO) and include the South Rochester, Rawhide, Pleasant Valley, South Buffalo, Jersey Valley, Boyer Ranch Cottonwood Valley, and Copper Kettle Allotments. Details for the South Rochester Allotment, which represents the allotment the Proposed Action is located in, are found in Section 3.8, while estimated project effects are disclosed in Section 4.1.7.

### **5.3 Reasonably Foreseeable Future Actions**

Activities that would be expected to continue to occur in the CESA include permitted livestock grazing, pine nut collecting, firewood collecting and Christmas tree harvesting. The Fallon Naval Air Base is expected to continue its supersonic fighter training operations in central Nevada in the foreseeable future. Also, disperse recreation and public access is expected to continue in the CESA. Demands for these later activities are expected to increase across the WDO in the foreseeable future.

As is evident today, the activities most likely to affect resources evaluated under the proposed action and located in this CESA in the foreseeable future are represented by continued geothermal exploration and development in Dixie and Buena Vista Valleys.

Presently, a proposal for a New York Canyon Geothermal utilization has been received. This proposal includes construction of a geothermal power plant and up to two power lines in the general area. One proposed power line route would follow Fencemaker Canyon. This utilization plan also overlays the current alignment of the western portion of Fencemaker Pass Road.

On April 27, 2010, the BLM Winnemucca District Office (WDO) issued a scoping letter to solicit public input on the development of an environmental analysis for implementing community pit designations for mineral materials (sand/gravel) free use permits in Pershing County (BLM 2010c). Coordinated in conjunction with the Pershing County Road Department, the proposed action under this project is to evaluate the renewal, expansion, and creation of 37 mineral material sites located on BLM managed lands located in Pershing County. Three out of these 37 sites are located in this CESA. These three proposals include locating two new mineral material sites in Dixie Valley along the Dixie Valley Cut-off road. The permitted areas associated with these proposed pit locations represent 14 and 8.5 acres respectively. The third site represents the renewal of the existing 5 acre borrow pit located along the Fencemaker Pass Road and expanding the permitted area to a 35 acre facility.

## 5.4 Cumulative Impacts

### 5.4.1 Air Quality

*Past and Present Actions:* All the activities identified in Section 5.2 have emissions. These activities are principally contributing point source particulate matter emissions and fugitive dust to the air quality impacts; however, products of combustion are also emitted.

*RFFAs:* All the activities identified in Section 5.3 would have emissions. These activities would principally contribute point source and non-point source particulate matter and combustion emissions and fugitive dust to the air quality impacts. *Cumulative Impacts from the Proposed Action:* Cumulative impacts to air quality within the CESA would result from the past and present actions and RFFAs when combined with the Proposed Action. The incremental contribution of the Proposed Action's particulate and combustion emissions and fugitive dust would be relatively small and the cumulative emissions are generally dispersed.

*Cumulative Impacts from the No Action Alternative:* Cumulative impacts to air resources within the CESA would result from the present and RFFAs only. Cumulative impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

### 5.4.2 Invasive and Nonnative Species

*Past and Present Actions:* Past and present actions that have had impacts that resulted in the establishment and/or spread of invasive and nonnative species include livestock grazing, ROWs, mining (historic and sand/gravel), notice-level activities, geothermal exploration and dispersed recreation.

*RFFAs:* Activities that occurred in the past and present and are likely to result in the establishment and/or spread of invasive and nonnative species are expected to continue into the reasonably foreseeable future.

The pending activities most likely to result in the establishment and/or spread of invasive and nonnative species in the foreseeable future are represented by geothermal development and community sand/gravel pit activities.

*Cumulative Impacts from the Proposed Action:* Cumulatively, the past, present, and RFFAs in combination with the Proposed Action would result in potential impacts from invasive, nonnative species that would be limited to infestations following removal or disturbance of vegetation. The Project Area has occurrences of invasive weeds, specifically hoary cress (*Cardaria draba*) and saltcedar (*Tamarix L.*) in the previously disturbed portion of the proposed operations area. The potential impacts from the Proposed Action would be reduced or eliminated through operator control; removal of invasive, nonnative, and noxious weeds on reclaimed areas; washing vehicles prior to entering the Project Area; and avoiding areas of known invasive, nonnative, and noxious weeds. As a result, a minimal incremental impact from invasive, nonnative species in the CESA is expected.

*Cumulative Impacts from the No Action Alternative:* Cumulative impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

### **5.4.3 Migratory Birds**

*Past and Present Actions:* Past and present actions that have impacted migratory birds include livestock grazing, ROWs, low-level supersonic flight operations, mining (historic and sand/gravel), notice-level activities, geothermal exploration and dispersed recreation.

Migratory birds and other wildlife have been impacted through wildfire and various multiple uses such as, livestock grazing, ROWs, mining (historic and sand/gravel), notice-level activities, dispersed recreation, geothermal exploration and low-level supersonic flight operations. Many of these activities also add to the creation of roads and trails. Human activities have also increased the introduction and spread of weeds.

Livestock continue to utilize vegetation and impact riparian vegetation, soils and water quality. Projects, such as fences and water developments have been installed over the last several decades and continue to be used and maintained for the purpose of livestock grazing management.

Fences and water projects continue to have impacts to wildlife. The use of fencing limits access and can help reduce adverse impacts to habitat from livestock and human use. They can also allow implementation of livestock grazing systems which have a impact to wildlife habitat by providing periodic rest from grazing. Other impacts can result from injuries or death to wildlife from entanglement or from alteration of natural movement. Fences and other structures may also provide unnatural, advantageous perch sites for avian predators. Additional water sources can increase populations by providing water where it would not naturally occur. This may be beneficial to some species and detrimental to others. For instance, insect numbers may increase and provide a greater abundance of food for birds and bats but may also increase the incidence of disease (e.g., West Nile virus) transmission to some species of wildlife.

ROWs have added to impacts to wildlife through authorization of access and permitting of structures and activities in the assessment area. Consequently, the need for roads and trails is increased. Since some species are reluctant to go near or cross roads or trails, fragmentation of habitats can result. Such actions result in more human activity, noise, and disturbance to wildlife habitat.

Mineral and geothermal exploration and mining activities affect wildlife through vegetation removal, noise, fragmentation and spread of weeds.

Low-flying jet aircraft from a nearby DOD facility also add to noise in the assessment area. Flights are infrequent but regular and it is presumed that wildlife has developed some level of acclimation to the noise but they are still likely affected.

Recreation activities affect wildlife in similar ways as does realty actions. Cross country OHV use in addition to use of existing trails, can injure wildlife, disrupt their activities, disturb soil and vegetation and spread weeds.

*RFFAs:* Past and present activities are likely to continue into the reasonably foreseeable future and will continue to impact migratory birds and other wildlife. Future activities that will also have effects in the assessment area are geothermal development and three additional community sand/gravel pits.

Potential impacts from these RFFAs are expected to be similar to those described in Past and Present Actions. Reclamation of areas may increase the vegetation in the future, although loss of some vegetation is also expected to occur with future actions.

*Cumulative Impacts from the Proposed Action:* Impacts to migratory birds and other wildlife, from the Project is expected to be minor (slight, but detectable). The amount of vegetation to be removed under the Proposed Action is 0.25 acres, a very minor amount when compared to the overall size of the 273,000 acre CESA area. Human activity would also increase on the 0.25 acres of new disturbance.

*Cumulative Impacts from the No Action Alternative:*

Cumulative impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **5.4.4 Native American Religious Concerns**

*Past and Present Actions:* Similar to Cultural Resources, it is not expected that past and present actions are substantially impacting Native American Religious Concerns. The Stillwater Range where the CESA is located has been traditionally used by the Northern Paiute Tribe. The presence of the mining and geothermal exploration added new uses to area. These uses were all evaluated for the impacts on the Native American Religious Concerns and either avoided impacts or provided mitigation, as evidenced by BLM approval. The Stillwater Range is also used for traditional gathering of pine nuts. Removal of pinyon pines which provide pine nuts would be an impact to Native American Religious Concerns.

*RFFAs:* Anticipated RFFAs would be geothermal exploration and development the impacts would be similar to the past and present actions. Access to the Stillwater Range and access for pine nut gathering activities would be important to maintain for Native American Religious Concerns. Although not anticipated to occur due to project design requirements and potential mitigation, any future project that eliminated existing access and proposed the removal of pinyon pines could have an substantial impact on Native American Religious Concerns.

*Cumulative Impacts from the Proposed Action:* The Proposed Action, when combined with the past and present actions along with the RFFAs, is not expected to impact Native American Religious Concerns. A minor temporary delay for access may occur during mining activities when the portion of Fencemaker Pass Road is closed for blasting activities. The delay is expected to be between 15 and 20 minutes, potentially twice a day, and is closed for safety concerns for the public. This temporary closure would impact access but it is considered a minor impact. The Project Area does not contain any pinyon pines, so no impact to the availability of pine nuts would occur.

*Cumulative Impacts from the No Action Alternative:* No cumulative impacts would be anticipated.

#### **5.4.5 Geology**

*Past and Present Actions:* The past and present actions that have impacts to geology are the two notice-level activities.

*RFFAs:* The reasonable foreseeable future action that potentially would impact geology is the community mineral borrow pits project.

*Cumulative Impacts from the Proposed Action:* While the geology resource disclosed under the past present and RFFAs, includes both bedrock and overlying alluvial material, the Proposed Action would focus on removing bedrock containing antimony ore. The geology of the site may change with the additional removal of the desired antimony mineral from notice-level activity to plan level activity. The impacts to geology for these actions are limited to the areas associated with the action and do not impact the overall geology of the CESA.

*Cumulative Impacts from the No Action Alternative:* No cumulative impacts would be anticipated.

#### **5.4.6 Public Access**

*Past and Present Actions:* Past and present actions that are likely to have impacts to public access resources include ROWs, mining (historic and sand/gravel), and geothermal exploration. These actions have utilized and/or created roads in the CESA. These impacts are detours, improved or degraded roads and/or slower travel times due to other traffic. Upon completion of the action, reclamation is required to return the project areas to pre-disturbance conditions.

*RFFAs:* The activities most likely to affect public access in the foreseeable future are represented by geothermal exploration and development and community sand/gravel pit activities. The impacts would be similar to impacts described under past and present actions.

*Cumulative Impacts from the Proposed Action:* Cumulative impacts would be detours, improved or degraded roads and/or slower travel times due to other traffic. The publics' ability to access throughout the CESA is not expected to be affected.

*Cumulative Impacts from the No Action Alternative:* Cumulative impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **5.4.7 Soils**

*Past and Present Actions:* Past and present actions that impact soil include livestock grazing, ROWs, mining (historic and sand/gravel), geothermal exploration, and dispersed recreation. The primary impacts to soils from these activities are erosion and sedimentation, often associated with vegetation loss.

*RFFAs:* Activities that occurred in the past and present and are likely to have impacts to soils and are expected to continue into the reasonably foreseeable future.

The activities most likely to affect soils in the foreseeable future are represented by livestock grazing, geothermal exploration and development, and community sand/gravel pit activities. The impacts from these actions would be the same as described in the past and present actions.

*Cumulative Impacts from the Proposed Action:* The Proposed Action (0.63 acres) would impact a very small percent of the CESA (273,000 acres). As a result, a minimal impact to soils in the CESA is expected.

*Cumulative Impacts from the No Action Alternative:* The incremental effect of the No Action would be the addition of up to five acres of soil impact in the approximately 273,000 acres of CESA.

#### **5.4.8 Special Status Species**

*Past and Present Actions:* Impacts from past and present actions to special status species would be the same as those discussed in section 5.4.3 Migratory Birds, Impacts from Past and Present Actions.

*RFFAs:* Activities that occurred in the past and present and are likely to have impacts to special status species similar to those discussed in Section 5.4.3 and are expected to continue into the reasonably foreseeable future except to a lesser extent overall, since BLM management provides greater protection to species designated as having “special status” than those species that are not.

*Cumulative Impacts from the Proposed Action:* The Proposed Action would remove an additional 0.25 acres of vegetation beyond what exists today (0.38 acres). Cumulative impacts to the special status species, as a result of the removal of 0.25 acres of additional vegetation, are expected to be minor. Cumulatively the type of impacts that would occur would be habitat loss and avoidance. The Proposed Action would impact a total of 0.63 acres of habitat in the cumulative assessment area of 273,000 acres. The primary impact the Proposed Action would contribute to special status species impacts in the CESA would be avoidance of activities due to noise and light.

The three plants that were located on the perimeter of the Project Area, in May, 2011 may be damaged or destroyed by the proposed action. The survey also located over 400 plants along the survey route through the canyon. The possible loss of three plants would not threaten the lahontan beardtongue population as a whole.

*Cumulative Impacts from the No Action Alternative:* Cumulative impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **5.4.9 Vegetation**

*Past and Present Actions:* Past and present actions that impact vegetation include livestock grazing, ROWs, mining (historic and sand/gravel), geothermal exploration, and dispersed

recreation. The vegetation within the CESA's seven allotments has been affected by selected removal and/or crushing with use by livestock, and dispersed recreationists. Actions such as ROWs, mining and geothermal exploration have removed vegetation within the CESA.

*RFFAs:* Existing vegetation uses are not expected to change in the future from what exists today. Activities that occurred in the past and present and are likely to have impacts to vegetation are expected to continue into the reasonably foreseeable future.

The activities most likely to impact vegetation in the foreseeable future are represented by livestock grazing, geothermal exploration and development, community sand/gravel pit, activities.

*Cumulative Impacts:* The Proposed Action (0.63 acres) would impact a very small percent of the CESA (273,000 acres). As a result, a minimal incremental impact to vegetation in the CESA is expected.

*Cumulative Impacts from the No Action Alternative:* The incremental effect of the No Action would be the addition of up to five acres vegetation removal in the approximately 273,000 acres of CESA.

#### **5.4.10 Visual Resources**

*Past and Present Actions:* Past and present actions that are likely to have impacts to visual resources include ROWs, mining (historic and sand/gravel), and geothermal exploration. These actions have created disturbances that can be viewed from a distance, created man-made features and created color changes that have the ability to contrast, rather than blend, with the natural surroundings. Upon completion of the action, reclamation is required to return the project areas to pre-disturbance conditions.

*RFFAs:* The activities most likely to affect visual resources in the foreseeable future are represented by geothermal exploration and development and community sand/gravel pit activities

Future projects would have similar impacts as the past and present actions. Depending on the type of action, facilities could be visible and contrast with the surrounding environment. Mitigation requirements to return the sites to pre-disturbance condition are expected with future actions.

*Cumulative Impacts from the Proposed Action:* The Proposed Action would add temporary visual impacts with the addition of mining equipment at the site and with the grading of an additional 0.25 acres of land for a total of 0.63 acres. This area is a very small percent of the 273,000 acre CESA. Proposed environmental measures to lessen the potential visual impact of the project include equipment utilizing earth-tone colors with low reflectivity and the shielding of exterior light sources to eliminate offsite lighting and the reclamation of the site upon project completion. These and similar types of mitigation measures would likely be applied to RFFAs within the CESA. This project is not expected to increase cumulative impacts within the CESA.

*Cumulative Impacts from the No Action Alternative:* Cumulative impacts would be similar to impacts under the proposed action at either a reduced duration or intensity.

#### **5.4.11 Wildlife**

*Past and Present Actions:* Impacts from past and present actions to wildlife would be the same as those discussed in section 5.4.3 Migratory Birds, Impacts from Past and Present Actions.

*RFFAs:* Impacts would be the same as discussed in section 5.4.3, RFFAs, except to a greater extent since wildlife species not designated as special status species are afforded a lesser level of protection from multiple use activities.

*Cumulative Impacts from the Proposed Action:* The CESA area is habitat for species common to the Great Basin. Some of the large mammal species includes mule deer (*Odocoileus hemionus*), pronghorn (*Antilocapra americana*), mountain lion (*Felis concolor*), bobcat (*Lynx rufus*), black-tailed jackrabbit (*Lepus californicus*), coyote (*Canis latrans*), and badger (*Taxidea taxus*). Various small common mammals, primarily rodents, and common reptiles may also be found in this area. Impacts to wildlife would be the same as described in section 5.4.8.

*Cumulative Impacts from the No Action Alternative:* Cumulative impacts would be similar to impacts under the Proposed Action at either a reduced duration or intensity.

## **6 MITIGATION AND MONITORING**

### **6.1 Proposed Action**

No mitigation or monitoring has been recommended based on the analysis.

Environmental measures identified in section 2.2.13 for the proposed action would be implemented and are reiterated here for reference.

#### *Air Quality*

- Emissions of fugitive dust from disturbed surfaces would be minimized by utilizing appropriate control measures. Surface application of water is the control measure that would be employed at the site to control dust. Speeds would be limited to 15 miles per hour on the unpaved roads to control dust. Loaded dump trucks would be covered/tarped prior to leaving the Project Area.

#### *Cultural Resources*

- Any cultural resource discovered by the operator, or any person working on their behalf, during the course of activities on federal land would be immediately reported to the authorized officer by telephone, with written confirmation. The operator would suspend all operations in the immediate area of such discovery and protect it until an evaluation of the discovery can be made by the authorized officer. This evaluation will determine the significance of the discovery and what mitigation measures are necessary to allow activities to proceed. The operator is responsible for the cost of evaluation and mitigation. Operations may resume only upon written authorization to proceed from the authorized officer.

#### *Invasive and Nonnative Weeds*

- Noxious weeds would be controlled through implementation of the following BMPs: concurrent reclamation efforts; operator control; removal of invasive, nonnative, and noxious weeds on reclaimed areas; washing vehicles prior to entering the Project Area; and avoiding areas of known invasive, nonnative, and noxious weeds during periods when the weeds could be spread by vehicles.

#### *Migratory Birds*

- Land clearing or other surface disturbance associated with the Proposed Action would be conducted outside of the avian breeding season, whenever feasible, to avoid potential destruction of or disturbance to active bird nests (with eggs or young). When surface disturbance must be created during the avian breeding season (March 1 through August 31), a qualified biologist would survey the area prior to land clearing or other disturbance activities. This survey would include a search for nesting raptors within ½ mile line-of-sight. This survey should be performed no more than 10 days and no less than 1 day prior to the proposed activity. The survey will be conducted within the time frame of one hour pre-sunrise to 2 hours post-sunrise and/or 1 hour pre-sunset to 2 hours post-sunset when birds are most active. If active nests (including raptor nests) are located, or if other

evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, the BLM biologist will be notified to determine pre-disturbance mitigation. In addition, results (positive or negative) of the nesting survey would be reported to the BLM biologist in writing within 7 working days of survey completion. Any questions about the Migratory Bird Treaty Act should be referred to the Reno Office of the U.S. Fish and Wildlife Service at (775) 861-6300, or email at [asknevada@fws.gov](mailto:asknevada@fws.gov).

#### *Native American Religious Concerns*

- Pursuant to 43 CFR 10.4(g), Stockpile Reserves would notify the BLM authorized officer, by telephone, and with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2). Further pursuant to 43 CFR 10.4 (c) and (d), the operator would immediately stop all activities in the vicinity of the discovery and not commence again for 30 days or when notified to proceed by the BLM authorized officer.
- In the event that the noise related to the Proposed Action negatively affects the TCP, noise reduction measures (such as increased sound muffling devices on equipment or modifying work times) would be employed immediately.

#### *Waste, Hazardous or Solid*

- Stockpile Reserves would follow an approved Spill Prevention Plan.
- All solid wastes, including grey water, would be disposed of in a state, federal, or local designated site.
- Pursuant to 43 CFR 8365.1-1(b)(3), no sewage, petroleum products, or refuse would be dumped or discharged from any trailer or vehicle onto the project area.

#### *Water Quality (surface and ground)*

- Surface water drainage control would be accomplished by diverting precipitation event surface flow (run-on) away from the surface disturbance at the mine area, isolating runoff, from the surface disturbance, and utilizing appropriate control measures.

#### *Geology*

- Any survey monuments, witness corners, or reference monuments would be protected to the extent economically and technically feasible.

#### *Paleontology*

- In the event that previously undiscovered paleontological resources are discovered in the performance of any surface disturbing activities, the item(s) or condition(s) would be left intact and immediately brought to the attention of the authorized officer of the BLM. If significant paleontological resources are found, avoidance, recordation, and/or data recovery would be required.

*Public Access*

- Stockpile Reserves would comply with all applicable state and federal fire laws and regulations and all reasonable measures would be taken to prevent and suppress fires in the Project Area.
- Public safety would be maintained throughout the life of the Project. All equipment and other facilities would be maintained in a safe and orderly manner.

*Visual*

- Stockpile Reserves would utilize directional lighting directed downward, to protect “dark-skies”, on the pertinent site and away from adjacent areas. Stockpile Reserves would utilize lighting that is hooded and shielded so as not to allow the bulb to shine up or out.

**6.2 No Action Alternative**

There are no mitigation measures or monitoring recommended as part of the No Action Alternative.

## **7 LIST OF PREPARERS**

### Bureau of Land Management

Fred Holzel	Project Lead, Air Resources, Paleontology
Jeanette Black	Water Quality, Geology
Peggy McGuckian	Cultural Resources, Native American Religious Concerns, Paleontology
Mark Hall	Native American Religious Concerns
Wes Barry	Rangeland Management
Celeste Mimnaugh	Wildlife, Special Status Species, Migratory Birds, Threatened and Endangered Species
Debbie Dunham	Realty, Public Access
Lynn Ricci	NEPA Compliance
Robert Burton	Soil Resources, Vegetation, Invasive, Nonnative Species

### Third Party Consultant

RCI	Kathy Canfield, Senior Planner
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### Applicant - Stockpile Reserves, LLC

James Vogan	Project Manager
Bruce Medeiros	Field Supervisor
Ken Vogel	Consultant

## 8 CONSULTATION AND COORDINATION

### *Tribal Consultation*

The BLM contacted the Lovelock Paiute Tribe by letter, meeting and follow-up telephone calls regarding this project. A sacred site in the vicinity of the Project Area was identified by the Tribe and a consultation field trip was held with the Tribe. A Native American consultation tour of the project area on November 22, 2005, was attended by members of the Lovelock Tribe. Since the sacred site would be avoided by the proposed mining project and all disturbance associated with the proposed action would be reclaimed, it was determined that the proposed action would not impact the sacred site.

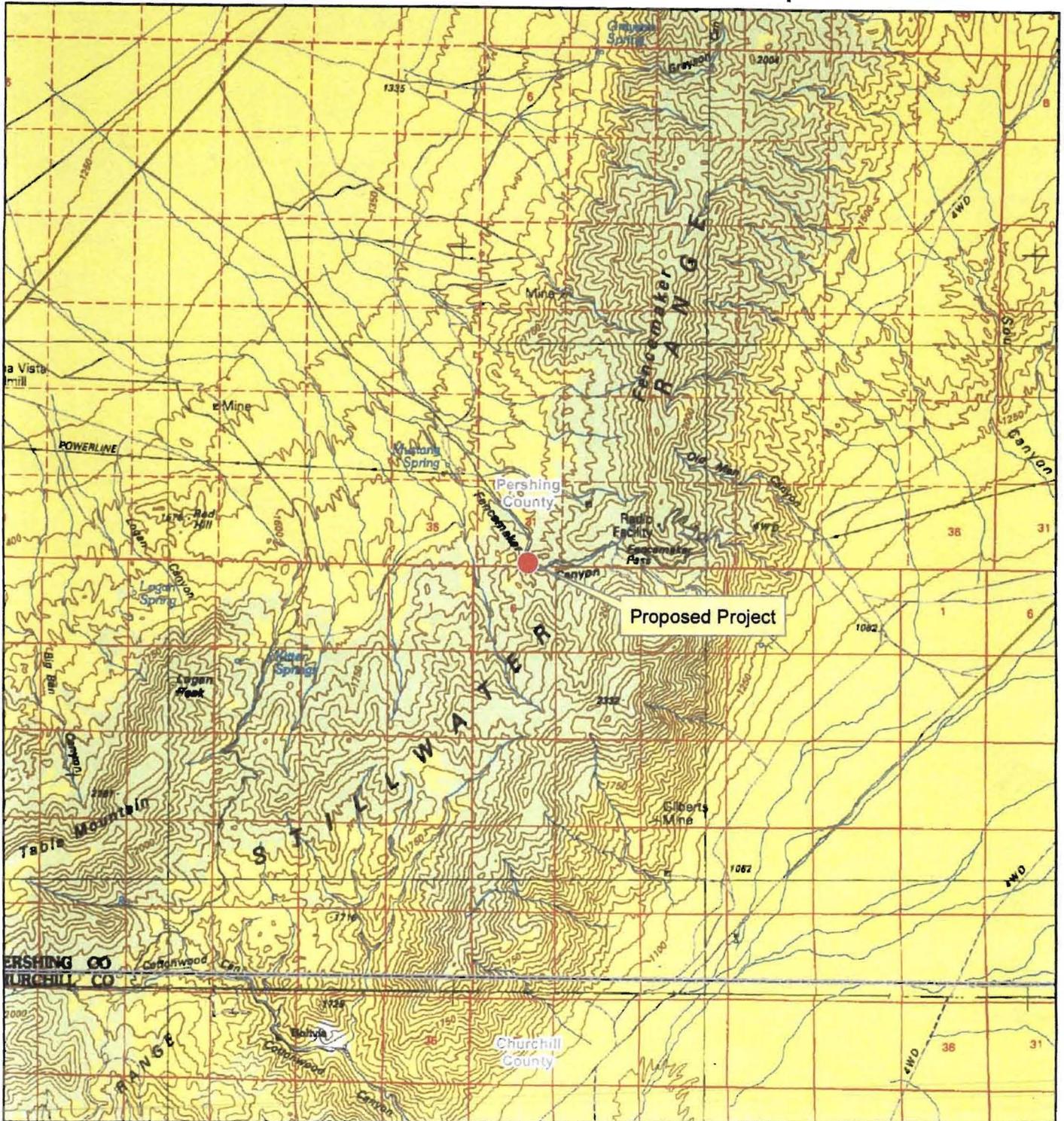
## **9 PUBLIC INVOLVEMENT**

The scoping process began with an interdisciplinary team meeting, including then operator Ken Vogel and his consultant, held at the BLM office in Winnemucca on October 3, 2005. At this meeting, the BLM defined issues and made initial determination of what needed to be analyzed in this EA (see Chapter 3 Affected resources), data needs, possible alternatives, and public outreach needs.

## FIGURES

# Fencemaker Antimony Mining Project

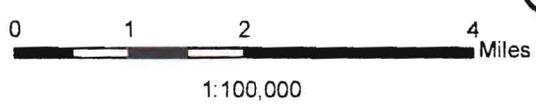
## Figure 1 - General Location Map



- Legend**
- Fencemaker Proposed Project Boundary
  - Sage District Preliminary General-Header
  - Sage District Preliminary Priority-Header
  - County Boundary
- Land Status**
- Bureau of Indian Affairs
  - Bureau of Land Management
  - Bureau of Reclamation
  - Department of Defense
  - Park
  - Private
  - Water

- Department of Energy
- Forest Service
- Fish and Wildlife Service
- National Park Service
- Navajo State Lands

Fencemaker Pass, NV  
 USGS 7.5' Quadrangles  
 T.26 N., R.37 E., sec. 31



**Winnemucca District Office**  
 United States Department of the Interior  
 Bureau of Land Management  
 5100 E. Winnemucca Blvd  
 Winnemucca, NV. 89445

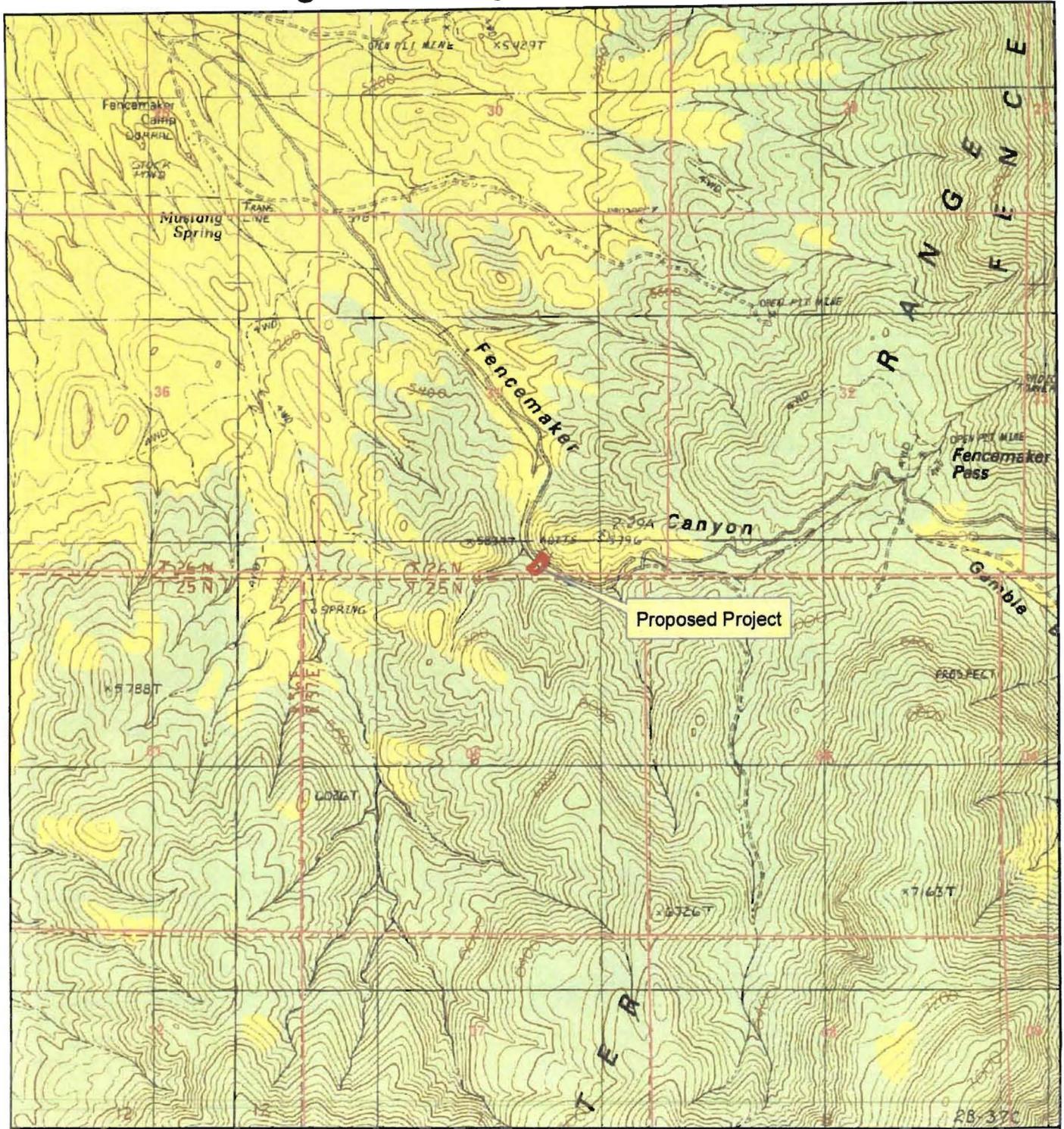


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# Fencemaker Antimony Mining Project

## Figure 2 - Project Location Map



<p><b>Legend</b></p> <ul style="list-style-type: none"> <li><span style="color: red;">---</span> Fencemaker Proposed Project Boundary</li> <li><span style="color: red;">---</span> Sage Grouse Primary General Habitat</li> <li><span style="color: red;">---</span> Sage Grouse Preliminary Priority Habitat</li> </ul> <p><b>Land Status</b></p> <ul style="list-style-type: none"> <li><span style="background-color: #f0f0f0; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Bureau of Indian Affairs</li> <li><span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Bureau of Land Management</li> <li><span style="background-color: #ffff00; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Bureau of Reclamation</li> <li><span style="background-color: #f0f0f0; border: 1px solid black; display: inline-block; width: 10px; height: 10px;"></span> Department of Defense</li> </ul>		<p>Department of Energy</p> <ul style="list-style-type: none"> <li>Forest Service</li> <li>Fish and Wildlife Service</li> <li>National Park Service</li> <li>Nevada State Lands</li> <li>Park</li> <li>Private</li> <li>Water</li> </ul>
---	--	--

**Fencemaker Pass, NV**  
**USGS 7.5' Quadrangles**  
**T.26 N., R.37 E., sec. 31**

0      0.25      0.5      1

Miles

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## Figure 3 - Existing Disturbance



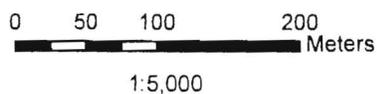
Proposed Project Boundary

Existing Disturbed Ground

### Legend

- Existing Disturbed Ground
- Proposed Project Boundary

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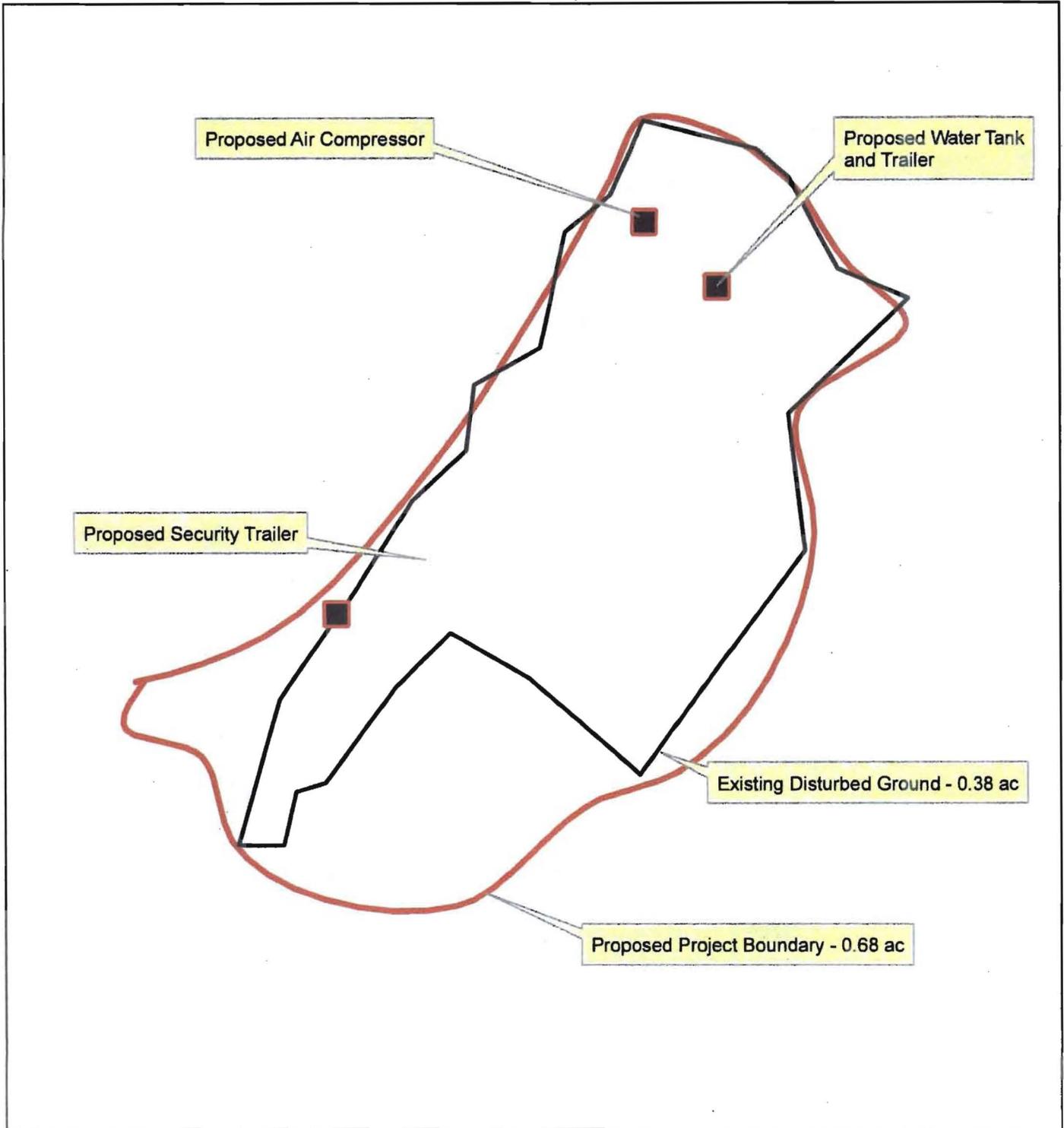


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## Figure 4 - Proposed Action Map



**Legend**

-  Proposed Trailers and Security Trailer
-  Existing Disturbed Ground
-  Proposed Project Boundary

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1:553

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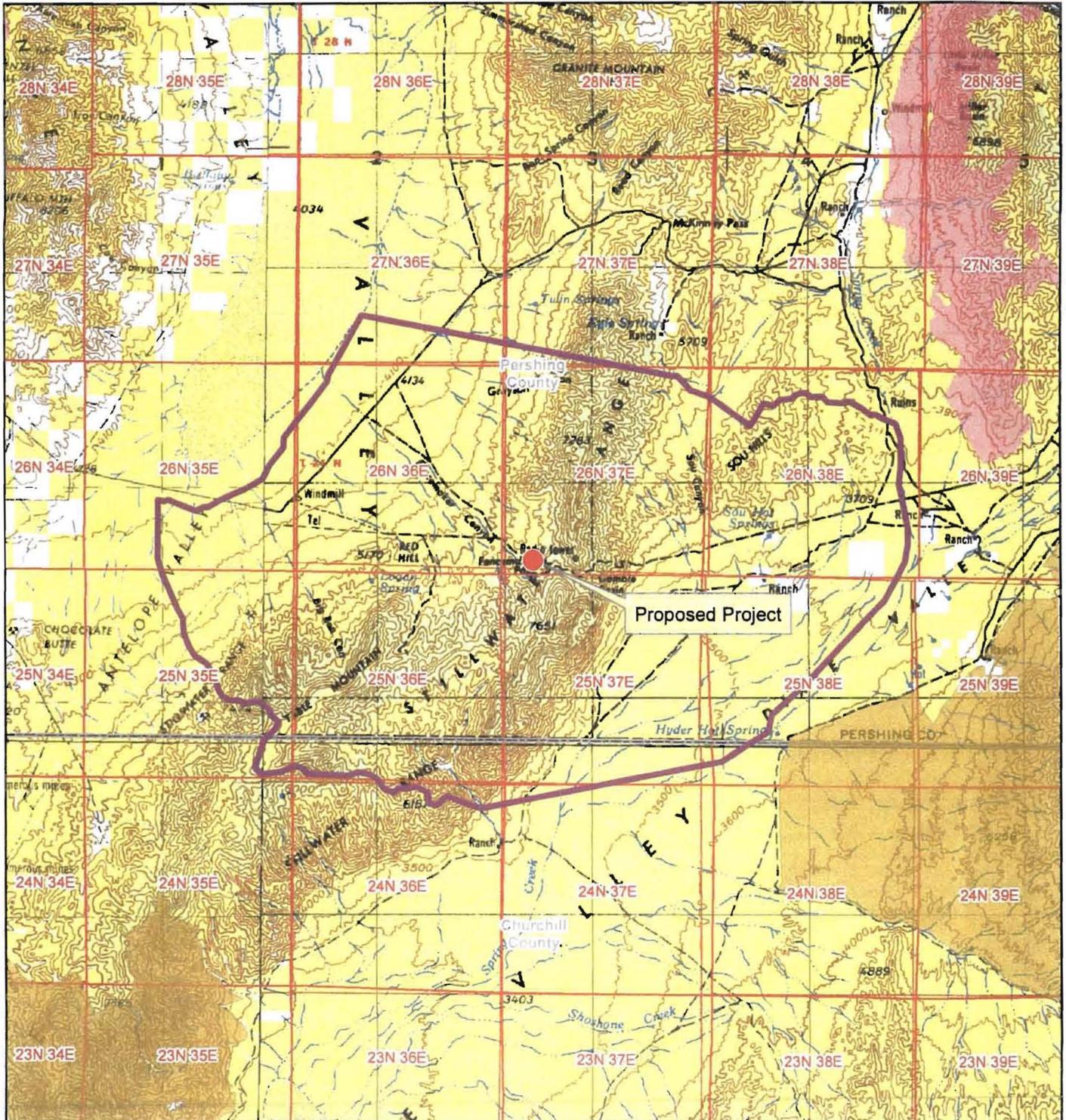


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## Figure 5 - Cumulative Assessment Map



### Legend

- |  |                           |
|--|---------------------------|
| Cumulative Assessment Area - HUC12       | Bureau of Reclamation     |
| Sage Grouse Preliminary General Habitat  | Department of Defense     |
| Sage Grouse Preliminary Priority Habitat | Department of Energy      |
| BLM Wilderness                           | Forest Service            |
| BLM WSA                                  | Fish and Wildlife Service |
| County Boundary                          | National Park Service     |
| Township                                 | Nevada State Lands        |
| <b>Land Status</b>                       | Park                      |
| Bureau of Indian Affairs                 | Private                   |
| Bureau of Land Management                | Water                     |

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