

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

**Environmental Assessment  
DOI-BLM-NV-B010-2013-0073-EA  
April 2014**

**M-I SWACO  
Greystone Mine  
Dana Road Project**

**ENVIRONMENTAL ASSESSMENT**

Mount Lewis Field Office

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## LIST OF ACRONYMS AND ABBREVIATIONS

AAQS	Ambient Air Quality Standards
BLM	Bureau of Land Management
BMP	best management practice
CESA	Cumulative Effects Study Area
CFR	Code of Federal Regulations
EA	Environmental Assessment
FLPMA	Federal Land and Policy Management Act
FONSI	Finding of No Significant Impact
Kautz	Kautz Environmental Consultants, Inc.
MBTA	Migratory Bird Treaty Act
MLFO	Mount Lewis Field Office
MOU	Memorandum of Understanding
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NNHP	Nevada Natural Heritage Program
NRCS	Natural Resources Conservation Service
Non-PAG	Not Potentially Acid Generating
OHV	off-highway vehicle
PAG	Potentially Acid Generating
PM	particulate matter
POD	Road Plan of Development
Project	Dana Road Project
RMP	Shoshone – Eureka Resource Management Plan
ROW	right-of-way
SRK	SRK Consulting (U.S.), Inc.
USFWS	U.S. Fish and Wildlife Service

## 1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared to analyze M-I SWACO's proposal for the Dana Road Project (Project) as described in the *Road Plan of Development* (POD) submitted to the Bureau of Land Management (BLM) Mount Lewis Field Office (MLFO) in Battle Mountain, Nevada. The Project is in the Shoshone Range in Lander County, Nevada, approximately 28 air miles south-southeast of Battle Mountain, Nevada. The Project is located on public lands administered by the BLM MLFO within Township 28 North, Range 45 East (T28N R45E), sections 25 and 36, Mount Diablo Base and Meridian. The general location is shown on Figure 1.

The Project Area encompasses the proposed road right-of-way (ROW), which includes approximately 9.5 acres of public land administered by the BLM MLFO. The Project Area is shown on Figure 2 and is located between the Greystone Mine and the Dana 15 site.

Barite mining has occurred at the Greystone Mine since approximately 1953. Mining operations have included exploration to locate the ore deposit, excavation to remove overburden and mine the ore, and jigging, (mechanical separation using water and gravity) to concentrate the ore. The Dana 15 deposit was identified earlier in the mine's life. M-I SWACO is now seeking to improve the existing Dana Road to connect the Dana 15 site to the Greystone Mine so that ore mined at the Dana 15 site can be hauled to the Greystone Mine for processing. The Dana 15 site has a projected six months of reserves.

### 1.1 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of this Proposed Action is to establish a ROW to grant M-I SWACO the ability to make road improvements that would allow ore mined at the Dana 15 site, located on patented mining claims controlled by M-I LLC, to be trucked to the existing Greystone Mine also located on patented mining claims controlled by M-I Drilling Fluids, for processing.

M-I SWACO has submitted a ROW application and a POD to make improvements to the existing Dana Road located on public lands managed by the BLM MLFO. The need for the Proposed Action is to respond to the Standard Form 299 Application and the accompanying POD that MI-SWACO submitted to the BLM, MLFO on September 21, 2012. The application requested that ROW authorization be granted to permit the construction and subsequent operation and maintenance of proposed Dana Road on BLM-administered public lands. The POD that accompanied Standard Form 299 described the improvements that would be constructed and the methods and materials that would generally be used to construct them.

The BLM must assure that authorization of the Proposed Action avoids undue or unnecessary degradation of public lands and has prepared this Environmental Assessment (EA) as part of the decision process in consideration of the requested ROW grant. Through this decision process, the BLM would meet obligations under the National Environmental Policy Act (NEPA), under Section 301 of the Federal Land and Policy Management Act of 1976 (FLPMA), and other public land acts. Based on this environmental documentation, the BLM will determine whether a Finding of No Significant Impacts (FONSI) can be signed or whether an environmental impact statement must be prepared.

### 1.2 RELATIONSHIP TO PLANNING AND CONFORMANCE WITH PLANS

Public lands administered by the BLM within the proposed Project Area and surrounding vicinity are managed in accordance with the Shoshone-Eureka Resource Management Plan (RMP) (BLM 1984). The BLM-administered public lands in these areas are also managed in accordance with the Record of Decision for the Shoshone-Eureka Resource Area (BLM 1986). The RMP complies with the FLPMA of 1976, as amended. Although the Proposed Action is not specifically addressed in the RMP, it is consistent with Management Actions and Objectives stated in the RMP Record of Decision.

Section 202(c)(9) of FLPMA governs BLM planning and requires that BLM land use plans be consistent with state and local land use plans. The establishment of a ROW and construction, operation, and

maintenance of the proposed improvements to the road do not conflict with known state or local planning and zoning ordinances or codes.

### **1.3 SCOPING**

The Project was internally scoped by the BLM Interdisciplinary Team in February 2013. The BLM Interdisciplinary Team identified the supplemental authority elements and other resources to be addressed in this document as outlined in Chapter 3.

## 2.0 PROPOSED ACTION AND NO ACTION ALTERNATIVE

### 2.1 DESCRIPTION OF PROPOSED ACTION

The Proposed Action is to establish a ROW and grant authorization of the requested road improvements to allow trucking of ore from the Dana 15 site to the Greystone Mine for processing. The proposed road improvements would be located primarily along the eastern fork of the existing Dana Road. The Project Area is defined by the proposed 150-foot wide ROW located in T28N R45E, sections 25, and 36 as shown in Figure 2. Access to the site is provided from Mill Creek Road (a Lander County Road) which runs between Nevada State Routes 305 and 306.

The proposed roadway improvement would occur over 2,750 feet of private land. To facilitate a perpendicular intersection between the improved Dana Road and Mill Creek Road, the road would be realigned outside of its current configuration on the eastern fork of Dana Road for a distance of 700 feet as shown on Figure 3. This realignment is necessary to provide drivers improved sightlines of oncoming traffic and allow haul trucks to cross Mill Creek Road safely. The crossing of Mill Creek Road would occur on private land controlled by M-I Drilling Fluids.

Roadway improvements would include widening the roadbed from the existing average roadbed width of approximately 35 feet to a proposed roadbed width of 100 feet, including safety berms. Road improvements and associated grading would occur within a new dedicated ROW width of 150 feet. The improved Dana Road would be maintained by M-I SWACO throughout the life of the Project.

Implementation of the Proposed Action would meet the purpose of the Project, to provide a transportation route from the Dana 15 site to existing processing facilities at the Greystone Mine.

#### 2.1.1 ROW Configuration

The ROW would measure 150 feet in width, centered mainly over the improved Dana Road alignment. The proposed ROW configuration is shown on Figure 3 and covers an area measuring approximately 9.5 acres.

#### 2.1.2 Surface Disturbance Details

The Proposed Action would disturb approximately 6.3 acres related to road widening, grading, and realignment activities. This disturbance would occur on top of the existing 35-foot wide Dana Road for a distance of 2,050 feet. The area of actual new disturbance would be approximately 4.7 acres. Disturbance areas are summarized in Table 1.

**Table 1: Summary of Disturbance Areas**

<b>Activity/Feature</b>	<b>Length and Width (feet)</b>	<b>Acres</b>
Proposed disturbance	2,750 x 100	6.3
Existing Dana Road disturbance within Project Area	2,050 x 35	1.6
<b>New Disturbance</b>	-	<b>4.7</b>

#### 2.1.3 Construction Details

Road improvements and construction would be undertaken using a dozer from the Greystone Mine. The ROW and design width would be surveyed by Greystone Mine personnel and flagged prior to earthwork.

The road width would be cleared of growth media and vegetation which would be sidecast alongside the road and left for use during reclamation.

The roadbed would be amended with waste rock material (chert) from the Greystone Mine open pits. The road would have an average gradient of approximately 8.5 percent. Cut and fill would be used as needed. Extra fill material would be brought from the Greystone Mine as needed. No drainage crossings, culverts, or low-water crossings are anticipated.

The intersection with Mill Creek Road would occur on private land within the Dana 15 site. Stop signs would be installed along the improved haul road at the intersection with the Mill Creek Road, and gates would be placed at the intersection to prevent public entrance to the Greystone Mine and to the Dana 15 site.

#### **2.1.4 Road Use**

The improved Dana Road would be used primarily to transport ore from the Dana 15 site to the processing facilities at Greystone Mine. Sixty-ton Komatsu HD 465 trucks or similar would be used to haul the ore. Trucking would include an average of 75 round trips per day. The maximum number of 200 round trips per day could occur five days per week, 24 hours per day. On the days trucking is taking place, a truck would pass by a stationary point along the route approximately once every ten minutes, with a maximum of about one truck every four minutes. Other vehicles may also use the improved road including but not limited to light vehicles, a grader, and a water truck.

#### **2.1.5 Reclamation**

Once operations at the Greystone site have been completed, reclamation activities would begin. Reclamation activities would return the Dana Road back to its original width. The proposed road intersection alignment with the Mill Creek Road would be reclaimed while the original alignment would be returned to use. Reclamation activities would include grading to approximate the pre-Project topography, ripping, and seeding. Seeding would occur in the late fall. M-I SWACO-maintenance of Dana Road would cease once the reclamation surety is released.

#### **2.1.6 Operation and Maintenance**

Earthwork activities are most effectively implemented during specific seasons of the year. Earthwork would be completed during appropriate dry seasons. Site conditions and/or yearly climatic variations may require that this schedule be modified to achieve revegetation success. Road maintenance would be conducted as needed depending on seasonal road usage. Regular maintenance would consist of dust suppression through the use of a water truck or chemical suppressant as approved in the Plan of Operations (M-I SWACO 1983 and 2010). Intermittent maintenance would consist of roadway grading and berm maintenance performed on an as-needed basis.

#### **2.1.7 Project Schedule**

Construction activities described would be initiated upon approval of the POD and ROW application. Construction activities are expected to take approximately three months. After mining begins at the Dana 15 site, trucking of ore over the proposed road would occur for approximately six months. Once activity at Dana 15 and the Greystone Mine have ceased, road reclamation activities would begin.

### **2.2 ENVIRONMENTAL PROTECTION MEASURES**

Design features (applicant-committed environmental protection measures) have been developed to minimize or avoid environmental impacts. The features are discussed below:

- Surface-disturbing activities would be limited to the Project Area.
- M-I SWACO and/or its contractors would minimize the potential for establishment and spread of noxious weeds and other invasive non-native species. The proposed Project Area would be reseeded with a BLM-approved, weed-free erosion control seed mix. Construction equipment

would be washed to remove weed seeds, roots, other vegetative debris, and soil capable of transporting weeds prior to entering the Project Area.

- Imported fill material from the Greystone Mine would be non-potentially acid generating (non-PAG). The Greystone Mine Waste Rock Management Plan (SRK 2013a) identified both potentially acid generating (PAG) and non-PAG materials at the Greystone Mine. The waste rock management plan estimates that 80 percent of the waste rock is non-PAG due to its oxidized state. “Because the waste rock can be classified according to oxidation, visual identification of the PAG versus non-PAG waste rock is possible during operations without confirmation testing. Furthermore, the bulk of the PAG material occurs below the oxidation boundary within the pit and PAG material can be identified based on the location” (SRK 2013a). M-I SWACO would select non-PAG material to use as fill or road base material, as needed, to construct Dana Road.
- M-I SWACO and/or its contractors would implement precautionary measures in order to prevent wildfires during construction of the Proposed Action. Adequate firefighting equipment would be kept onsite at locations where construction is occurring. Firefighting equipment would include shovels, Pulaski axes, fire extinguishers, water supplies, or similar pieces of equipment. Vehicles would be equipped with fire extinguishers. M-I SWACO and/or its contractors would report all wildfires to the BLM Central Nevada Interagency Dispatch Center immediately.
- To minimize impacts to wildlife and plant resources within the Project Area, land clearing and surface disturbance would be timed to prevent destruction of active bird nests or of young birds during the avian breeding season (March 1 through July 31) in accordance with the MLFO specialist recommendations and with the Migratory Bird Treaty Act of 1918 (MBTA). If surface-disturbing activities are unavoidable, M-I SWACO would have a qualified biologist survey areas proposed for disturbance for the presence of active nests immediately prior to the disturbance. If active nests are located, or if nesting behaviors are observed (mating pairs, territorial defense, carrying nesting material, transporting of food), the area would be avoided using a BLM-approved buffer to prevent destruction or disturbance of nests until the birds are no longer present. Avian surveys would be performed only during the avian breeding season and would be valid for 14 days. Outside of the 14-day time frame M-I SWACO would not conduct additional disturbance during the avian breeding season without first conducting another survey.
- Surface disturbance during construction of the proposed Project would be kept to a minimum while maintaining efficient and safe construction conditions. M-I SWACO would implement appropriate best management practices (BMPs) at all times during construction. BMPs are defined by the Nevada Division of Environmental Protection (NDEP) in the *Nevada Contractors Field Guide for Construction Site Best Management Practices* (2010). To minimize impacts to the land and provide for re-establishment of vegetation, suitable growth media would be salvaged and stockpiled and weed-free erosion materials would be utilized during road construction. Re-establishment of vegetation in disturbance areas would be conducted as soon as practical to reduce the potential for wind and water erosion, minimize impacts to soils and vegetation, and help prevent the spread of noxious weeds and invasive non-native species.. Equipment would not be operated when ground conditions are such that excessive rutting or increased sediment transport would occur. No drainage crossings would be constructed. M-I SWACO would monitor the effectiveness of erosion control measures as deemed necessary, in the spring and fall, and after large precipitation events. Sediment control structures may include, but would not be limited to, fabric and/or weed-free hay bale filter fences, siltation or filter berms, and drainage channels.
- Avoidance is the M-I SWACO -preferred treatment for preventing effects to historic properties (a historic property is any prehistoric or historic site eligible to the National Register of Historic Places) or unevaluated cultural resources. A Class III cultural resource survey was conducted over a larger area that included the Project Area by Kautz Environmental Consultants, Inc. (Kautz). No cultural resources were found (Kautz 2013). If human remains/burials, previously unidentified cultural (archaeological or historical) resources, or vertebrate paleontological resources are discovered while conducting activities related to the Proposed Action, the proponent would immediately cease activities within 300 feet of the discovery, ensure the discovery is appropriately protected, and immediately notify the BLM MLFO Manager by telephone, followed with written

confirmation. Work would not resume, and the discovery would be protected until the BLM Authorized Officer issues a notice to proceed.

- The existing Dana Road is not frequently visited by the public. However, at its intersection with Mill Creek Road on private land within the Dana 15 site, M-I SWACO would place signs to warn the public of the possibility of cross-traffic and construction equipment during road-building and operations. The haul truck drivers would be required to use caution on the Dana Road, limit speeds to under 25 miles per hour, and come to a complete stop at the installed stop signs before crossing Mill Creek Road. Gates would be installed to prevent the public from entering the haul roads toward the Greystone Mine or the Dana 15 site during weekends or times when trucking is not otherwise active.
- Non-hazardous project-related refuse would be collected in approved trash bins or containers and removed from the site for disposal in accordance with county, state, and federal regulations. The bins and/or containers would be equipped with lids.
- Hazardous substances employed for the project would be transported in accordance with applicable regulatory guidelines. Upon request, M-I SWACO would provide the BLM with material safety data sheets or equivalent safety information.
- Hazardous wastes would be stored and disposed of in accordance with federal, state, and local regulations. Spilled liquids would be placed in suitable, approved containers, and contaminated soils would be placed in drums for temporary storage and transportation to an approved disposal facility. Petroleum contaminated soils would be shipped off-site to a licensed disposal facility.

## **2.3 PERMITS AND APPROVALS**

M-I SWACO and/or its contractors are responsible for obtaining valid permits and approvals from relevant federal, state, and local agencies to construct the proposed Project. Because the Project would disturb more than five acres, M-I SWACO would obtain a Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control. Additionally, M-I SWACO would obtain the necessary authorization and approval from private landowners prior to commencement of construction on private land.

## **2.4 ALTERNATIVES TO THE PROPOSED ACTION**

Other “action” alternatives are not required in an EA. Only the Proposed Action and No Action Alternative need to be addressed. M-I SWACO has identified this barite deposit with an existing transportation route to existing facilities for processing. The Proposed Action is the most reasonable method to meet the objective of this EA while minimizing degradation to the environment. Therefore, no alternatives other than the “No Action” alternative are analyzed in this EA.

### **2.4.1 No Action Alternative**

Under the No Action Alternative, the BLM would not authorize the road improvements that M-I SWACO has requested. Without the authorization, the proposed road improvements would not be constructed, and there would be no economic method to transport the ore to the processing facilities. The Dana 15 site would not be developed and the Greystone Mine would likely begin closure approximately six months earlier than it would under the Proposed Action.

### 3.0 AFFECTED ENVIRONMENT

#### 3.1 RESOURCES/ISSUES CONSIDERED FOR ANALYSIS

To comply with the NEPA, the BLM and other federal agencies are required to address specific elements of the environment that are subject to requirements specified in statute or regulation or by executive order (BLM 2008a). Table 2 outlines the elements that must be addressed in all environmental analyses. Table 2 also denotes if either the Proposed Action or No Action Alternative affect those elements. Supplemental Authority elements determined to be Not Present or Present/Not Affected need not be carried forward for analysis or discussed further in the document. Supplemental Authority elements determined to be Present/May Be Affected must be carried forward for analysis in the document.

**Table 2: Elements Associated with Supplemental Authorities**

Supplemental Authority	Not Present*	Present/Not Affected*	Present/May be Affected**	Rationale/Reference Section
Air Quality			✓	See Chapter 3.1.1
Area of Critical Environmental Concern (ACEC)	✓			No ACECs are located within or near the Project Area.
Cultural/Historical			✓	See Chapter 3.1.2.
Environmental Justice	✓			The rural Project Area is not near areas for which Environmental Justice impacts could occur.
Farmlands Prime or Unique	✓			No prime or unique farmlands are located within the Project Area.
Floodplains	✓			There are no designate floodplains located within the Project Area (National Flood Insurance Program 2013).
Forests and Rangelands (HFRA only)	✓			No HFRA forest or rangelands are located within the Project Area.
Human Health and Safety (Herbicide Projects)	✓			Herbicide use would not affected Human Health and Safety as related to the Proposed Action.
Migratory Birds			✓	See Chapter 3.1.9.
Native American Coordination			✓	See Chapter 3.1.3.
Noxious Weeds/Invasive Non-native Species			✓	See Chapter 3.1.4.
Riparian/Wetlands	✓			No riparian/wetland areas are located within the Project Area.
Threatened and Endangered Species	✓			No threatened or endangered species are known to occur in the area. See Chapter 3.1.9 for a discussion of this determination.
Waste – Hazardous/Solid			✓	See Chapter 3.1.5.
Water Quality	✓			No surface water resources are located within the Project Area,

Supplemental Authority	Not Present*	Present/Not Affected*	Present/May be Affected**	Rationale/Reference Section
				and the Project does not involve drilling or other activities which could reach groundwater resources.
Wild & Scenic Rivers	✓			No Wild or Scenic Rivers are located within the Project Area or near vicinity.
Wilderness/Wilderness Study Areas (WSAs)/Lands with Wilderness Characteristics	✓			No wilderness areas, WSAs, or lands with wilderness characteristics are located within or near the Project Area.

\*A Supplemental Authority element determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

\*\*A Supplemental Authority element determined to be Present/May Be Affected **must** be carried forward in the document.

In addition to the elements listed under supplemental authorities, the BLM considers other resources and uses that occur on public lands and the issues that may result from implementation of the Proposed Action. Other resources or uses of the human environment that have been considered for this EA are listed in Table 3. Resources or uses that may be affected by the Proposed Action are analyzed in this chapter.

**Table 3: Resources or Uses Other Than Elements Associated with Supplemental Authorities**

Other Resources	Not Present*	Present/Not Affected*	Present/May be Affected**	Rationale
Grazing Management		✓		The disturbance acreage associated with the Proposed Action would not reduce animal unit months (AUMs) within the Carico Lake grazing allotment.
Land Use Authorization			✓	See Chapter 3.1.6.
Minerals		✓		Barite is present in the area and is being extracted by the proponent. Although part of a mining operation, the Proposed Action itself would not alter current mineral resource extraction.
Paleontological Resources	✓			No paleontological resources are known to occur in the Project Area.
Recreation		✓		Dispersed recreation occurs within the Project Area. The Proposed Action would not affect recreational activities.
Socio-Economic Values			✓	See Chapter 3.1.7.
Soils			✓	See Chapter 3.1.8.
Special Status Species			✓	See Chapter 3.1.9.
Vegetation			✓	See Chapter 3.1.10.
Visual Resources		✓		The Project Area is within Visual Resource Management (VRM) Class IV which allows for “major modification of the existing character of the landscape” which “may dominate the

Other Resources	Not Present*	Present/Not Affected*	Present/May be Affected**	Rationale
				view and be the major focus of viewer attention". The Proposed Action would change the landscape but would not dominate the view. Attempts would be made to minimize disturbance.
Wild Horses and Burros	✓			Burros and wild horses are not known to utilize the Project Area.
Wildlife			✓	See Chapter 3.1.11.

\*Resources or uses determined to be Not Present or Present/Not Affected need not be carried forward or discussed further in the document.

\*\*Resources or uses determined to be Present/May Be Affected **must** be carried forward in the document.

As noted in the tables above, the following resources will not be brought forward for further analysis in this EA because they are not present within the Project Area or are not affected by the Proposed Action:

- Areas of Critical Environmental Concern;
- Environmental Justice;
- Farmlands, Prime and Unique;
- Floodplains;
- Forest and Rangelands;
- Human Health and Safety;
- Riparian/Wetlands;
- Water Quality;
- Wild and Scenic Rivers;
- Wilderness/WSAs/Lands with Wilderness Characteristics;
- Grazing Management;
- Minerals;
- Paleontological Resources;
- Recreation;
- Visual Resources; and
- Wild Horses and Burros.

The following resources have been determined to be present and potentially affected by the Proposed Action:

- Air Quality;
- Cultural Resources;
- Migratory Birds (addressed under Special Status Species);
- Native American Coordination ;
- Noxious Weeds/Invasive Non-native Species;
- Threatened and Endangered Species (addressed under Special Status Species and Vegetation);
- Waste, Hazardous/Solid;
- Land Use Authorizations;
- Socio-Economic Values;
- Soils;

- Special Status Species;
- Vegetation; and
- Wildlife.

The following sections describe the affected environment for resources that are present in the Project Area and potentially affected by the Proposed Action. The information is derived from baseline field surveys of the area, correspondence within the BLM and other federal, state, and local agency resource personnel, as well as publicly available data.

### **3.1.1 Air Quality**

Ambient air quality and the emission of air pollutants are regulated under both federal and state laws and regulations. The NDEP Bureau of Air Pollution Control issues permits for emission sources and is responsible for permit and enforcement activities in Nevada.

The site is located within the Carico Lake Hydrographic Basin (55) and the Humboldt River Basin Hydrographic Region. The Beowawe University of Nevada Ranch site is representative of the local temperature and rainfall in the vicinity of the Project. The climate in the region is classified as arid, with elevations below 6,500 feet above mean sea level (amsl) receiving the least amount of precipitation (five to eleven inches per year). An arid climate is characterized by low rainfall, low humidity, clear skies, and relatively large annual and diurnal temperature ranges.

Air quality is defined by the concentration of various pollutants and their interactions in the atmosphere. Air quality standards specify acceptable upper limits of pollutant concentrations and duration of exposure. Air pollutant concentrations within the standards generally are not considered to be detrimental to public health and welfare.

The relative importance of pollutant concentrations can be determined by comparison with appropriate national and/or state Ambient Air Quality Standards (AAQS). An area is designated by the Environmental Protection Agency as being in attainment for a pollutant if ambient concentrations of that pollutant are below the national AAQS. Areas where insufficient data are available to make an attainment status designation are listed as unclassifiable and are treated as being in attainment for regulatory purposes.

The existing air quality of the Project Area is typical of the largely undeveloped regions of the western U.S. For the purposes of statewide regulatory planning, this area has been designated as in attainment for all pollutants that have a national or state AAQS. Current sources of air pollutants in the region include several precious metals mines that are sources for particulate matter (PM)<sub>10</sub> and PM<sub>2.5</sub> (BLM 2008b).

Existing climate prediction models are global in nature; therefore they are not at the appropriate scale to estimate potential impacts of climate change within the Carico Lake Hydrographic Basin in which the Project is located. Due to the nature and scale of the Project, effects on climate change are not analyzed further in this EA.

### **3.1.2 Cultural Resources**

Historic properties that are significant in history and culture are recognized by both the state and the federal governments as resources to be preserved and interpreted for the benefit of all citizens. All federally funded, permitted, or assisted projects in Nevada must be in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 USC 470), and its implementing regulations in (36 CFR § 800.4). This Act ensures that historic and cultural resources are identified, and potential impacts can be evaluated so that appropriate mitigation measures can be developed, as necessary.

A Class III cultural resources survey was performed over a larger area which included the Project Area. No cultural resources were found (Kautz 2013).

### 3.1.3 Native American Coordination

Various Native American tribes and bands have stated that federal projects and land actions can have widespread effects to their culture and traditional practices, as they consider the landscape as sacred and as a provider. Various locations throughout the BLM MLFO administrative area continue to host traditional, spiritual, and/or cultural use activities. Sites and resources considered sacred or beneficial to the continuation of tribal traditions include, but are not limited to: prehistoric and historic village sites, sources of water (hot and cold springs), pine nut gathering locations, sites of ceremony and prayer, prehistoric and ethno-historic archaeological sites, burial locations, “rock art” sites, medicinal/edible plant gathering locations, areas associated with creation stories, or any other tribally designated Traditional Cultural Property.

The MLFO mailed consultation initiation/invitation letters to potentially effected Native American communities on September 13, 2013. In following Executive Order 13175, Native American Coordination and Consultation will be ongoing throughout the project.

### 3.1.4 Noxious Weeds and Invasive/Non-native Species

Noxious weeds and invasive non-native species are species that are highly competitive, highly aggressive, and spread easily. A noxious weed is a plant species that has been defined as a pest by law or regulation. The list of the species that are designated as noxious weeds within Nevada is found in the Nevada Administrative Code (NAC), Chapter 555, Section 010 (NAC 555.010). When considering whether to add a species to the list, the Nevada Department of Agriculture makes a recommendation after consulting with outside experts and a panel comprising Nevada Weed Action Committee members. Per NAC 555.005, if a species is found probable to be "detrimental or destructive and difficult to control or eradicate", the Nevada Department of Agriculture, with approval of the Board of Agriculture, designates the species as a noxious weed. The species is then added to the noxious weed list at NAC 555.010.

Upon listing, the Nevada Department of Agriculture will also assign a rating of "A", "B", or "C" to the species. The rating reflects the Nevada Department of Agriculture's view of the statewide importance of the noxious weed, the likelihood that eradication or control efforts would be successful, and the present distribution of noxious weeds within the state. Species are arranged on the noxious weed list within categories corresponding to the three possible ratings that may be assigned to a species once listed.

An invasive species is defined as a species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Federal Register, 1999).

No noxious weeds species were observed within the Project Area during the baseline survey performed by SRK Consulting (U.S.), Inc. (SRK) in May 2013 (SRK 2013). Whitetop (*Lepidium latifolium*) was observed near the Project Area, along Mill Creek Road. Whitetop is a Category C weed. According to NAC 555.010, Category C weeds are species that are currently established and generally widespread in many counties of the state and are subject to active eradication from nursery stock dealer premises (NAC 555.010). The only invasive non-native species observed within the Project Area was cheatgrass (*Bromus tectorum*).

### 3.1.5 Wastes, Hazardous and Solid

Envirofacts is a service of the Environmental Protection Agency (EPA) that provides searchable access to multiple environmental databases which may include data such as toxic chemical releases, water discharge permit compliance, hazardous waste handling processes, and Superfund status. The EPA EnviroMapper for Envirofacts is an online mapping tool that allows a specific geographic location or area to be identified as the area in which records should be searched for using Envirofacts.

The Project Area was searched for records of environmental information using EnviroMapper for Envirofacts on June 30, 2013. Results indicate that, within the Project Area, there are no known records of sites contaminated with hazardous wastes or materials, or any sites where such materials are stored in

quantities requiring reporting. The nearest location of hazardous material use would be the Greystone Mine where fuels, oils, and other hydrocarbons are used as part of mining operations outside of the Project Area (EPA 2013).

### 3.1.6 Land Use

The Project Area consists of approximately 9.5 acres of public land administered by the BLM MLFO as shown on Figure 2. General land uses on private land and other BLM-administered public lands in the vicinity of the Project Area include grazing, agriculture, wildlife habitat, dispersed recreation, rural roads, and open space. Existing ROWs located within or near the Project Area are listed in Table 4 and shown on Figure 4.

**Table 4: Existing Right-of-Way Authorizations**

Serial Number	ROW or Holder or	Description
NVN 039086	Lander County	30-foot road ROW
NVN 021773	M-I LLC	Power line ROW

### 3.1.7 Socio-Economics

Lander County is a predominantly rural county in north-central Nevada encompassing approximately 5,621 square miles of land. The county has been dependent on the mining industry since it was first founded in late 1862. In addition to mining, agriculture has been an important part of the county’s socio-economics and includes cattle and sheep ranching and hay farming. The trend of strong mining and agriculture industries has continued to present day, as U.S. Census Bureau data (2013) indicates that 38.3 percent of Lander County's population was employed in the agriculture, forestry, fishing and hunting, and mining industries between 2007 and 2011. Much of Lander County socio-economics are also influenced by government, which is due to federal agencies managing more than 85 percent of the total land area within the county.

### 3.1.8 Soils

Soils occurring within the Project Area and surrounding areas are mapped and described by the Natural Resources Conservation Service (NRCS) in the *Soil Survey of Lander County, Nevada, North Part* (SCS 1998) and are shown in Figure 5. Only one soil association occurs within the Project Area: Sumine-Reluctan-cleavage association (map unit 1420). Soil associations consist of soils from two or more soil series that occur together in a characteristic and repetitious manner. A brief description of the soils found in the soil association is shown in Table 5.

**Table 5: Soil Characteristics**

Soil Name	Description	Landform and Slope	Depth to Restrictive Layer	Drainage Class	Depth to Water Table	Erosion Hazard (Road, Trail)
Sumine	Very gravelly to cobbly loam to clay loam	Mountains, 30 to 50 percent	20 to 39 inches	Well drained	> 80 inches	Severe
Reluctan	Gravelly to very gravelly loam	Mountains, 30 to 50 percent	20 to 39 inches	Well drained	> 80 inches	
Cleavage	Very cobbly loam to extremely gravelly clay loam	Mountains, 15 to 30 percent	14 to 20 inches	Well drained	> 80 inches	

Source: NRCS 2013

### **3.1.9 Special Status Species including Threatened and Endangered Species and Migratory Birds**

Special status species include species listed or proposed for listing under the Endangered Species Act as threatened or endangered, candidate species, and species included on the BLM's sensitive species list for Nevada and for the Battle Mountain District. Candidate species are those species or subspecies (i.e., taxa) that may warrant listing as threatened or endangered; there is sufficient information on biological vulnerability and threat(s) to support listing them as threatened or endangered, but the issuance of a proposed rule to list is precluded by higher listing priorities. Proposed species are taxa for which a proposal to list the species as threatened or endangered is in the Federal Register.

The BLM Nevada State Office identifies sensitive species that occur or have the potential to occur throughout Nevada. BLM Manual 6840.06.2 (BLM, 2008c) states that species designated as BLM-sensitive must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management, and either:

- There is information that a species has recently undergone, is undergoing, or is predicted to undergo a downward trend such that the viability of the species or a distinct population segment of the species is at risk across all or a significant portion of the species range; or
- The species depends on ecological refugia or specialized or unique habitats on BLM-administered lands, and there is evidence that such areas are threatened with alteration such that the continued viability of the species in that area would be at risk (6840.2A).

The BLM affords these species the same level of protection as federal candidate species. The BLM's policy for sensitive species is to avoid authorizing actions that would contribute to listing a species as threatened or endangered.

Consultation was performed with the BLM, the Nevada Department of Wildlife (NDOW), Nevada Natural Heritage Program (NNHP), and the U.S. Fish and Wildlife Service (USFWS) to determine what special status species are known to occur or potentially occur within the Project Area and the surrounding region. Consultation letters sent from each of the agencies are provided in the baseline report (SRK 2013). No federally listed threatened or endangered species are known to occur in the area.

Migratory birds are defined as any bird listed in 50 CFR § 10.13. Migratory birds may be found in the area of the Proposed Action as either seasonal residents or as migrants. Provisions of the MBTA (16 USC 703-711) prohibits the taking of migratory birds, their parts, nests, eggs, and nestlings. Executive Order (EO) 13186 (66 FR. 3853), Responsibilities of Federal Agencies to Protect Migratory Birds, signed on January 10, 2001, and Memorandum No. 2008-050, issued December 18, 2007, directed executive departments and agencies of the federal government to take certain actions to further implement the MBTA. Section 3 of the Executive Order directed each federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations to develop and implement, within two years, a Memorandum of Understanding (MOU) with the USFWS that would promote the conservation of migratory bird populations. The National MOU between the BLM and the USFWS was signed on April 12, 2010. The MOU helps identify and implement strategies to complement and support existing efforts, and facilitate new collaborative migratory bird conservation partnerships and comprehensive planning strategies for migratory birds.

During a meeting at the BLM MLFO on January 7, 2013 it was determined that although multiple species of bats are listed on the BLM's Sensitive Status Species list that it was unlikely the Proposed Action would impact them due to its scope and location within the landscape.

Bat species roost and hibernate in prominent rock formations, steep rock faces on limestone and sandstone cliffs, and in caves, adits, and mine shafts throughout Nevada. Bats forage in a variety of habitats.

Roosting/hibernacula habitat does not occur within, or immediately adjacent (within 200 feet) to the Project area. (SRK 2013)

A survey for the presence of bats was not required.

### **3.1.9.1 Greater Sage-Grouse**

Greater Sage-grouse are wide-ranging and occupy upland, meadows, and riparian habitats. This species is highly dependent on the presence of big sagebrush (*Artemisia tridentata*) and low sagebrush (*Artemisia arbuscula*). Greater Sage-grouse nest at mid-elevation habitats that support adequate shrubby and herbaceous plant cover. Nesting habitats are typically associated with big sagebrush and low sagebrush habitat complexes. During the winter months, Greater Sage-grouse forage almost exclusively on either big sagebrush or low sagebrush, depending on severity of snowfall and on the migratory habits of populations (Connelly et al. 2000).

The BLM manages Greater Sage-grouse and their habitats in discreet areas called population management units (PMUs). The Project Area is located within the Shoshone PMU, which encompasses approximately 663,300 acres.

Sagebrush landscapes have changed dramatically over the last two centuries leading to lost, fragmented, or altered Greater Sage-grouse habitat and a reduction in Greater Sage-grouse populations of approximately one-half of their pre-European settlement distribution. In 2010 the USFWS found that listing of the Greater Sage-grouse under the ESA was warranted but precluded by higher priority listing actions (75 FR 13909). A litigation settlement requires that a listing decision be made by the USFWS by December, 2015 (NTT 2011).

A notice of intent was filed with the Federal Register in December of 2011 to prepare an environmental impact statement (EIS) to incorporate Greater Sage-grouse conservation measures into land use plans and land management plans. Preparation of these plans and associated EIS are currently ongoing. The approved objectives and conservation measures are anticipated to be incorporated into applicable resource management plans by the end of 2014 (BLM 2013a).

According to the NDOW and BLM Greater Sage-grouse Habitat Categorization Map, the Project Area is within Preliminary Priority Habitat (PPH) (NDOW 2012). PPH comprises areas that have been identified as having the highest conservation value to maintain sustainable Greater Sage-grouse populations. These areas would include breeding, late brood-rearing, and winter concentration areas (BLM 2011b).

SRK performed a wildlife survey on May 23, 2013. Field biologists performed meandering transects within the Project Area and the buffer for Greater Sage-grouse occurrence or their sign (e.g. scat, feathers, tracks). No Greater Sage-grouse or their sign were observed (SRK 2013).

According to NDOW data, ten known Greater Sage-grouse lek sites are located within a four-mile buffer of the Project Area as shown on Figure 6. Of these, six are known to be active.

### **3.1.9.2 Western Burrowing Owl**

The Western Burrowing Owl (*Athene cunicularia hypugaea*) is a bird of prey that spends a considerable amount of time on the ground. Found in western North American grasslands and shrub-steppe habitats, the Western Burrowing Owl prefers areas that have gentle slopes, short vegetation, and a high percentage of bare ground. Other habitat indicators of the Western Burrowing Owl include high densities of burrows created by other burrowing animals. Western Burrowing Owls prefer to nest in burrows, rock piles, and eroded stream banks but can establish nests in many man-made structures such as roadside culverts and eroded irrigation ditches. No Western Burrowing Owls, their burrows, or sign were observed during field surveys (SRK 2013).

### **3.1.9.3 Ferruginous Hawk**

The Ferruginous Hawk (*Buteo regalis*) is a bird of prey strongly associated with plains and deserts located in grassland and shrub-steppe habitat. The pinyon-juniper ecotone or transition zones between woodland and shrub/grassland habitats are also preferred by the Ferruginous Hawk. Nesting primarily occurs in lone trees located within sagebrush/shrub-steppe, grassland, and mixed shrub/grassland. If trees are not located within its nesting area, this species would nest on the ground, rock outcrops, pinnacles, and cliff faces until

a more preferred nesting site is found. This species has potential to exist within vicinity of the Project Area although none were observed during field investigations (SRK 2013).

#### **3.1.9.4 Short-eared Owl**

Short-eared owls (*Asio flammeus*) occupy a variety of habitats due to their wide geographical distribution. Their preferred habitat includes marshes and montane meadows but can also occupy sagebrush steppes, grasslands, and open shrublands, fresh and saltwater marshes, coastal plains, and old fields (Howard 1994). This species has potential to exist within the vicinity of the Project Area although none were observed during field surveys. An owl nest of undetermined species was observed within two miles of the Project Area, which was last known to be active in 1996 (SRK 2013).

#### **3.1.9.5 Long-eared Owl**

Long-eared Owl (*Asio otus*) inhabit dense vegetation adjacent to riparian strips along rivers, grasslands, or shrublands. The Long-eared Owl prefers to roost and nest in thick vegetation (willow thickets or conifers) during the day and often hunts in more open areas such as rangelands and fallowed fields during the night. Old stick nests created by crows, hawks, or other species of birds are used and lined with feathers, leaves, or moss before eggs are laid (Campbell 1996). The Long-eared Owl is unlikely to exist within the Project Area due to the lack of suitable habitat. An owl nest of undetermined species was observed within two miles of the Project Area, which was last known to be active in 1996 (SRK 2013).

#### **3.1.9.6 Swainson's Hawk**

Swainson's Hawk (*Buteo swainsoni*) inhabits agricultural lands with open country, plains, and prairie. Habitat often includes lowland rivers and streams. This species has potential to exist within the vicinity of the Project Area. No individuals were observed during field surveys (SRK 2013).

#### **3.1.9.7 Northern Goshawk**

The Northern Goshawk (*Accipiter gentilis*) prefers to inhabit mature aspen or coniferous forest bordering the grassland and shrub-steppes. This species has potential to exist within the vicinity of the Project Area and has been previously sighted in the area, although none were observed during SRK's field surveys.

#### **3.1.9.8 Peregrine Falcon**

The Peregrine Falcon (*Falco peregrines*) prefers to inhabit mountain ranges, open country, river valleys, and some coastlines. This species of raptor does not build nests but lays eggs in depressions located on cliffs, rock outcrops or pinnacles, or man-made structures. Due to the presence of hilly areas, open country, and outcrops of rocks, this species has potential to exist within vicinity of the Project Area. No individuals were observed during field surveys (SRK 2013).

#### **3.1.9.9 Prairie Falcon**

The habitat of the Prairie Falcon (*Falco mexicanus*) includes a variety of different landscapes including canyons, arid grasslands, and shrub-steppes. Nests are either created on cliff faces, rock outcrops, or pinnacles, or by using abandoned nests of other species of bird such as the Golden Eagle. This species has potential to exist within the vicinity of the Project Area but was not observed during field studies (SRK 2013).

#### **3.1.9.10 Golden Eagle**

The Golden Eagle (*Aquila chrysaetos*), a federally protected species, prefers a variety of different habitats including mountains, deserts, and plains but do not usually inhabit heavily forested areas. No Golden Eagle nests were observed within the Project Area. However, two Golden Eagle nests were observed within five miles of the Project Area as outlined in Table 6.

**Table 6: Eagle Nest Summary within Five Miles of the Project Area**

Probable Use	Last Active	Last Check	Township/Range/Section
Eagle	3/21/1974	3/21/1974	27N 45E 023
Eagle	Unknown	5/23/2013	28N 45E 014

Source: SRK 2013

**3.1.9.11 Bald Eagle**

Bald Eagles (*Haliaeetus leucocephalus*) prefer lowland rivers and streams or lakes and reservoirs due to their diet consisting mostly of fish. Suitable habitat for the Bald Eagle is not found within the vicinity of the Project Area and its habitat does not occur in the Project Area; this species is unlikely to exist within the Project Area (SRK 2013).

**3.1.9.12 Pinyon Jay**

The Pinyon Jay (*Empidonax trailii extimus*) is found throughout Nevada in pinyon-juniper, sagebrush, and coniferous forest habitats. This species feeds on insects, pine nuts, and seed from bird feeders. This species has potential to exist within the Project Area; none were observed during field surveys (SRK 2013).

**3.1.9.13 Loggerhead Shrike**

The Loggerhead Shrike (*Lanius ludovicianus*) is found throughout the United States, in parts of Canada, and Mexico typically in open areas dominated by grasses and/or forbs, interspersed with shrubs or trees and bare ground. This species is known for their unique habit of killing small vertebrates by impaling them on sharp objects. This species has potential to exist within the Project Area. None were observed during field surveys (SRK 2013).

**3.1.9.14 Black Rosy-Finch**

The Black Rosy-finch (*Leucosticte atrata*) is found from northeastern Nevada to southwestern Montana and exists in habitats ranging from the high mountains during breeding season to fields, cultivated lands, roadsides, and human-made structures during winter. They feed on insects and seeds of grasses and weeds. Although none were observed during field surveys, this species has potential to exist within the Project Area (SRK 2013).

**3.1.9.15 Sage Thrasher**

The Sage Thrasher (*Oreoscoptes montanus*) is found in open shrub-steppe country and prefers areas dominated by sagebrush or bitterbrush with native grasses intermixed. Potential habitat exists within the Project Area for this species. This species has potential to exist within the Project Area.

**3.1.9.16 Brewer’s Sparrow**

The Brewer’s Sparrow (*Spizella breweri*) is found in the western United States in plains and foothills, mainly in the Great Basin where they are closely associated with sagebrush and grassy areas. This species has potential to exist within the Project Area. None were observed during field surveys (SRK 2013).

**3.1.9.1 Pygmy Rabbit**

Pygmy rabbits (*Brachylagus idahoensis*) are typically found in big sagebrush communities that are shrub dominated and have some bunchgrasses as the dominant grasses. They generally occur at elevations between 4,500 to 7,000 feet amsl, although they have been found up to 8,500 feet amsl where suitable habitat conditions exist. In Nevada, these upper elevation sites consist of mountain basins where deep soils accumulate. Pygmy rabbits utilize extensive burrow systems, largely of their own creation with entrances at the base of sagebrush. Pygmy rabbits tend to occur in areas with relatively deep, friable soils which also support dense and relatively tall shrub cover.

No pygmy rabbits or pygmy rabbit sign (e.g., burrows, scat, tracks, dust baths, runways) were observed in the Project Area. Suitable pygmy rabbit habitat is not present in the Project area. The soils are gravelly and are not considered to be friable for excavating burrows. The project area also lacks the tall, dense sagebrush cover that they require. (SRK 2013).

### **3.1.9.2 Dark Kangaroo Mouse**

Dark kangaroo mice (*Microdipodops megacephalus*) are found throughout North America and are one of two species of kangaroo mice found in North America. This species is located in scrublands and sagebrush habitats. This species has potential to exist within the Project Area due to the presence of sagebrush. No dark kangaroo mice were observed during field surveys (SRK 2013).

### **3.1.9.3 Pale Kangaroo Mouse**

Pale kangaroo mice (*Microdipodops pallidus*) are found throughout North America. They are one of two species of kangaroo mice found in North America. This species is located in high cold deserts, most commonly in Nevada in the scrublands and desert. This species has potential to exist within the Project Area; however, no individuals were observed during field surveys (SRK 2013).

### **3.1.9.4 Migratory Birds**

In addition to the migratory birds discussed above, other migratory bird species observed in this vicinity of the Project Area include Horned Larks (*Eremophila alpestris*), western meadowlarks (*Sturnella neglecta*), common raven (*Corvus corax*), and sage sparrow (*Artemisiospiza belli*), and Brewer's sparrows (*Spizella breweri*) (SRK 2013).

### **3.1.9.5 Raptors**

Various species of raptors, which use diverse habitat types, are known to reside in the vicinity of the Project Area and could use the Project Area for foraging. These species include the following (NDOW 2013):

- American Kestrel (*Falco sparverius*);
- Barn Owl (*Tyto alba*);
- Cooper's Hawk (*Accipiter cooperii*);
- Great Horned Owl (*Bubo virginianus*);
- Merlin (*Falco columbarius*);
- Northern Harrier (*Circus cyaneus*);
- Northern Saw-whet Owl (*Aegolius acadicus*);
- Osprey (*Pandion haliaetus*);
- Red-tailed Hawk (*Buteo jamaicensis*);
- Rough-legged Hawk (*Buteo lagopus*);
- Sharp-shinned Hawk (*Accipiter striatus*);
- Turkey Vulture (*Cathartes aura*); and
- Western Screech Owl (*Megascops kennicottii*).

Raptor species are protected by state and federal laws. In addition, of the raptor species which could occur in the Project Area, Bald Eagles, Western Burrowing Owl, Ferruginous Hawk, Golden Eagle, Northern Goshawk, Peregrine Falcon, Prairie Falcon, and Short-eared Owl are NDOW species of special concern and are target species for conservation as outlined by the Nevada Wildlife Action Plan. Eight raptor and/or eagle nests were determined to occur within ten miles of the Project Area (NDOW 2013).

### **3.1.9.6 Other Species**

No water resources exist within the Project Area that would support fish, amphibian, or mollusk species. No cliffs, trees, ledges or underground workings are located within the Project Area. No bat species are anticipated to be dwelling within the Project Area.

### **3.1.10 Vegetation including Special Status Species**

The baseline biological survey (SRK 2013) identified the presence of one ecological site within the Project Area which did not correspond to the ecological sites linked to the mapped soils. The observed vegetation

and soils corresponded with the Loamy 8-10" P.Z. 024XY005NV ecological site. The vegetation species composition of the community delineated within the Project Area was generally less varied than the expected species composition described in the ecological site description.

The vegetation community is comprised primarily of Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), which is also listed as the expected dominant shrub species in the Loamy 8-10" P.Z. 024XY005NV. The ecological site description also lists yellow rabbitbrush (*Chrysothamnus viscidiflorus*), Thurber's needlegrass (*Achnatherum thurberianum*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Basin wildrye (*Leymus cinereus*), globemallow (*Sphaeralcea* sp.), spiny phlox (*Phlox hoodii*), buckwheat (*Eriogonum* sp.) which were also observed throughout the Project Area. Additional vegetation species observed include yarrow (*Achillea millefolium*), death camas (*Zigadenus* sp.), larkspur (*Delphinium* sp.), Indian paintbrush (*Castilleja* sp.), burr buttercup (*Ceratocephala testiculatus*), wild onion (*Allium ascalonicum*), milkvetch (*Astragalus* sp.), and cheatgrass (*Bromus tectorum*).

No special status plant species were identified as having the potential to exist within the Project Area. No special status plant species were observed.

### **3.1.11 Wildlife**

Big game mammals in the vicinity of the Project Area include mule deer (*Odocoileus hemionus*) and pronghorn antelope (*Antilocapra americana*). Mule deer habitat exists throughout the Project Area while pronghorn antelope distribution exists near the Project Area, but not within. No known bighorn sheep (*Ovis canadensis*) or elk (*Cervus canadensis*) distributions exist within or near the Project Area (SRK 2013).

Non-game mammals that exist in the vicinity of the Project Area include bobcat (*Lynx rufus*), coyote (*Canis latrans*), cottontail rabbit (*Sylvilagus audubonii*), jackrabbit (*Lepus* sp.), mice, ground squirrels, and other rodents (SRK 2013).

Game avian species observed in the vicinity of the Project Area include Chukar (*Alectoris chukar*).

## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **4.1 INTRODUCTION**

This chapter identifies and describes the environmental consequences, or effects, that would result from implementation of the Proposed Action Alternative and the No Action Alternative. The cumulative impacts that would result from implementation of the Proposed Action Alternative and No Action Alternative are also discussed in later sections of this chapter.

### **4.2 EFFECTS ANALYSIS**

According to 40 CFR 1508.8, the terms "effect" and "impact" are synonymous. The regulation continues, stating that effects may refer to adverse or beneficial ecological, aesthetic, historical, cultural, economic, social, or health-related phenomena that may be caused by the Proposed Action or alternatives. Effects are identified as being either direct or indirect in nature in 40 CFR 1508.8. A direct effect occurs at the same time and place as the action, while an indirect effect occurs later in time or farther removed in distance from the action, but is still reasonably foreseeable. In this EA, direct and indirect effects are discussed in combination. Per 40 CFR 1508.8, the terms "effect" and "impact" are used interchangeably, in both their singular form and their plural form.

The impacts of the Proposed Action and No Action alternatives described in this EA are primarily derived through the analysis of the expected changes that implementation of each alternative would have on the existing conditions of the resources identified in tables 2 and 3 as "present/may be affected". The existing conditions for these resources are described in Chapter 3.

Effects on resources resulting from surface disturbance associated with the construction of the proposed Project were analyzed under the assumption that approximately 6.3 acres would be disturbed. Of this, approximately 4.7 acres would be new disturbance. The disturbance would be temporary, lasting until reclamation activities are complete and revegetation goals achieved.

#### **4.2.1 DIRECT AND INDIRECT EFFECTS**

#### **4.2.2 Air Quality**

##### **4.2.2.1 *Proposed Action Alternative***

Air quality would be impacted within the vicinity of the Project Area by temporary dust and combustion emissions during construction, operations, and maintenance of the proposed Project. The proposed Project would result in the approximately 6.3 acres of potential surface disturbance, of which 4.7 acres would be new disturbance. Surface disturbance would increase fugitive dust emissions by removing vegetation cover and loosening and exposing soils.

During the construction phase of the Project, vegetation removal and earthmoving would loosen soils and disturb soil structures, making soils more susceptible to wind and water erosion, and increasing fugitive dust. The construction phase is estimated to last approximately three months.

Operation of equipment on the improved road between the Greystone Mine and the Dana 15 site would serve to further loosen materials to create fugitive dust. The road surface would be covered in tails which would help to minimize dust creation. M-I SWACO would also water the roads periodically and adhere to speed limits to help minimize dust creation as described in Chapter 2.1.6.

Surface disturbances over five acres in size require a Surface Area Disturbance Permit from the NDEP Bureau of Air Pollution Control. M-I SWACO would obtain the required permit prior to Project construction. The permit would require M-I SWACO to develop a Dust Control Plan including a list of the BMPs that would be implemented to control dust emissions. Impacts to air quality resulting from fugitive dust emissions would be minimal and temporary due to the relatively brief construction period and the relatively short distance upon which mine vehicles would be travelling between the Greystone Mine and the Dana 15 site.

Combustion emissions would occur when internal combustion engines are actively powering equipment during the construction period. Combustion emissions would also result from ore hauling activities from the Dana 15 site to the Greystone Mine. Ore-hauling along the 0.9-mile route would occur approximately 75 times per day (round trips) using 60-ton Komatsu HD 465 trucks or similar. Limited combustion emissions would also occur during road maintenance activities and during reclamation.

The impact on air quality from fugitive dust and combustion emissions as a result of the Proposed Action Alternative would be expected to be temporary, lasting for the duration of the six-month Project life. In relation to the non-attainment rural area in which the Project is located, impacts to air resources are anticipated to be low.

#### **4.2.2.2 No Action Alternative**

The proposed ROW would not be authorized under the No Action Alternative, and consequently, construction of the proposed Project including vegetation clearing and land disturbance would not occur. Without the improved Dana Road construction, ore haulage between the Greystone Mine and the Dana 15 site would not occur. Consequently, fugitive dust and combustions emissions related to the proposed Project would not be released. The No Action Alternative would have no adverse impacts on air quality.

### **4.2.3 Cultural Resources**

#### **4.2.3.1 Proposed Action Alternative**

No cultural resources were found during the Class III cultural resources survey of the Project Area (Kautz 2013). No impacts to known cultural resources would occur. As described in Chapter 2.2, if human remains/burials, previously unidentified cultural (archaeological or historical) resources, or vertebrate paleontological resources are discovered while conducting activities related to the Proposed Action, the proponent would immediately cease activities within 300 feet of the discovery, ensure the discovery is appropriately protected, and immediately notify the BLM MLFO Manager by telephone, followed with written confirmation. Work would not resume, and the discovery would be protected until the BLM Authorized Officer issues a notice to proceed. Given these environmental protection measures, no impacts to yet undiscovered or undocumented cultural resources are anticipated to occur.

#### **4.2.3.2 No Action Alternative**

Under the No Action Alternative, no land clearing activities would take place and unknown cultural resources would not be disturbed. No impacts to cultural resources would occur under the No Action Alternative.

### **4.2.4 Native American Coordination**

#### **4.2.4.1 Proposed Action Alternative**

Native American coordination was conducted with the mailing of consultation letters to the Yomba Shoshone Tribe, Te-Moak Tribe, Duckwater Shoshone Tribe of the Duckwater Reservation, and the Battle Mountain Band on September 13, 2013. The Duckwater Shoshone Tribe of the Duckwater Reservation responded on October 10, 2013 requesting addition information regarding the project location and documented cultural sites. This information was sent on November 1, 2013 and no additional comment has been received from the Duckwater Shoshone Tribe of the Duckwater Reservation. At this time, no Native American resources have been identified; therefore, no impacts to Native American resources are anticipated.

#### **4.2.4.2 No Action Alternative**

If the No Action Alternative were implemented, the proposed ROW would not be authorized, and the proposed Project would not occur. Impacts to Native American resources would not occur.

## **4.2.5 Noxious Weeds and Invasive, Non-Native Species**

### **4.2.5.1 Proposed Action Alternative**

The Proposed Action would result in disturbance on approximately 6.3 acres of public land, of which 4.7 acres would be new disturbance. The proposed surface disturbance would increase the risk of noxious and invasive weed colonization. Parts of the ROW located adjacent to the existing Mill Creek Road are especially prone to colonization by weed species due to the inadvertent transport of weed seeds by vehicles. Although no noxious or invasive non-native weed species were identified within the Project Area, whitetop was observed along Mill Creek Road. The spread of whitetop seeds to the Project Area could occur.

M-I SWACO would minimize the potential for the establishment of noxious weeds and spread of invasive species by following environmental protection measures listed in Chapter 2.2 including flagging areas of concern, and by using weed-free straw, hay, and seed mixes.

### **4.2.5.2 No Action Alternative**

The proposed ROW would not be authorized under the No Action Alternative, and consequently, construction of the proposed Project would not occur. Impacts to noxious weeds and invasive non-native species would not occur.

## **4.2.6 Wastes, Hazardous and Solid**

### **4.2.6.1 Proposed Action Alternative**

Hazardous materials and solid waste associated with the Proposed Action would be managed by M-I SWACO as described in Chapter 2.2. Nominal volumes of solid wastes would be generated as part of the construction operations or hauling activities on the improved Dana Road. In addition limited volumes of hazardous materials would be utilized within the Project Area. Diesel, gasoline, hydraulic oil, engine oil, and lubricants would be used by equipment on the site, but regular equipment maintenance would not occur within the Project Area.

As described in Chapter 2.2, in the event hazardous or regulated material, such as diesel fuel, is spilled M-I SWACO would take measures to control the spill, and the NDEP and BLM would be notified as per NDEP regulations and permit requirements. Spills would be managed according to the Greystone Mine Spill Contingency Plan. Spilled liquids would be placed in suitable, approved containers, and contaminated soils would be placed in drums for temporary storage and transportation to an approved disposal facility. Impacts related to hazardous and solid wastes from the Proposed Action are considered to be negligible.

### **4.2.6.2 No Action Alternative**

Hazardous materials and solid wastes would not be used or generated in the Project Area under the No Action Alternative. No impacts to hazardous or solid wastes would occur.

## **4.2.7 Land Use**

### **4.2.7.1 Proposed Action Alternative**

The Proposed Action Alternative would cross the Mill Creek Road on private land controlled by M-I Drilling Fluids, and which is under a ROW held by Lander County (NVN 039086). Lander County road and bridge foreman stated that the proposed road crossing would not conflict with the use of Mill Creek Road (Negro, 2014). The proposed crossing is consistent with other mine traffic crossings in Lander County, and the proposed mine traffic volumes would not interfere with public traffic on Mill Creek Road. If the increase in truck traffic affects the road surface at the crossing, M-I SWACO would take measures to repair and maintain the crossing. The next closest ROW is NVN 021773 held by M-I SWACO for a power line running into the Greystone Mine. This ROW would not be affected by the Proposed Action.

Public access to the existing Dana Road would be restricted through the installation of gates at the improved road's intersection with the Mill Creek Road, located on the Dana 15 site. These gates may temporarily alter public use of the immediate area during the life of the Project, until the road is returned to its original configuration and reopened for public use. Other public uses of the area would be minimally affected.

#### **4.2.7.2 No Action Alternative**

Under the No Action Alternative the ROW would not be established, the existing Dana Road would not be altered, and no changes to land use in the area related to the Project would occur.

### **4.2.8 Socio-Economics**

#### **4.2.8.1 Proposed Action Alternative**

The Proposed Action would extend current employment levels at the Greystone Mine by an additional six months. Reserves at the Greystone Mine are anticipated to last for approximately four more years. Under the Proposed Action the Dana 15 reserves would be accessible along the ROW and improved Dana Road. Construction of the improved Dana Road would take approximately three months and would be done between normal work activities at the Greystone Mine. Development of the Dana 15 reserves would impact socio-economics by extending employment for the current Greystone personnel for approximately six months.

No infrastructure costs would be associated with the road crossing as the intersection of Mill Creek Road and Dana Road would be maintained by M-I SWACO.

#### **4.2.8.2 No Action Alternative**

Under the No Action Alternative the proposed ROW would not be established and the Dana Road would not be improved. Reserves at the Dana 15 site would not be accessed, and activity at the Greystone Mine would cease when reserves have been depleted in approximately four years.

### **4.2.9 Soils**

#### **4.2.9.1 Proposed Action Alternative**

Under the Proposed Action, approximately 6.3 acres of land would be disturbed of which approximately 4.7 acres of land are previously undisturbed. Removed soils and entrained vegetation would be pushed to the side of the proposed disturbance area and used during reclamation as growth media. These disturbances would be temporary, and reclamation would occur as described in Chapter 2.

Soil disturbances would impede maturation of soil development, degrade soil structure, and hinder soil biological activity. Additionally, exposed soils would be susceptible to wind and water erosion; however, this impact would be reduced by adherence to soil erosion BMPs as described in Chapter 2.2. Impacts would last until the successful revegetation of disturbed areas after reclamation.

Impacts would include the loss of soil due to wind and water erosion after clearing and/or earthworks. The potential for soil erosion will be minimized through the implementation of appropriate erosion control measures, such as straw bales or riprap, as they are appropriate. Based on the existing level of activity at the site and BMPs proposed by M-I SWACO, potential impacts to soils as a result of the Proposed Action are considered to be low.

#### **4.2.9.2 No Action Alternative**

No impacts to soils associated with the No Action Alternative would occur beyond those resulting from the prior authorized activities within the Project Area.

## 4.2.10 Special Status Species including Threatened and Endangered Species and Migratory Birds

### 4.2.10.1 Proposed Action Alternative

The special status species which could potentially be affected by the Project include those species which were observed during field studies or for which potential habitat exists within the Project Area. They include the following:

- Greater Sage-grouse;
- Western Burrowing Owl;
- Ferruginous Hawk;
- Short-eared Owl;
- Swainson's Hawk;
- Northern Goshawk;
- Peregrine Falcon;
- Prairie Falcon;
- Golden Eagle;
- Pinyon Jay;
- Loggerhead Shrike;
- Sage Thrasher;
- Brewer's Sparrow;
- Dark Kangaroo Mouse; and
- Pale Kangaroo Mouse.

In addition to the species listed above, the following migratory bird species observed in the vicinity of the Project Area and raptor species which could forage in the area include:

- Horned Larks;
- Western Meadowlarks;
- Common Raven;
- Sage Sparrow; and
- Brewer's Sparrow.
- American Kestrel;
- Barn Owl;
- Cooper's Hawk;
- Great Horned Owl;
- Merlin;
- Northern Harrier;
- Northern Saw-whet Owl;
- Osprey;
- Red-tailed Hawk;
- Rough-legged Hawk;
- Sharp-shinned Hawk;
- Turkey Vulture; and
- Western Screech Owl.

Under the Proposed Action, approximately 6.3 acres of land would be disturbed including approximately 4.7 acres of previously undisturbed land which could be considered habitat for some wildlife species. Removed vegetation could result in the potential habitat and/or forage loss for special status species. Ground clearing activities have the potential to take individuals of smaller and less mobile species.

As described in Chapter 2.2, land clearing and surface disturbance would be timed to prevent destruction of active bird nests or of young birds during the avian breeding season (March 1 through July 31) in accordance with the MLFO BLM specialist recommendations and with the MBTA. If surface-disturbing activities are unavoidable, M-I SWACO would have a qualified biologist survey areas proposed for disturbance for the presence of active nests immediately prior to the disturbance.

The presence of humans during the construction phase as well as the operation phase could further disrupt existing wildlife use patterns of the area, potentially displacing species to adjacent undisturbed areas. Impacts related to human activity and noise would occur and continue until reclamation activities are complete. Considering the relatively narrow disturbance area in relation to the surrounding intact habitats, impacts related to vegetation loss and human presence would be minimal.

Traffic along the road could potentially affect special status species due to the increase in noise, dust, and the increased potential for vehicular and wildlife collisions. The adherence to speed limits would minimize but would not prevent the taking of individuals, although the types of species likely to be affected would be the smaller avian, mammal, and insect species which are difficult to see and avoid.

Habitats would be restored after completion of reclamation and successful revegetation, although the plant species composition on reclaimed areas may differ from the existing composition until the areas are

colonized by adjacent native species, resulting in a potential long-term change in habitat types. Some vegetation, such as sagebrush, could take up to 25 years to reach maturity. The short-term revegetation species composition may differ from the existing vegetation communities. This change in composition could have both positive and negative effects on wildlife depending on the species and their habitat or prey habitat composition preference.

For Greater Sage-grouse, the Proposed Action would disturb approximately 6.3 acres, of which 4.7 acres are previously undisturbed. This disturbance occurs within PPH habitat. IM 2012-043 lists interim conservation policies and procedures to guide field office decisions to promote the *National Greater Sage-grouse Planning Strategy* principles (BLM 2011b). According to IM 2012-043, the following measures are proposed for ROW applications which involve a project disturbance of greater than two acres:

- The BLM will document the reasons for its determination and require the ROW holder to implement measures to minimize impacts to Greater Sage-grouse habitat;
- In addition to considering opportunities for onsite mitigation, the BLM will, to the extent possible, cooperate with project proponents to develop and consider implementing appropriate offsite mitigation that the BLM, coordinating with the respective state wildlife agency, determines would avoid or minimize habitat and population-level effects. When developing such mitigation, the BLM should consider compensating for the short-term and long-term direct and indirect loss of Greater Sage-Grouse and its habitat; and
- Unless the BLM determines, in coordination with the respective state wildlife agency, that the proposed ROW and mitigation measures would cumulatively maintain or enhance Greater Sage-Grouse habitat, the proposed ROW decision must be forwarded to the appropriate BLM State Director, State Wildlife Agency Director, and FWS representative for their review. If this group is unable to agree on the appropriate mitigation for the proposed ROW, then the proposed decision must be forwarded to the Greater Sage-Grouse National Policy Team with the addition of the State Wildlife Agency Director, when appropriate, for its review. If the National Policy Team and the State Wildlife Agency Director are unable to agree on the appropriate mitigation for the proposed ROW, the National Policy Team will coordinate with and brief the BLM Director for a final decision in absence of consensus.

During the scoping process, BLM specialists recommended offsite mitigation would be required for the Proposed Action at a rate of 3:1 (acres of habitat improvement to acres of proposed disturbance) pending field verification from NDOW and the BLM (BLM 2013b). This mitigation would be carried out under the direction of BLM specialists and may include in-kind, out-of-kind, or in-lieu-fees as defined by IM WO-2005-069 (BLM 2008c).

#### **4.2.10.2 No Action Alternative**

No ground disturbance would occur under the No Action Alternative. No impacts to special status species would occur under the No Action Alternative.

### **4.2.11 Vegetation including Special Status Species**

#### **4.2.11.1 Proposed Action Alternative**

Surface disturbance related to improvement and construction of the Dana Road would result in temporary removal of vegetation within the Project Area equaling approximately 4.7 acres of previously undisturbed land. Impacts to vegetation would be temporary, lasting for the life of the Project until the road has been realigned to its original alignment and reclaimed. Seeded areas would require several years of growth after reclamation before vegetation would be of similar height and condition as the existing vegetation. Some vegetation, such as sagebrush, could take up to 25 years to reach maturity. The short-term revegetation species composition may differ from the existing vegetation communities.

#### **4.2.11.2 No Action Alternative**

No ground disturbance would occur under the No Action Alternative other than those related to previously approved actions in the Project Area. No known further impacts to vegetation would occur.

#### **4.2.12 Wildlife**

##### **4.2.12.1 Proposed Action Alternative**

Under the Proposed Action approximately 4.7 acres of previously undisturbed lands would be disturbed, resulting in the temporary removal or destruction of vegetation and potential wildlife habitat and fodder. Habitats would be restored after completion of reclamation and successful revegetation, although the plant species composition on reclaimed areas may differ from the existing composition until the areas are colonized by adjacent native species, resulting in a potential long-term change in habitat types. Some vegetation, such as sagebrush, could take up to 25 years to reach maturity, and the short-term revegetation species composition may differ from the existing vegetation communities. This change in composition could have both positive and negative effects on wildlife depending on the species and their habitat or prey habitat composition preference. Habitat removal, fragmentation, and disturbance may push some species onto adjacent lands, creating more pressure on these areas. However, given the limited nature of the proposed disturbance and the surrounding intact habitats, this impact is considered to be negligible for all species. Impacts related to human activity and noise would occur and continue until reclamation activities are complete.

Traffic along the road could potentially affect special status species due to the increase in noise, dust, and the increased potential for vehicular and wildlife collisions. The adherence to speed limits would minimize but would not likely omit the taking of individuals, although the types of species likely to be affected would be the smaller avian, mammal, and insect species which are difficult to see and avoid.

##### **4.2.12.2 No Action Alternative**

No habitat removal or alteration would occur under the No Action Alternative. No impacts the wildlife are anticipated.

### **4.3 MITIGATION MEASURES**

Environmental protection measures are part of the Proposed Action as described in Chapter 2.2. For Greater Sage-grouse, mitigation measures would be followed in accordance with IM 2012-043, as discussed in section 4.2.10.1. No additional mitigation measures have been proposed during the NEPA process to date.

### **4.4 CUMULATIVE IMPACTS**

#### **4.4.1 Introduction**

Cumulative impacts due to the Proposed Action were analyzed in conjunction with the past, present, and reasonably foreseeable future activities (RFFAs) in the cumulative effects study area (CESA). Cumulative impacts have been defined as “The impact which results from the incremental impact of the action, decision, or project when added to the other past, present, and reasonably foreseeable further actions, regardless of what agency (federal or non-federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1508.7).

The CESA includes the Project Area and a buffer area of approximately four miles as shown on Figure 7 encompassing T28N R45E, sections 1 through 3, 9 through 17, 20 through 29, and 32 through 36; T28N, R46E, sections 6 through 9, 15 through 22, and 26 through 35; T27N, R45E sections 1 through, and 9 through 15; and T27N, R46E, sections 3 through 9; and 16 through 18. The CESA covers about 50 square miles or approximately 32,000 acres.

The BLM Legacy Rehost System (LR2000) was used to collect information on recorded past, present, and RFFAs occurring within the Project Area (BLM 2013c).

#### 4.4.2 Past, Present, and Reasonably Foreseeable Future Actions

Past and present actions within the CESA consist of power transmission corridors, transportation corridors, land actions, sand and gravel operations, minerals mining, and exploration.

Mineral exploration and mining have documented associated disturbance acres as well as reclaimed acres listed under the LR2000 system. Depending on their disturbance size they fall under either the plan or notice case types under 43 CFR 3809 regulations. A summary of surface disturbances associated with these past and present activities are listed below in Table 7.

**Table 7: Past and Present Surface Management Action Disturbances**

Activity Action	Disturbed (acres)	Reclaimed (acres)	Remaining Disturbed (acres)
Barium – Plan	288	28	260
Barium – Notice	1	1	0
Gold – Plan	384	116	268
Gold – Notice	124	120	4
Stone – Notice	1	1	0
<b>Total</b>	<b>798</b>	<b>266</b>	<b>532</b>

Source: BLM 2013c

One authorized recreation activity, a BLM off-highway-vehicle (OHV) park ROW located approximately four miles to the west of the Project Area, is located within the CESA (NVN 085786) covering approximately 20 acres.

The Mill Creek Road ROW (NVN 039086) runs generally northwest to southeast through the CESA for a distance of approximately 13 miles with a ROW width of 50 feet. This ROW covers an area of approximately 80 acres within the CESA. The M-I SWACO power transmission line and associated ROW (NVN 021773) runs for approximately five miles northwest to southeast into the Greystone Mine. It has a ROW width of 30 feet and covers an area of approximately 20 acres within the CESA.

One land action, the patent of approximately 21 acres by Dresser Industries, occurred in 1988 (NVN 41282) within the CESA boundary. This is now the Dana 15 site.

No recorded wildfires have occurred within the CESA.

Other past and present activities which have or are occurring in the CESA include livestock grazing, wildlife use, and dispersed recreation. These activities have the potential to create surface disturbance and/or remove/alter vegetation communities.

Reasonably foreseeable future actions within the CESA boundary include continued livestock grazing, wildlife use, and dispersed recreation. Wild fires could also occur within the CESA. No surface actions pending BLM approval are present within the CESA beyond the Proposed Action.

#### 4.4.3 Cumulative Impacts

##### 4.4.3.1 Proposed Action Alternative

Past and present mining, exploration, and sand and gravel activities within the CESA boundary have resulted in approximately 798 acres of surface disturbance (approximately two percent of the CESA), of which 266 acres have been reclaimed. Approximately 532 acres remain unreclaimed. Approximately 100 acres within the CESA are held under ROWs NVN 039086 and NVN 021773. This equals less than one percent of the CESA. Disturbances related recreation, grazing, and wildlife use have not been quantified but would be minimal in comparison to the CESA size.

The Proposed Action would result in approximately 6.3 acres of temporary surface disturbance of which approximately 1.6 acres has been previously disturbed and 4.7 acres is undisturbed. Temporary surface disturbance would be reclaimed to approximate pre-disturbance topography, and to establish vegetative cover. The existing Dana Road would be returned to its current alignment and width of 35 feet. Accordingly, temporary surface disturbance associated with the construction of the Proposed Action would not contribute to a continued downward trend of resource loss within the CESA related to surface disturbance.

Resources that would be affected by this surface disturbance include air quality, vegetation, wildlife, special status wildlife, migratory birds, soils, and potentially noxious weeds and invasive non-native species. The incremental impact on any of these resources would be negligible when added to impacts other actions in the CESA have had.

Construction and maintenance of the proposed Project would result in increased noise and human activity within the Project Area, primarily when ore hauling is occurring about five days per week for a period of about six months. Increased noise and human activity would temporarily deter wildlife use of the Project Area and immediate surroundings during these periods. Resources likely affected could include wildlife, special status species, and migratory birds. Increased noise and human activity may also temporarily make the area less appealing for dispersed recreation. These impacts would be added to the impacts from increased noise and human activity associated with other actions within the CESA. Other actions that either temporarily or permanently increase human activity and noise include mineral exploration and mining, sand and gravel operations, transportation (Mill Creek Road), and OHV use within the BLM-administered OHV park.

#### **4.4.3.2 No Action Alternative**

Implementation of the No Action Alternative would not be expected to impact resources analyzed in this EA except for socio-economics. The other past, present, and RFFAs within the CESA have not had any known adverse impacts on socio-economics. Accordingly, the No Action Alternative would be expected to have no cumulative impact to socio-economics.

## **4.5 RESIDUAL IMPACTS**

With the successful implementation of the environmental protection measures incorporated into the Proposed Action, the proposed Project is not anticipated to result in residual impacts. Upon closure of the Greystone Mine, the Dana Road would be realigned, and the remaining area reclaimed. Restoration of vegetation communities similar to those present prior to disturbance would take longer to establish, but are expected to return. No permanent disturbance would remain.

## **4.6 COMPLIANCE WITH FEDERAL LAWS AND REGULATIONS**

Archaeological Resources Protection Act (43 CFR 7) and the Native American Graves Protection and Repatriation Act of 1990 (43 CFR 10). *Compliance.*

These acts both provide protection for historic properties, cultural resource, and Native American funerary items and/or physical remains located on federal land. In addition, the Archeological Resources Protection Act provides for the assessment of criminal and/or civil penalties for damaging cultural resources. Should any unplanned discovery of cultural resources, human remains, items of cultural patrimony, sacred objects, or funerary items occur, all activity in the vicinity of the find would cease. Immediately upon such discovery, Christopher J. Cook, Field Manager, Mount Lewis Field Office, 50 Bastian Road, Battle Mountain, NV, 89820 (775-635-4000), should be notified by telephone, and provided with written confirmation immediately thereafter. The location of the find should not be publically disclosed, and any human remains must be secured and preserved in place until a Notice to Proceed is issued by the authorized officer.

Clean Air Act, as amended and re-codified (42 USC 7401 et seq.). *Compliance.*

The Project is not expected to violate any federal or state air quality standards or hinder the attainment of air quality objectives in the local air basin. A Surface Area Disturbance permit from NDEP Bureau of Air Pollution Control would be obtained. The proposed Project is not anticipated to have an effect on future air quality of the area.

Section 176(c) of this act requires that federal agencies ensure that their activities are in conformance with federally approved state implementation plans for areas designated as "non-attainment" and "maintenance". The proposed Project would not be located in either type of designated area and therefore is not subject to this provision of the act.

Clean Water Act (33 USC 1251 et seq.). *Compliance.*

The proposed Project would not include fill or alteration of waters of the U.S., and no wetlands are located in the Project Area. Therefore, the Project is not subject to the provisions of Section 404 of the Clean Water Act.

Endangered Species Act (16 USC 1531 et seq.). *Compliance.*

No listed or proposed species occur in the Project Area (SRK 2013). One candidate species may occur in the Project Area: Greater Sage-grouse. Candidate species receive no legal protection under the Endangered Species Act but may be proposed for listing in the near future.

Executive Order 11988, Floodplain Management. *Compliance.*

This order directs all federal agencies to avoid, to the extent possible, the adverse effects associated with the modification of floodplains and to avoid support of floodplain development wherever there is a practicable alternative. The Project Area is not located within a documented floodplain; no modifications to floodplains would occur.

Executive Order 11990, Wetlands. *Compliance.*

This order directs all federal agencies to minimize the destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values of wetlands. Because wetlands are absent in the Project Area, the proposed Project would have no effect on wetlands.

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. *Compliance.*

The order directs all federal agencies to identify any disproportionate human health or environmental effects of their programs, policies, and activities on minority and low-income populations. The proposed Project would not have any effects on populations identified as a minority or low-income population.

Farmland Protection Policy Act (7 USC 4201). *Compliance.*

The Project would have no effect on prime farmland or farmland of statewide importance, because no such farmland is located within the Project Area.

Federal Aviation Act of 1958, as amended (49 USC 1471 et seq.) *Compliance.*

The proposed Project would have no effect on the physical facilities, operation, or air safety issues related to any airports. The proposed Project does not include any structures that extend higher than existing structures and/or nearby natural terrain.

Fish and Wildlife Coordination Act (16 USC 661 et seq.). *Compliance.*

The proposed Project does not involve water resource development; this act does not apply to this Project.

Migratory Bird Treaty Act (15 USC 701-18h). *Compliance.*

This act requires that the Project avoid destruction of active bird nests or newly birthed young of migratory birds that breed in the area from March to July. Prior to commencement of construction activities, a qualified biologist would be required to survey the proposed areas of disturbance to ensure

that no active nests or newly birthed young of migratory birds are in the area. If active nests or young are located, construction in those areas would not be initiated until the young birds have fledged.

National Environmental Policy Act (42 USC 4321 et seq.). *Compliance.*

Comments received during the public review period(s) would be carefully considered and incorporated into the EA, as appropriate. The EA, FONSI, if appropriate, and the Decision Record would be in full compliance with this act and complete the BLM's NEPA process. However, if significant impacts are identified during the EA process, then an EIS would need to be prepared.

National Historic Preservation Act of 1966, as amended (16 USC 470 et seq.). *Compliance.*

Kautz Environmental Consultants, Inc. performed a Class III cultural resources inventory covering the Project Area. No cultural resources were found (Kautz 2013). Environmental protection measures would mitigate impacts to cultural resources and adherence to the National Historic Preservation Act of 1966.

Wild and Scenic Rivers Act (16 USC 1271 et seq.). *Compliance.*

No rivers located within the Project Area.

#### **4.7 PUBLIC REVIEW AND COMMENT**

The public has an important role in the NEPA process, particularly in commenting on a federal agency's NEPA documents. As such, the EA will be circulated to agencies, organizations, and individuals known to have an interest in the Project. The document will also be made available for review on the BLM's website. All comments received will be considered thoroughly and incorporated into the EA, as appropriate.

## **5.0 TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED**

The following tribes, individuals, organizations, or agencies were consulted during preparation of this EA:

### **Tribes**

Te-Moak Tribe of the Western Shoshone  
Battle Mountain Band of the Western Shoshone  
Duckwater Shoshone Tribe  
Yomba Shoshone Tribe of the Yomba Reservation

### **Organizations**

Barbara Harmon                      Kautz Environmental Consultants, Inc.

### **Agencies**

Eric Miskow                              Nevada Natural Heritage Program  
Edward Koch                              U.S. Fish and Wildlife Service  
Timothy Herrick                              Nevada Department of Wildlife

## **6.0 LIST OF PREPARERS**

Persons involved in the scoping, writing, and review of this EA include the following:

### **6.1 BLM Specialists**

Ethan Arky	Recreation/Wilderness Characteristics
Kent Bloomer	Noxious and Invasive Weeds
Adam Cochran	Range, Vegetation, Soils
Andrea Dolbear	Minerals/Native American Coordination
Teresa Dixon	Native American Coordination
Ethan Ellsworth	Migratory Birds/Wildlife/Sensitive Species
Katherine Graham	GIS Compliance
Dorothy Harvey	Public Outreach
David Jones	Air Quality
John Kinsner	Archaeology/Paleontology
Jonathan Kramer	Lands, Realty/Native American Coordination
Cheryl LaRoque	Hazardous Materials
Joseph Moskiewicz	NEPA Compliance/Socioeconomics
Jon Sherve	Native American Coordination
Alden Shallcross	Hydrology/Floodplain/Wetlands
Juan Marinez	Native American Coordination

### **6.2 SRK Consulting (U.S.), Inc.**

Carrie Schultz	SRK Environmental Consultant
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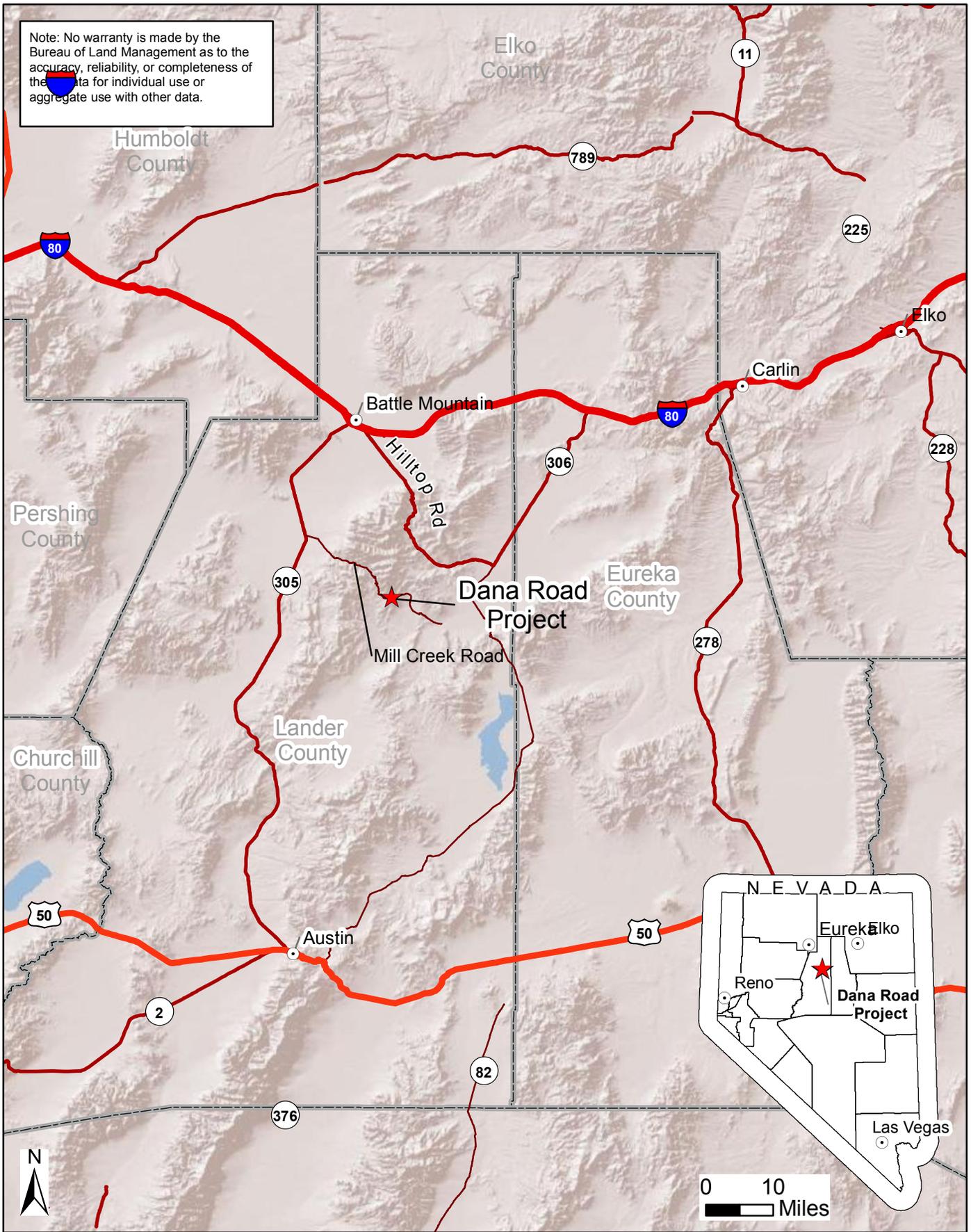
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## FIGURES

Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of the data for individual use or aggregate use with other data.



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## GREYSTONE MINE DANA ROAD PROJECT

DRAWING TITLE:

**LOCATION MAP**

DRAWING NO.

**FIGURE 1**

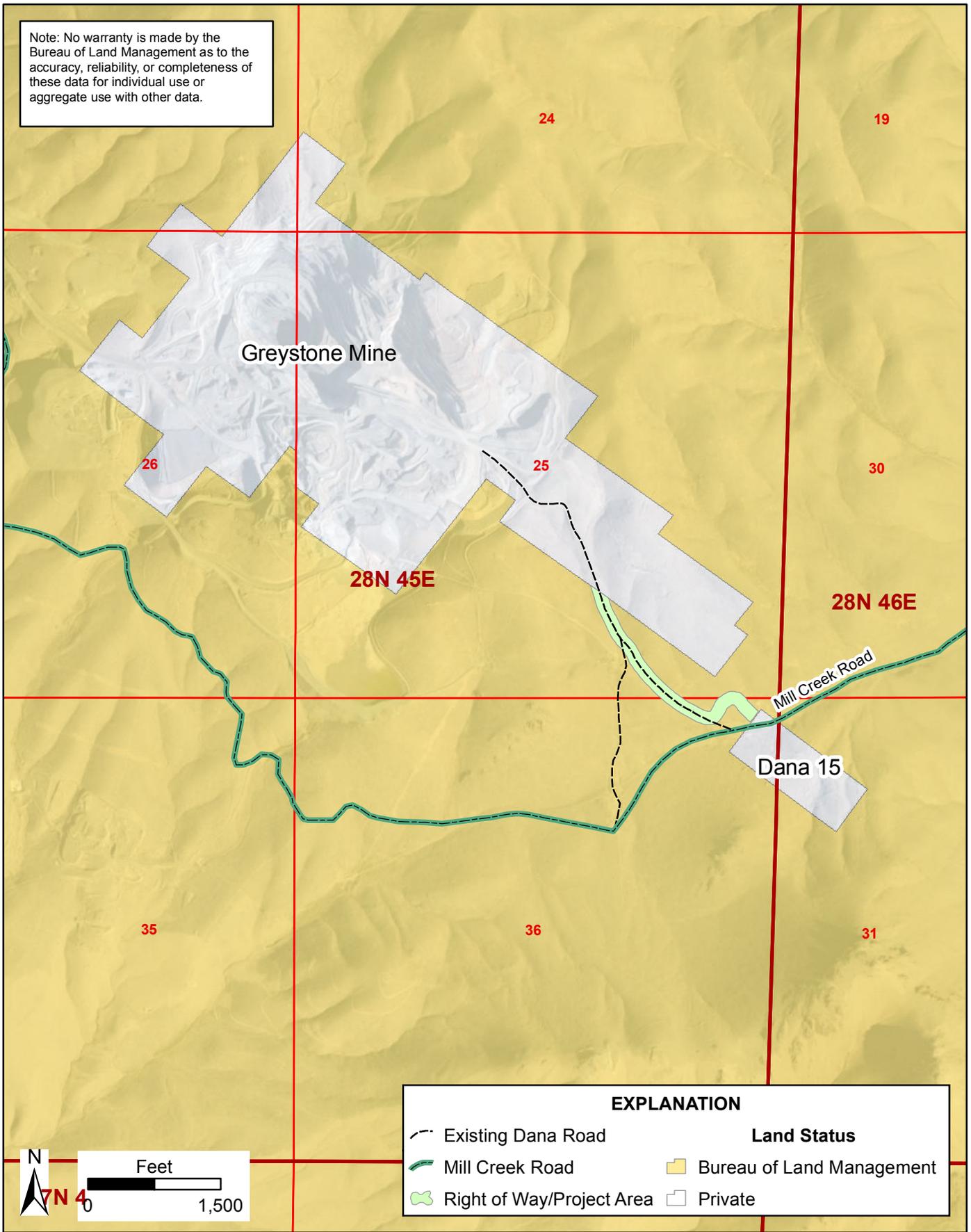
REVISION NO.

DATE:

**2/24/2014**

**A**

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EXPLANATION	
Existing Dana Road	<b>Land Status</b>
Mill Creek Road	Bureau of Land Management
Right of Way/Project Area	Private

N  
7N 40  
Feet  
0 1,500



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## GREYSTONE MINE DANA ROAD PROJECT

DRAWING TITLE:  
**PROJECT AREA**

DRAWING NO.	<b>FIGURE 2</b>	REVISION NO.
DATE:	<b>2/11/2014</b>	<b>A</b>

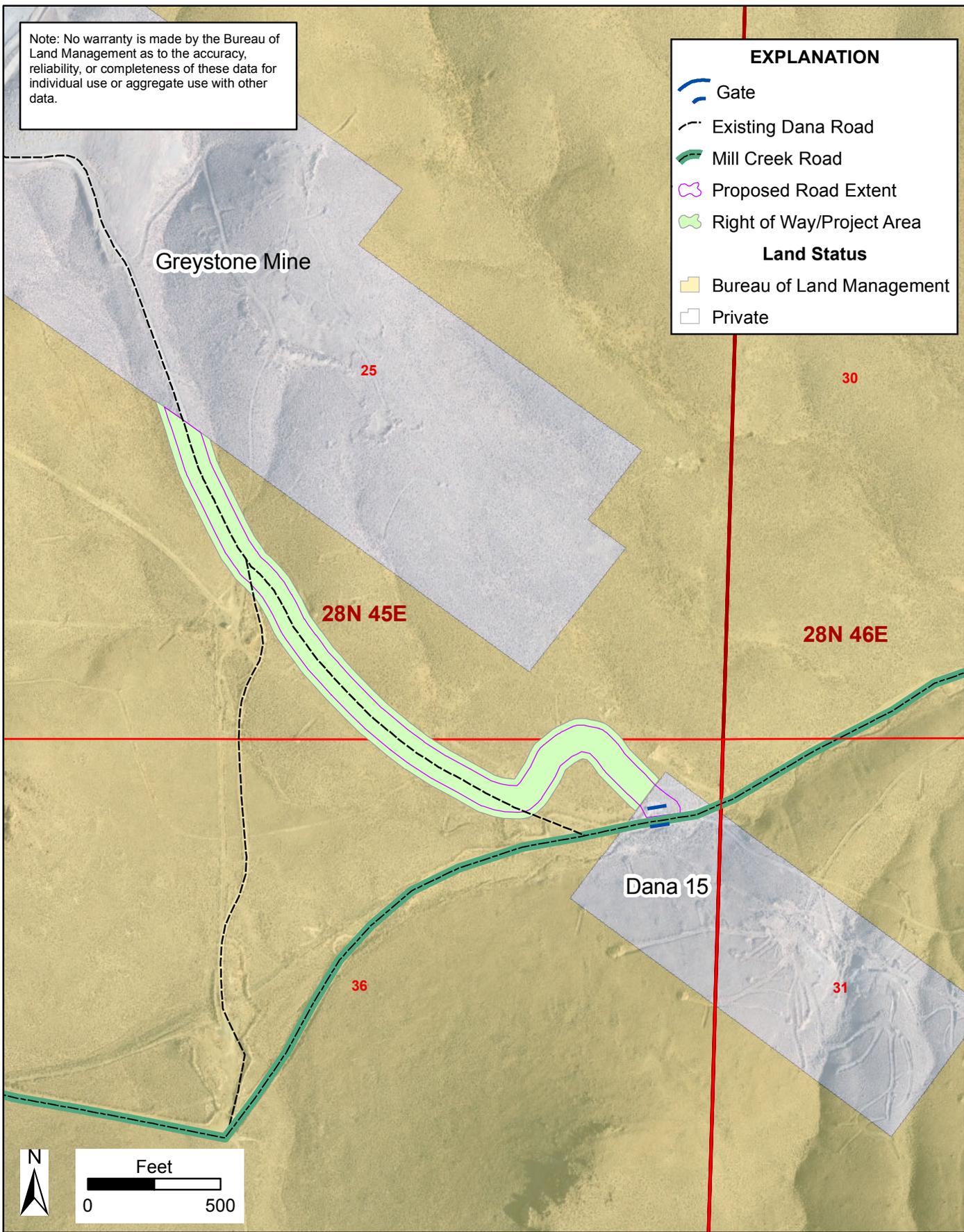
Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

**EXPLANATION**

-  Gate
-  Existing Dana Road
-  Mill Creek Road
-  Proposed Road Extent
-  Right of Way/Project Area

**Land Status**

-  Bureau of Land Management
-  Private



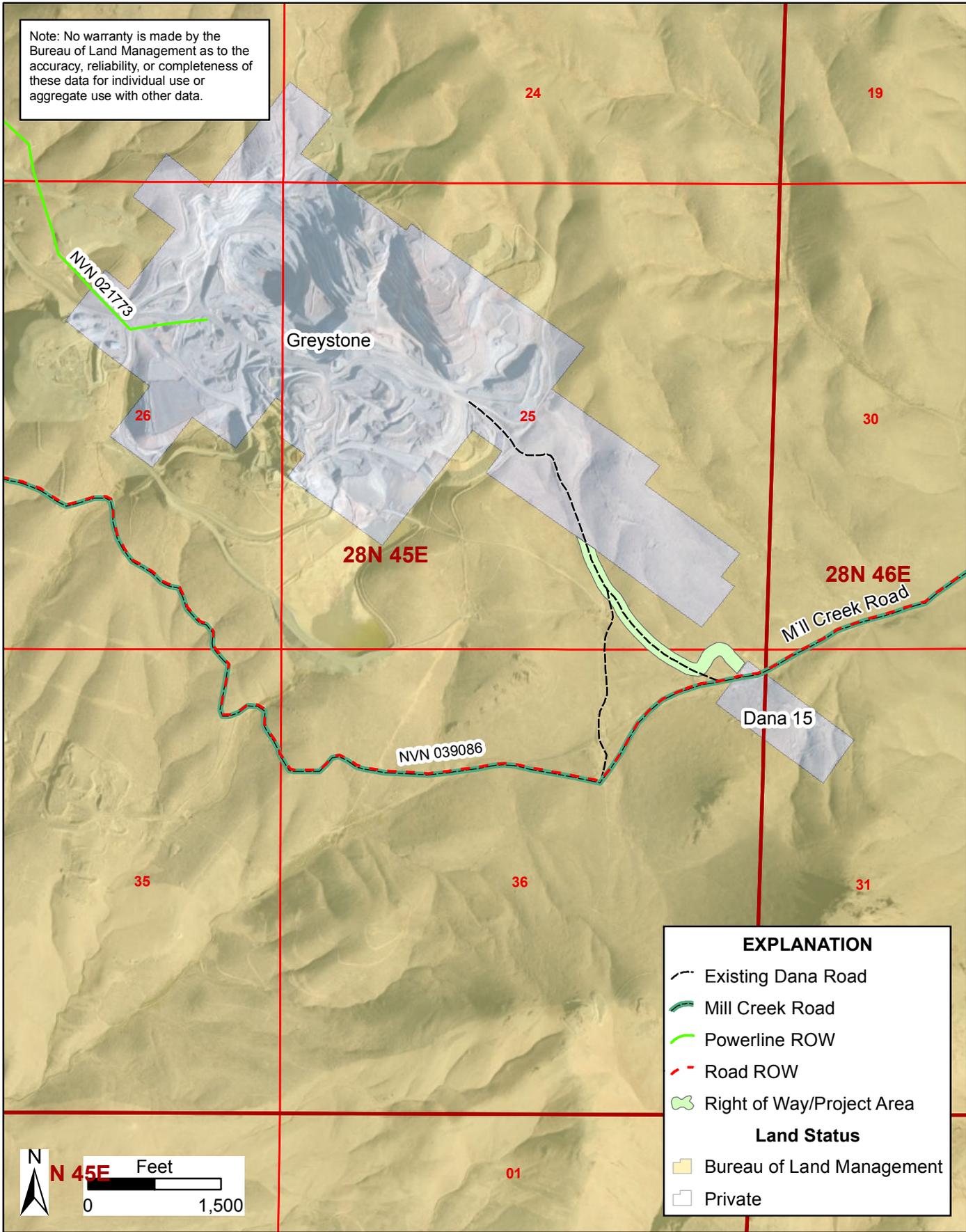
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## GREYSTONE MINE DANA ROAD PROJECT

DRAWING TITLE:  
**PROPOSED ACTION**

DRAWING NO.	<b>FIGURE 3</b>	REVISION NO.
DATE:	<b>2/11/2014</b>	<b>A</b>

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**EXPLANATION**

- Existing Dana Road
- Mill Creek Road
- Powerline ROW
- Road ROW
- Right of Way/Project Area

**Land Status**

- Bureau of Land Management
- Private

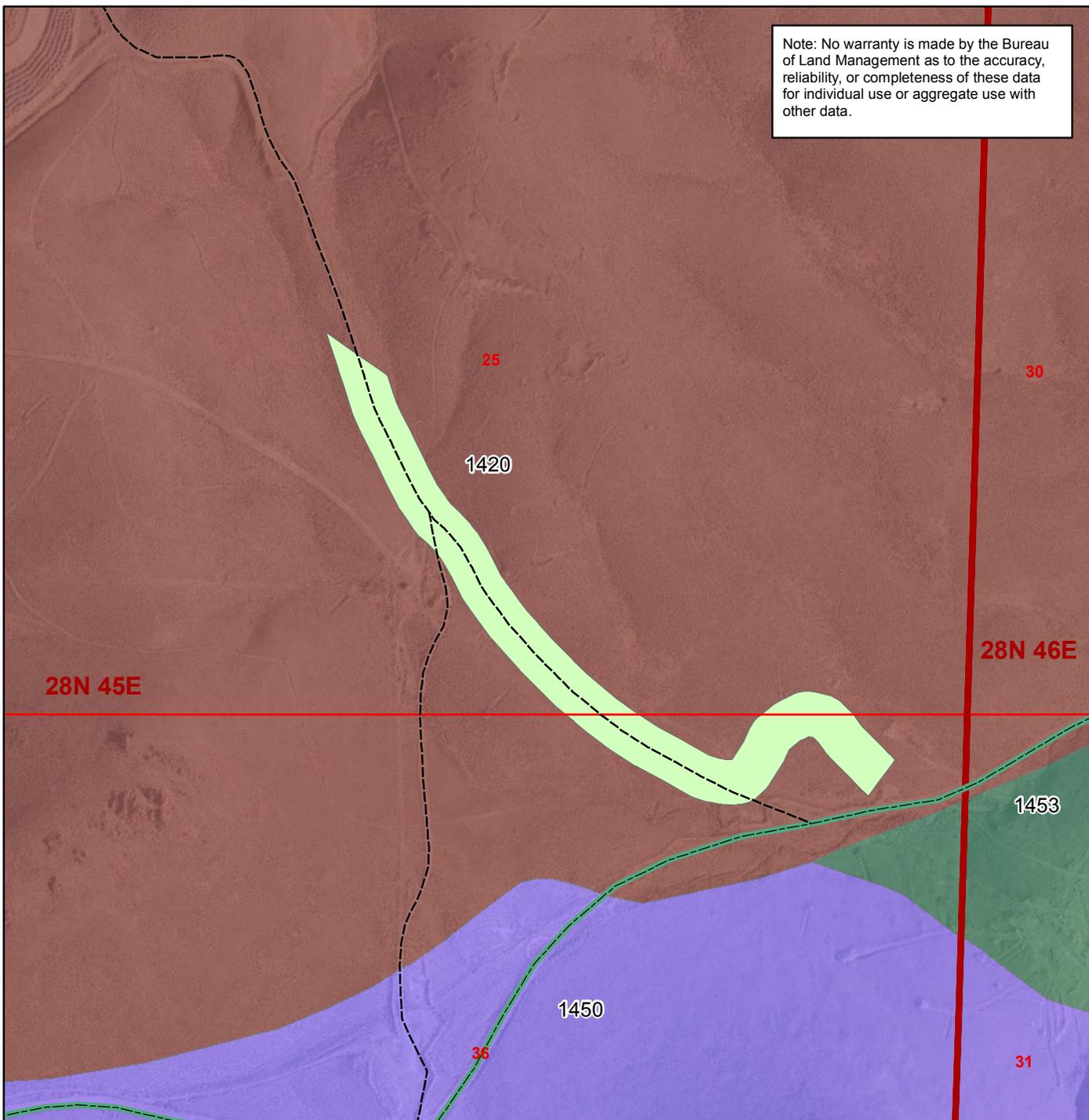


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**GREYSTONE MINE  
DANA ROAD PROJECT**

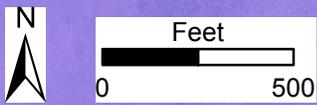
DRAWING TITLE:		<b>LAND USE</b>
DRAWING NO.	<b>FIGURE 4</b>	REVISION NO.
DATE:	<b>2/11/2014</b>	<b>A</b>

Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.



**EXPLANATION**

Existing Dana Road	<b>Soil Associations</b>
Mill Creek Road	1420 - Sumine-Reluctan-Clevage Association
Right of Way/Project Area	1450 - Atlow, Steep-Atlow-Outcrop Association
	1453 - Atlow-Colbar-Rock Outcrop Association

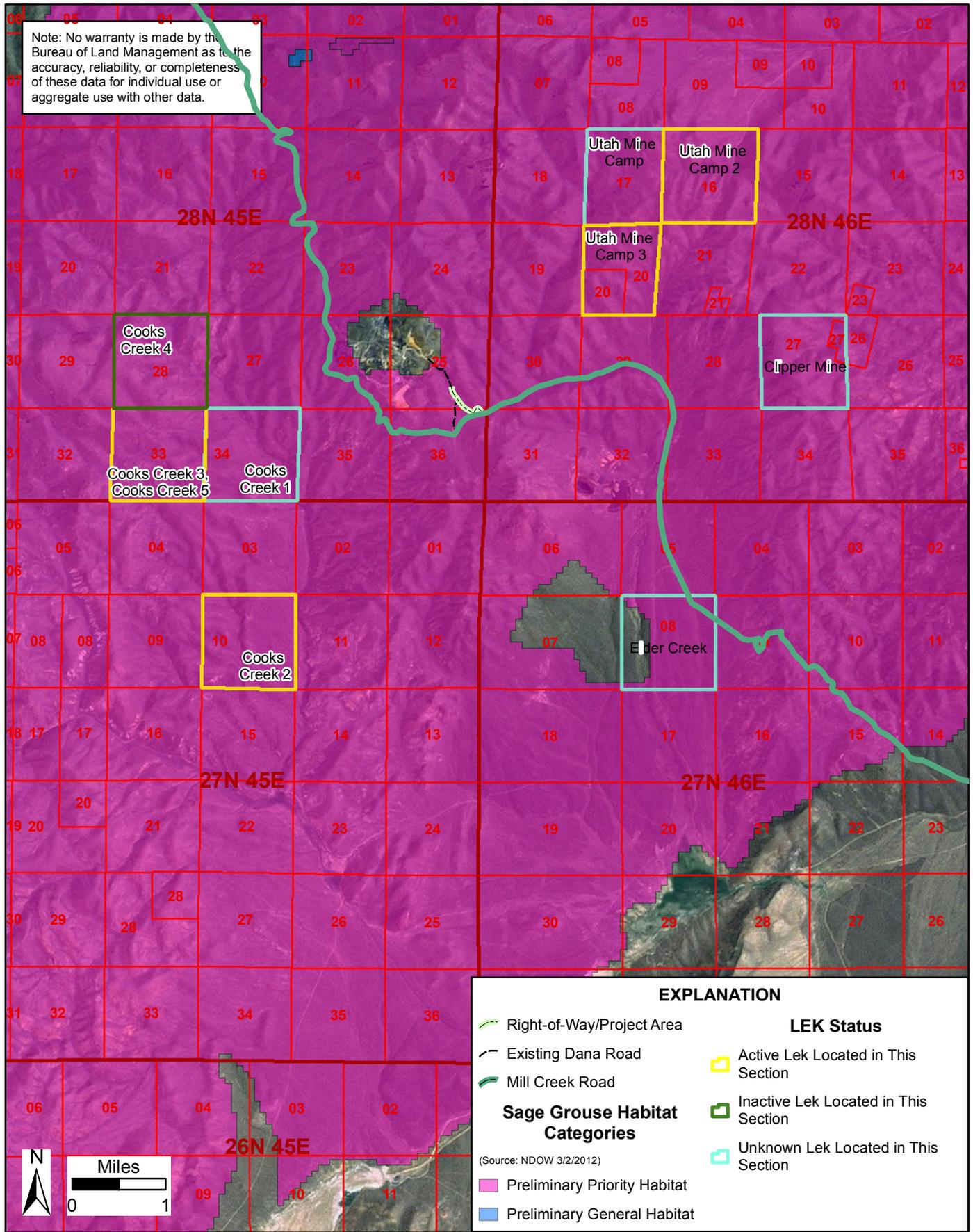


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**GREYSTONE MINE  
DANA ROAD PROJECT**

DRAWING TITLE:		<b>SOILS</b>
DRAWING NO.	<b>FIGURE 5</b>	REVISION NO.
DATE:	<b>2/20/2014</b>	<b>A</b>

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**EXPLANATION**

Right-of-Way/Project Area	<b>LEK Status</b>
Existing Dana Road	Active Lek Located in This Section
Mill Creek Road	Inactive Lek Located in This Section
<b>Sage Grouse Habitat Categories</b>	Unknown Lek Located in This Section
Preliminary Priority Habitat	
Preliminary General Habitat	

(Source: NDOW 3/2/2012)

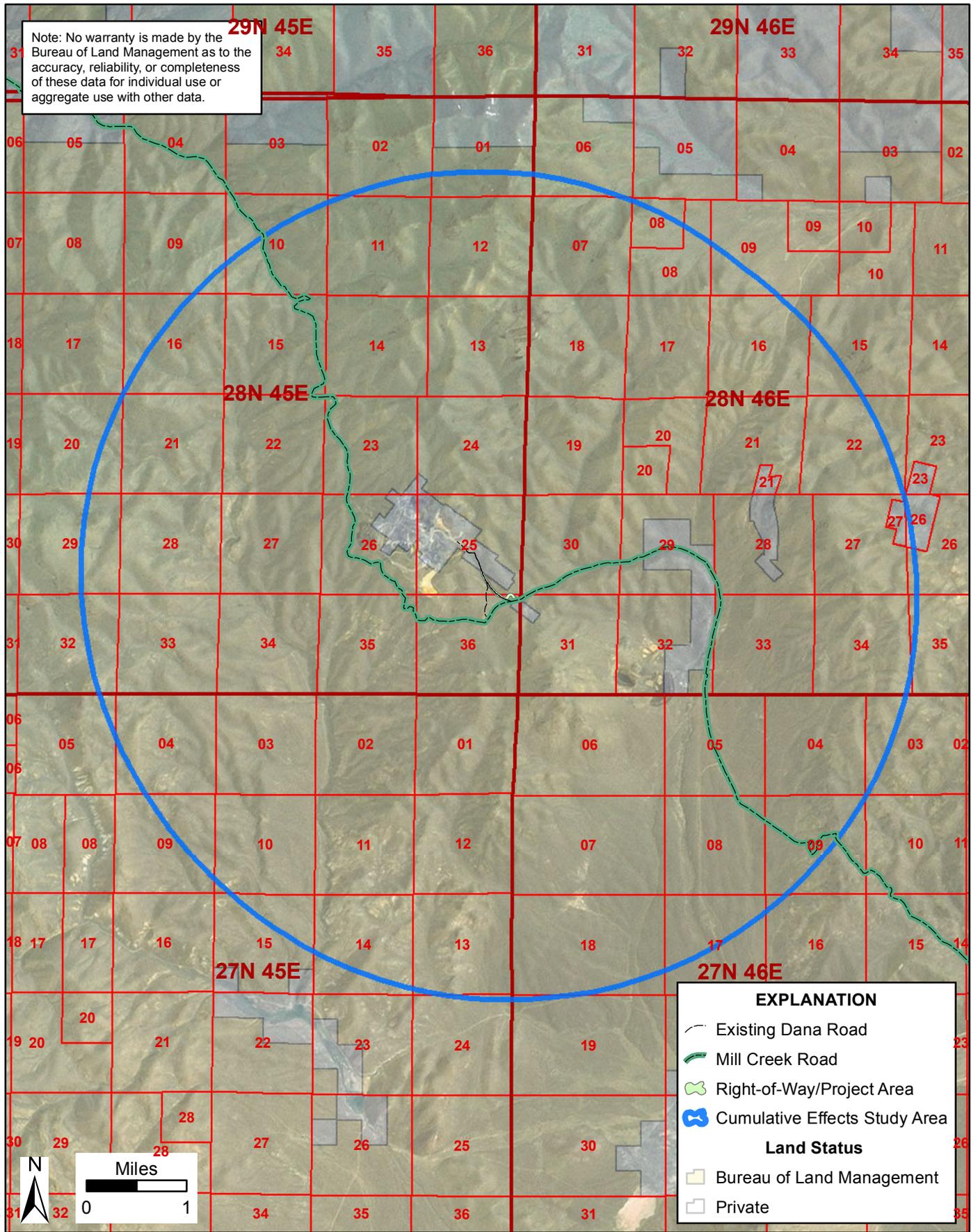
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## GREYSTONE MINE DANA ROAD PROJECT

DRAWING TITLE:  
**GREATER SAGE-GROUSE  
LEK LOCATIONS**

DRAWING NO.	<b>FIGURE 6</b>	REVISION NO.
DATE:	<b>2/24/2014</b>	<b>A</b>

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EXPLANATION	
	Existing Dana Road
	Mill Creek Road
	Right-of-Way/Project Area
	Cumulative Effects Study Area
Land Status	
	Bureau of Land Management
	Private



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## GREYSTONE MINE DANA ROAD PROJECT

DRAWING TITLE:  
**CUMULATIVE EFFECTS  
STUDY AREA**

DRAWING NO.	<b>FIGURE 7</b>	REVISION NO.
DATE:	<b>2/11/2014</b>	<b>A</b>