



United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Ely Field Office
HC33 Box 33500 (702 N. Industrial Way)
Ely, Nevada 89301-9408
<http://www.blm.gov/nv/st/en.html>



In Reply Refer to:
1990 (NV-043)
N-79685

Dear Interested Party;

Meadow Valley Gypsum (MVG) is proposing to mine, process and transport gypsum from an area between the Meadow Valley Range and the Mormon Mountains, about 50 miles south of Caliente, Lincoln County, Nev. The MVG project would disturb approximately 47 acres of the public lands consisting of an open pit, processing plant and ancillary facilities; a 7,800-foot access road that would provide access to the mine; and a low-water crossing across Meadow Valley Wash.

In a connected action, Union Pacific Railroad (UPRR) would construct a 1.8-acre railroad siding within its exclusive easement. The siding would be used to load the gypsum into rail cars for transport to industrial markets. The UPRR operates a rail line and accompanying roadway along an historic route through Meadow Valley Wash.

An environmental assessment (EA) has been prepared and is available for public comment. Comments must be received by November 16, 2007. The EA has been posted on the Ely BLM web site: http://www.blm.gov/nv/st/en/fo/ely_field_office/blm_information/nepa.html. Comments may be mailed to the BLM at the above address by using the attached reply form or by e-mail to William_Wilson@nv.blm.gov

For additional information or to request hard copies of the EA, please contact Bill Wilson at 775-289-1882, by mail at the above address, or by e-mail at William_Wilson@nv.blm.gov

Sincerely,

Jeffrey A. Weeks
Assistant Field Manager
Nonrenewable Resources

Attachment:
Project map
Comment form

WWilson:ww

Meadow Valley Gypsum Location and Project Area Maps

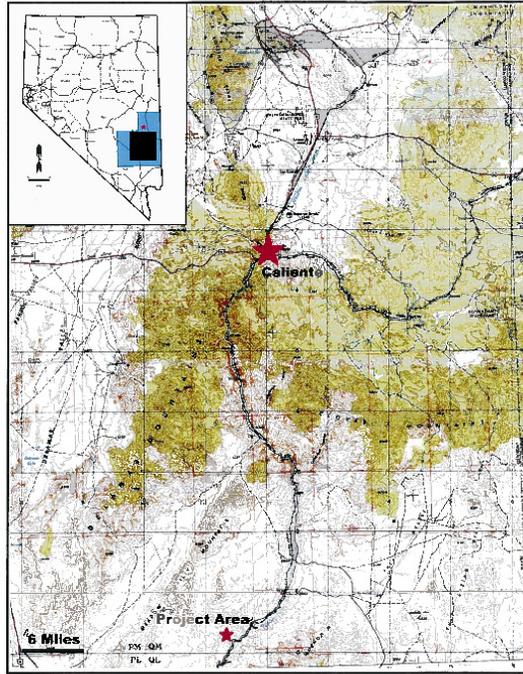


Figure 1 General Location Map

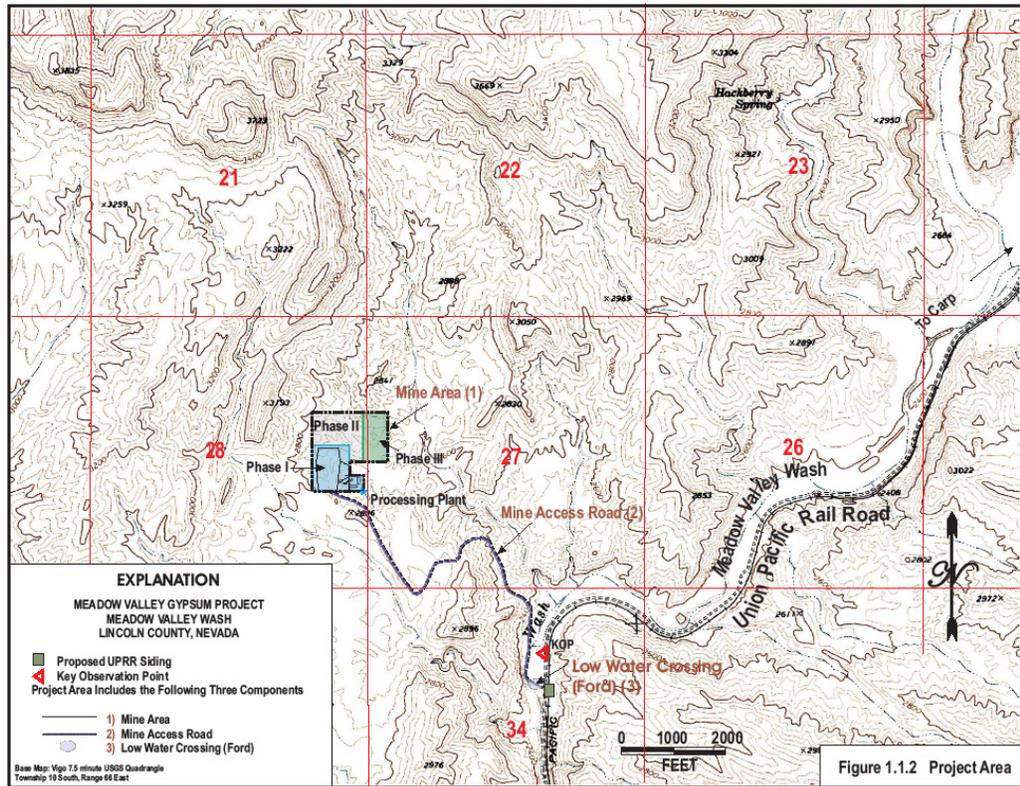


Figure 1.1.2 Project Area



United States Department of the Interior Bureau of Land Management



Ely Field Office

September 2007

Ely Field Office
Bureau of Land Management
HC 33 Box 33500
702 North Industrial Way
Ely, Nevada 89301

Environmental Assessment NV-040-05-020



**Meadow Valley Gypsum Project
Lincoln County, Nevada**

MEADOW VALLEY GYPSUM PROJECT

**Environmental Assessment
NV-040-05-020**

September 2007

**United States Department of the Interior
Bureau of Land Management
Ely Field Office**

**MEADOW VALLEY GYPSUM
MEADOW VALLEY GYPSUM PROJECT
ENVIRONMENTAL ASSESSMENT**

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ACRONYMS

amsl	above mean sea level
AUM	Animal Unit Month
BAPC	Nevada Bureau of Air Pollution Control
BLM	Bureau of Land Management
BMPs	Best Management Practices
BMRR	Bureau of Mining Regulation and Reclamation
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	cubic feet/second
CESA	Cumulative Effects Study Area
EA	Environmental Assessment
ENLC	Eastern Nevada Landscape Coalition
EPA	Environmental Protection Agency
ESA	Endangered Species Act of 1973
°F	degrees Fahrenheit
FEMA	Federal Emergency Management Agency
HMA	Herd Management Area
ID Team	BLM Interdisciplinary Team
KOP	Key Observation Point
MBTA	Migratory Bird Treaty Act
MDB&M	Mount Diablo Base and Meridian
MOU	Memorandum of Understanding
MSHA	Mining Safety and Health Administration
MVG	Meadow Valley Gypsum
NAAQS	National Ambient Air Quality Standards
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NDOW	Nevada Department of Wildlife
NEPA	National Environmental Policy Act
NNHP	Nevada Natural Heritage Program
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NSAAQS	Nevada State Ambient Air Quality Standards
NSR	New Source Review
PSD	Prevention of Significant Deterioration
RFFA	Reasonably Foreseeable Future Action
SR	State Route
UPRR	Union Pacific Railroad
USACE	United States Army Corp of Engineers
USFS	United States Forest Service
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
VRM	Visual Resource Management
WSA	Wilderness Study Area

**MEADOW VALLEY GYPSUM
MEADOW VALLEY GYPSUM PROJECT
ENVIRONMENTAL ASSESSMENT**

1 INTRODUCTION

1.1 Background Information

Meadow Valley Gypsum (MVG) proposes to mine, process, and transport gypsum in Lincoln County, Nevada, in an area between the Meadow Valley Mountains and the Mormon Mountains, approximately 50 miles south of Caliente, Nevada (Project) (Figure 1.1.1). The two mountain ranges are separated by a Union Pacific railroad (UPRR) track and the UPRR road that follows a historic route through Meadow Valley Wash. Gypsum claims in the vicinity have been prospected since the 1930s. There is a demand for gypsum in California and other markets for uses such as a retarding agent for portland cement, in the agricultural industry as a soil amendment, and in the wallboard industry. The site of the MVG claim block was originally included in the Meadow Valley Range Wilderness Study Area (WSA); however, due to the presence of valuable minerals and pre-existing mining claims, the wilderness boundary was moved to exclude the gypsum claims.

In order to conduct Project activities, MVG submitted the Plan of Operations/Permit for Reclamation (N79685/) to the Ely Field Office of the Bureau of Land Management (BLM) and Nevada Division of Environmental Protection's (NDEP's) Bureau of Mining Regulation and Reclamation (BMRR) in January 2005 with revisions in March 2005, April 2006, and September 2006, in accordance with BLM Surface Management Regulations at Code of Federal Regulations (CFR) Title 43, Part 3809 (43 CFR 3809) (as amended) and Nevada reclamation regulations at Nevada Administrative Code (NAC) 519A.

This Environmental Assessment (EA) meets the requirements of the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR 1500-1508), and requirements of the BLM's NEPA Handbook (BLM Handbook H-1790-1).

The Project would consist of mining, processing, and transporting gypsum as well as the construction of ancillary facilities, an access road, and a low water crossing, or ford, in the Meadow Valley Wash (Proposed Action). The Project Area (Figure 1.1.2) is defined as the following three distinct portions: 1) the pit, the processing plant, and ancillary facilities (Mine Area); 2) the road that would provide access from the Meadow Valley Wash to the mine area (Mine Access Road); and 3) the ford, where MVG proposes to cross the Meadow Valley Wash to access the mine area and a proposed UPRR railroad siding (Ford). The Proposed Action would result in approximately 46.7 acres of disturbance within the entire Project Area. In addition, a new railroad siding (Siding) would be constructed by the UPRR at milepost 411 east of the Ford. This activity is not part of the Proposed Action; however it is considered a connected action under NEPA (40 C.F.R. 1508.25(a)(1)) and is analyzed in this EA. Table 1.1-1 outlines the total acreage of proposed surface disturbance, by type of disturbance for the Proposed Action. The additional disturbance associated with the Siding would be approximately 1.8 acres.

Table 1.1-1: Acres of Proposed Project Disturbance

Exploration Activity	Land Status	Surface Disturbance (Acres)		
		Proposed Phase I	Proposed Subsequent Phases	Total Disturbance
Access Road ¹	Public	3.0	0.0	3.0
Open Pit		7.1	25.5	32.6
Processing Plant, Ore Stockpiles, and Support Facilities		4.0	0.0	4.0
Overburden Stockpile		6.5	0.0	6.5
Topsoil Stockpile		0.5	0.0	0.5
Meadow Valley Ford		0.1	0.0	0.1
Total		21.2	25.5	46.7

¹ Approximately 4,200 feet of road would be constructed with a disturbance width of 12 feet while the remaining approximately 3,600 feet would be constructed with an average disturbance width of 23 feet.

1.2 Purpose of and Need for Action

The purpose of the Proposed Action is to mine gypsum in Lincoln County, Nevada. The need for the Proposed Action arises from a demand for gypsum products and the economic benefits for the local economy.

1.3 Relationship to Planning

The Proposed Action is in compliance with federal, state, and local laws, and regulations, and is consistent with federal, state, and local policies, and plans to the maximum extent possible.

The Proposed Action described in this EA occurs in the in the Caliente Resource Area (land use planning area) on Federal lands within the Ely District. Most of the lands within the Project Area are administered by the BLM. The UPRR is within an exclusive easement, and the BLM does not administer the surface within the easement; however, the portion of the Project Area within the easement is subject to regulation by the Army Corps of Engineers, therefore, mine-related activities within the easement (the Siding) are considered connected Federal actions and are analyzed in this EA. The Proposed Action is in conformance with the Caliente Management Framework Plan (approved February 26, 1982), and the Final Proposed Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat (approved September 19, 2000).

The Proposed Action has also been analyzed within the scope of the 1973 Endangered Species Act, as amended, the Migratory Bird Treaty Act, 1918 as amended, Executive Order 13186 (January 11, 2001), BLM Manual 8400 (Visual Resources Management), the Lincoln County Public Land and Natural Resource Management Plan (Lincoln County 1997), and the Lincoln County Master Plan (Lincoln County 2001) and was found to be in compliance.

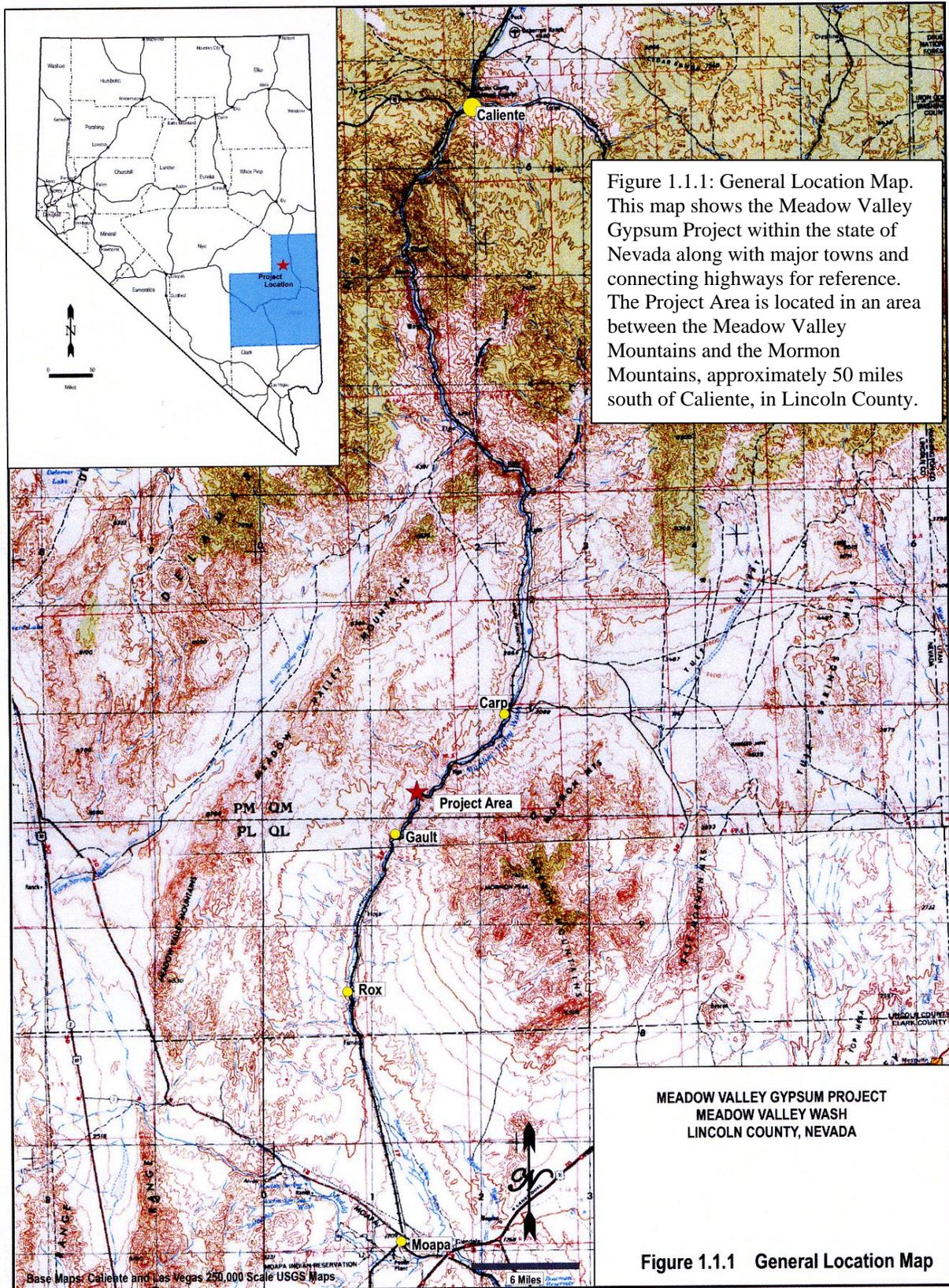


Figure 1.1.1: General Location Map. This map shows the Meadow Valley Gypsum Project within the state of Nevada along with major towns and connecting highways for reference. The Project Area is located in an area between the Meadow Valley Mountains and the Mormon Mountains, approximately 50 miles south of Caliente, in Lincoln County.

**MEADOW VALLEY GYPSUM PROJECT
MEADOW VALLEY WASH
LINCOLN COUNTY, NEVADA**

Figure 1.1.1 General Location Map

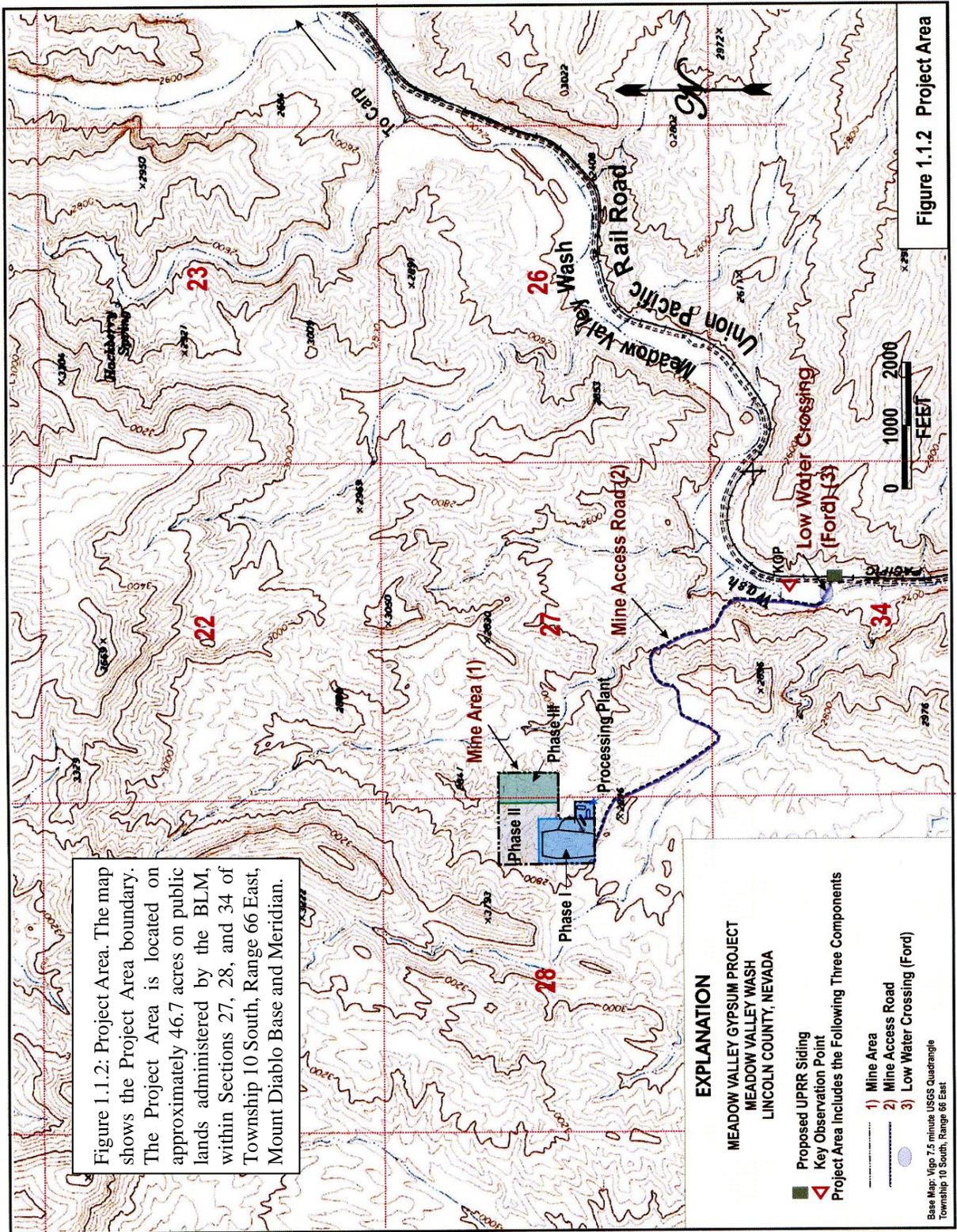


Figure 1.1.2 Project Area

Figure 1.1.2: Project Area. The map shows the Project Area boundary. The Project Area is located on approximately 46.7 acres on public lands administered by the BLM, within Sections 27, 28, and 34 of Township 10 South, Range 66 East, Mount Diablo Base and Meridian.

EXPLANATION

MEADOW VALLEY GYPSUM PROJECT
 MEADOW VALLEY WASH
 LINCOLN COUNTY, NEVADA

- Proposed UPRR Siding
- ▲ Key Observation Point
- Project Area Includes the Following Three Components
 - 1) Mine Area
 - 2) Mine Access Road
 - 3) Low Water Crossing (Ford)

Base Map: Vigo 7.5 minute USGS Quadrangle
 Township 10 South, Range 66 East

1.4 Issues

During the Project kickoff meeting held March 21, 2006, BLM personnel identified the specific following issues and concerns regarding the Proposed Action that need to be addressed in this EA:

- Desert Tortoises;
- Bighorn Sheep Migration Corridor;
- Special Status Gypsum Loving Plant Species;
- Special Status Animal Species;
- Nonnative, Invasive Species;
- Meadow Valley Access Road; and
- Meadow Valley Wash Crossing.

Other issues are discussed this EA in general terms as part of resource analyses necessary to assess the impacts of the proposed action. Those resources analyzed are listed in Tables 3.1-1 and Table 3.1-2.

2 PROPOSED ACTION AND ALTERNATIVES

2.1 Proposed Action

To meet the need for the proposal, the BLM would authorize MVG to conduct gypsum mining operations (i.e., mining, processing and transporting gypsum) on public land located in Lincoln County, Nevada (Figures 1.1.1 and 1.1.2). The Project Area consists of three distinct portions, or areas; the Mine Area, the Mine Access Road, and the Ford (Figure 1.1.2). These areas are discussed in this EA collectively as the Project Area and separately, where appropriate, to describe activities that would be conducted in or resources relevant to that portion of the Project Area only. The Siding, which is located in the UPRR easement adjacent to the Ford is also shown on Figure 1.1.2. The Project is located within Sections 27, 28, and 34 of Township 10 South, Range 66 East (T10S, R66E), Mount Diablo Base and Meridian (MDB&M). The Project Area would be accessed via State Route (SR) 93 then south from Caliente through Elgin and Carp. From Carp, the Project Area would be accessed along either the track service road within the UPRR easement, or a currently impassable road within Meadow Valley Wash to the proposed Ford and then up the proposed Mine Access Road. The currently impassable road washed out during past flood events; however, the Lincoln County Commission has issued a letter of intent to the BLM to reconstruct the road from Carp to Rox (Board of County Commissioners, Lincoln County, Nevada 2007). Since the intent of this road is to reopen the general area for public access, hereafter within this document it will be referred to as the public road. The approximate location of the public road has been hand drawn onto an aerial photograph of that area (Figures 2.1.1). This rendering was based on a historic map of Nevada (circa 1882) published by the Nevada Bureau of Mines (date unknown) (Appendix A), the aerial photograph, and the topographic map (Figure 2.1.2).

The Proposed Action consists of mining a gypsum claim in phases over a ten year time frame followed by three additional years of reclamation and closure. A total of approximately 46.7 acres of public land would be disturbed over the life of the Project. The disturbance would result from mining operations, construction and operation of ancillary facilities related to mining, processing operations, construction of the Mine Access Road and the Ford, and transporting the processed material. The surface disturbance for Phase I of the Project would total approximately 21.2 acres on public lands administered by the BLM (Figure 1.1.2). Phase I disturbance would result from mining as well as construction of the processing and support facilities. Also under Phase I, three acres of the disturbance would be created by the construction of the Mine Access Road. The Mine Access Road would be approximately 1.5 miles long running from Meadow Valley Wash up the western side of the hillside to the Mine Area. Approximately 4,200 feet of the road would be constructed where there is little or no slope; therefore no sidecast material would be expected and the disturbance width of would be the same as the running width (12 feet). The remaining approximately 3,600 feet of road would be constructed with an average disturbance width of 23 feet, which would allow for a 15-foot travel width that includes safety berms as needed. The road would require blasting at certain locations where small limestone and sandstone outcrops are encountered. No culverts would be required. All Project-related traffic would observe prudent speed limits (i.e., 15 to 25 miles per hour) to enhance public safety, protect wildlife and livestock, and minimize dust emissions. In addition, the Mine Access Road would be watered approximately four times per day to minimize dust emissions. MVG has an agreement with a private individual to purchase water from a source near Gault. An 8,000 gallon capacity water truck would make up to three round trips each day on either the UPRR service road or the public road from the Mine Access Road to Gault. Each watering of the

Mine Access Road would require 4,000 gallons of water. Approximately 20,000 gallons per day of water would be needed for use in dust control and for the processing equipment.

The Proposed Action also includes the construction of a low water reinforced crossing, the Ford, in the Meadow Valley Wash (Figures 2.1.3 and 2.1.4). The Ford would be constructed using material from an existing pit on private property downstream from the site, which contains the same material as exists along the wash. The Meadow Valley Wash bed and bank at the Ford site is approximately 450 feet wide. The wash is cut by two narrow channels that would require fill. In an effort to provide uninterrupted flow of water, when and if it is present, MVG proposes to fill the channels with material that would not impede water, or micro-organisms in the water, from passing through the material. The gravel source for the fill material would be inspected and approved by the BLM as a weed free source. The Ford would be approximately 450 feet long and 12 feet wide and would result in 0.13 acre of surface disturbance across the drainage. The equipment that would be used to construct the Ford are dump trucks and a frontend loader. Construction activities and equipment would be confined to the Ford area and areas previously disturbed by the UPRR. No new disturbance beyond the 0.13 acre would be created. An application for Department of the Army permit (33 CFR 325) was submitted to the Saint George Regulatory Office of the Corps of Engineers July 27, 2006 and is included as Appendix B. Should future storm/flood events cause the Ford to be washed out, it would be reconstructed to the original specifications with approved fill material.

The first phase of mining would last approximately five years with concurrent reclamation. Approximately 14 acres of public land would be disturbed during Phase II, and approximately 11.5 acres of public land would be disturbed during Phase III. The mined gypsum would be transported from the Mine Area in covered end load dump trucks to the Siding adjacent to the Ford crossing on Meadow Valley Wash at milepost 411 (Figures 1.1.2 and 2.1.3). The product would be loaded on train cars using a hopper and conveyor system and then be transported via rail to California markets. MVG expects to have 40 round trips per day at the height of production. All processing would occur at the Mine Area and finished product would be hauled on the Mine Access Road to the Siding. Personnel and deliveries of water, supplies, and fuel would be transported along either the UPRR service road or the public road in standard or four wheel drive pickup trucks, delivery vehicles, and water trucks.

The Proposed Action would include the construction of a gypsum processing plant. The processing plant would consist of three hopper feeders; two crushers; an eight-inch by 16-inch double deck screen; two 60-foot radial stackers; and eight transfer conveyors. The plant would be located adjacent to the pit as shown on Figure 1.1.2. As previously stated, water would be utilized for dust control on the processing equipment; however, no water would be required for the actual processing of the gypsum.

Surface support facilities, including an office trailer, a chemical toilet, a storage parts trailer, and processing facilities would be located or constructed in the Mine Area as part of the Proposed Action. A desert tortoise (*Gopherus agassizii*) fence would be constructed around the perimeter of the Mine Area in order to keep desert tortoises from using the area for the duration of the Project. Interim seeding would be conducted on salvaged topsoil and other disturbed areas along the Mine Access Road and in portions of the Mine Area during the construction and operation of the Project (ten years). The interim seed mix would consist of aggressive species that would germinate quickly and stabilize the disturbance (Table 2.1-1). Disturbance of the gypsiferous soils such as those within and around the pit, which do not currently support vegetation, would not be seeded. All surface support and processing facilities are portable and would be removed at the end of the Project.

Table 2.1-1: Proposed Interim Seed List.

Species	Scientific Name	PLS ^a (lbs/acre)
California buckwheat	<i>Eriogonum fasciculatum</i> var. <i>polyfolium</i>	1.00
Desert Indianwheat	<i>Plantago ovata</i>	5.00
Alkali sacaton	<i>Sporobolus airoides</i>	0.50
Indian ricegrass	<i>Achnatherum hymenoides</i>	2.00
Palmer's penstemmon	<i>Penstemon palmeri</i>	0.50
Sandberg's bluegrass	<i>Poa secunda</i>	2.00
Total		11.00

^a Pure live seed

MVG would obtain environmental permits and authorizations as shown in Table 2.1-2 prior to initiating work.

Table 2.1-2: Required Permits and Authorizations

Permit/Authorization	Agency	Permit/Authorization No.
Decision Record/Finding of No Significant Impact	BLM	
Air Permit	NDEP	
Hazardous Materials Permit	Nevada State Fire Marshall	
404 Permit	USACE	
Reclamation Permit	NDEP	
Reclamation Bond	BLM	

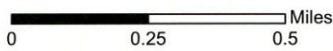
The proposed Siding, or side track, would be an auxiliary track located parallel to the main UPRR track, which would allow trains to pull off the main line for loading. It is assumed that the trains used to haul the gypsum would be half trains made up of approximately 55 rail cars. The half trains would require a Siding of approximately 3,000 feet in length. Approximately 2,000 feet of track would be constructed below grade with an approximate disturbance width of 20 feet. The remaining 1,000 feet would consist of two 500-foot connector ramps at both ends of the Siding. The approximate disturbance width for the connector ramps would be 40 feet to account for constructing and shoring the ramps for train ingress and egress from the main track. Figure 2.1.5 shows the width and type of shoring used for the main track. Based on the estimated disturbance widths and lengths, the Siding would result in approximately 1.8 acre of disturbance.

Figure 2.1.1: Aerial Photograph Showing Public Road. The approximate location of the public road has been hand drawn onto the aerial photograph of that area. The rendering was based on a historic map of Nevada (circa 1882) published by the Nevada Bureau of Mines (date unknown).



Explanation

- Historic Public Road
- - UPRR Service Road



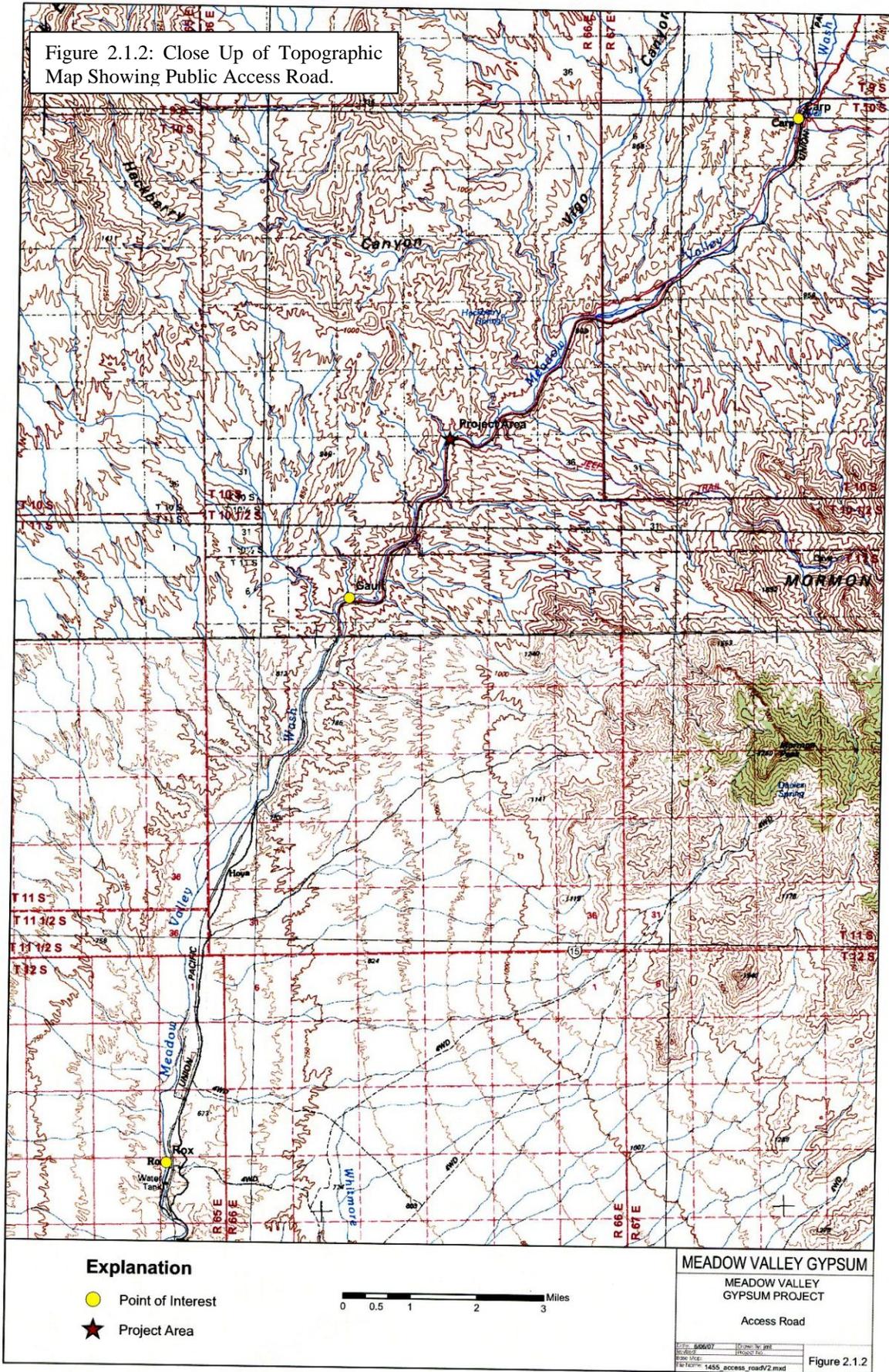
MEADOW VALLEY GYPSUM

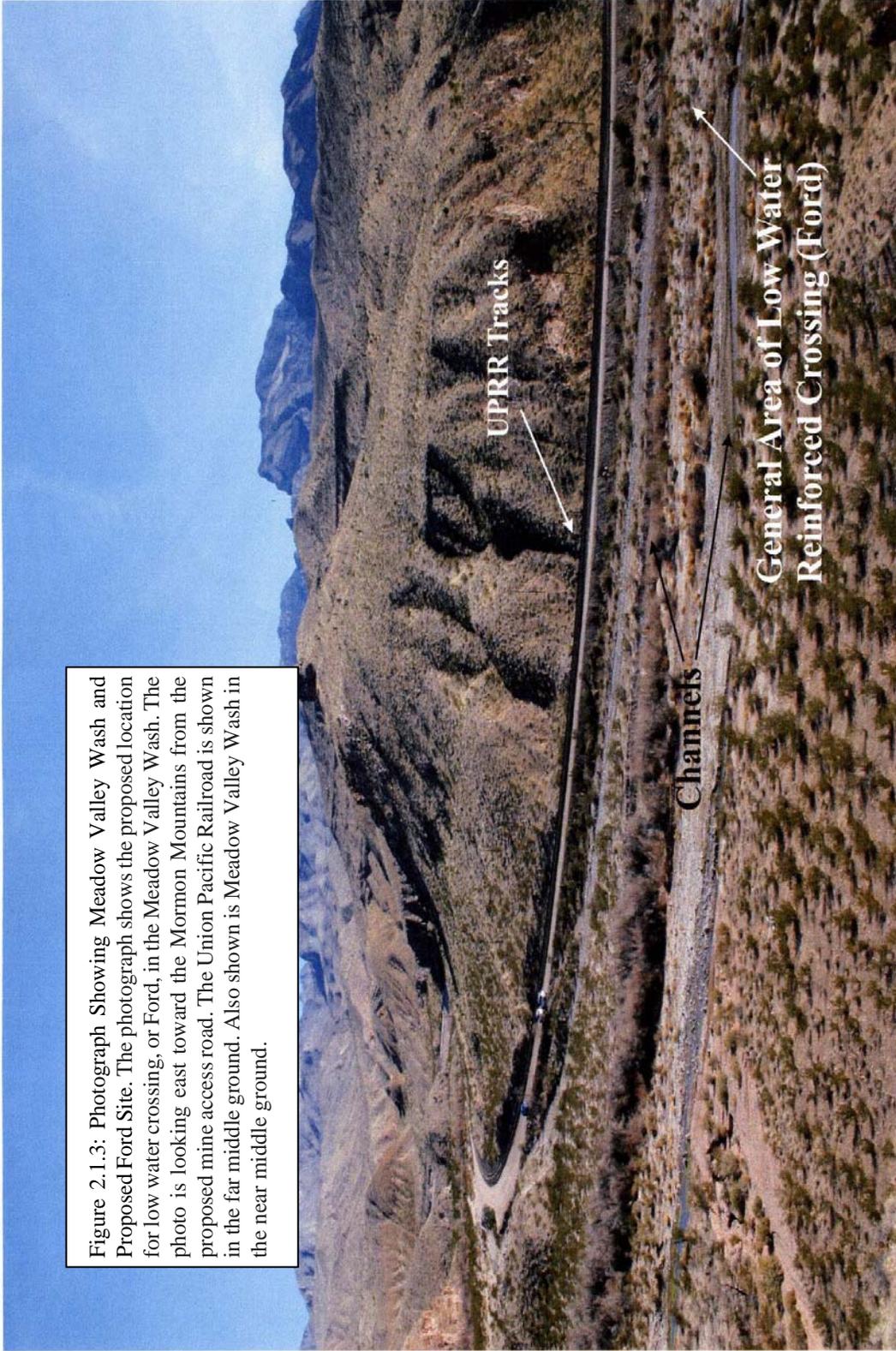
MEADOW VALLEY
GYPSUM PROJECT
Historic Public Access Road

Project No.	1455
Project Name	MEADOW VALLEY GYPSUM PROJECT
Project File	1455_access_road.mxd

Figure 2.1.1

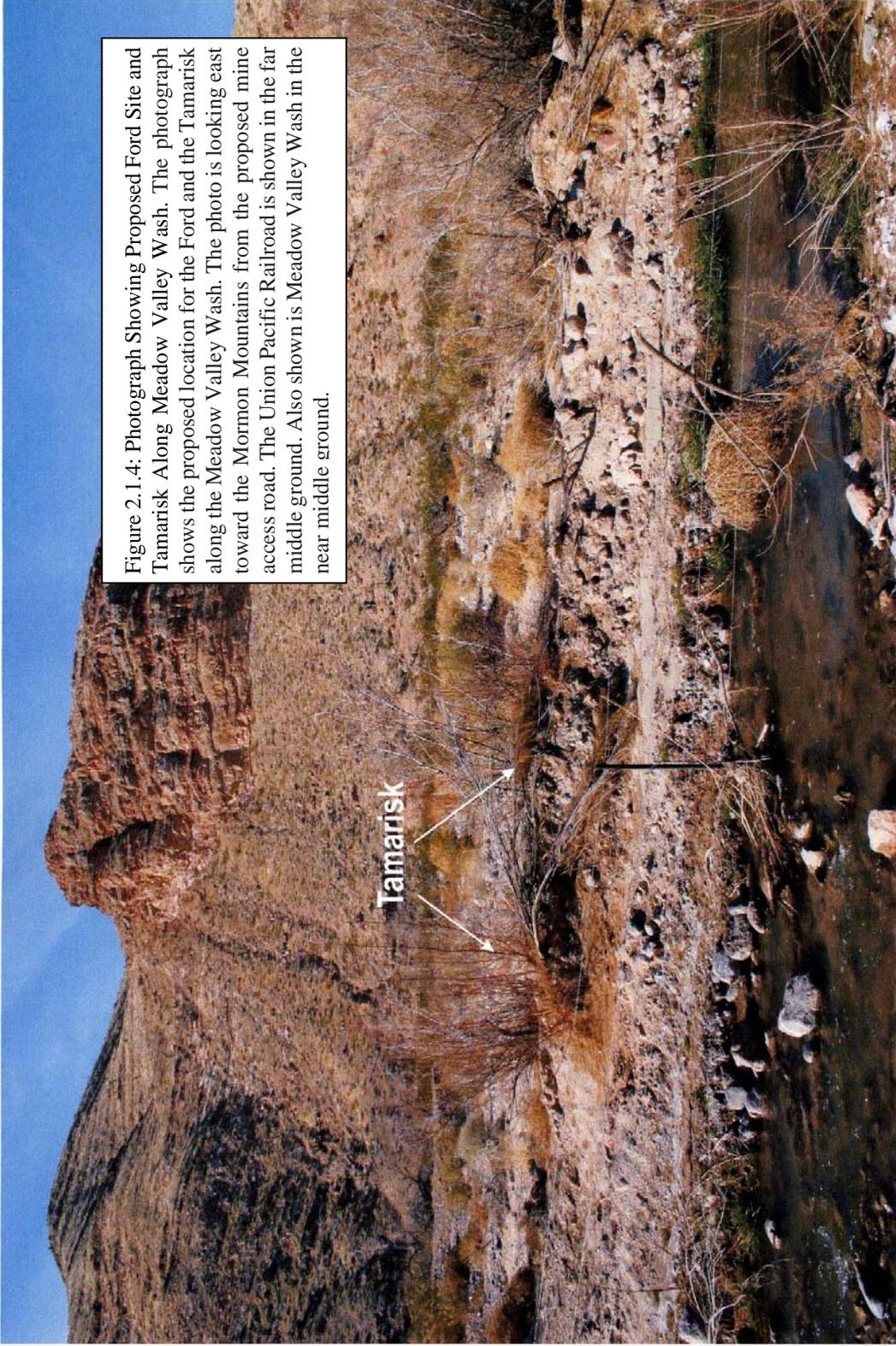
Figure 2.1.2: Close Up of Topographic Map Showing Public Access Road.





Looking East toward Mormon Mountains from the Proposed Mine Access Road. Union Pacific Railroad in Far Middle Ground. Meadow Valley Wash in Near Middle Ground. Photograph taken in January 2006. Photo Shows Proposed Location for Low Water Crossing (Ford) in Meadow Valley Wash.

Figure 2.1.3 Photograph Showing Proposed Ford Site and Tamarisk along Meadow Valley Wash



Looking West at General Area of Low Water Reinforced Crossing (Ford). Photograph taken in January 2006.

Figure 2.1.4: Photograph Showing Meadow Valley Wash and Proposed Ford Site

The Siding would be constructed within the UPRR easement adjacent to the main track and UPRR service road in an area that has been previously disturbed by UPRR activities and flooding. Figures 2.1.6 and 2.1.7 show the approximate location of the Siding and the existing condition of the area, which consists, in most part, of bare ground. The connector ramps would be constructed using material from an existing pit on private property downstream from the site, which contains the same material as exists along the wash. The gravel source for the shoring material would be inspected and approved by the BLM as a weed free source. Construction of the Siding would be completed to industry standards and according to Federal Railroad Administration regulations. In addition, UPRR would obtain all necessary permits and authorizations prior to construction of the Siding and implement BMPs for sediment control during construction.

2.1.1 Equipment

Gypsum mining equipment could include the following:

- Up to three off-road pickup trucks;
- Up to four street-legal dump trucks;
- Up to three frontend loaders;
- Up to one trailer mounted track drill;
- Up to one D-9 bulldozer;
- Up to one road grader;
- Up to one profile miner;
- Up to one water truck; and
- Up to two excavators.

The above listed equipment would not be operated simultaneously but as each is needed for the construction, mining, and processing operations. MVG would take steps to prevent fires by ensuring that each field vehicle carries hand tools and a fire extinguisher. Noxious weeds would be controlled by washing vehicles and equipment with high pressure prior to mobilizing to the Project Area.

2.1.2 Solid and Hazardous Materials

A minimal amount of general refuse, associated with work operations, would be created in the Project Area. All refuse generated during Project activities would be removed and disposed of consistent with applicable regulations, in an authorized off-site landfill facility. No refuse would be disposed of or left on-site. Self-contained, portable chemical toilets would be used for human waste. The human waste and toilet chemicals would not be buried onsite.

Hazardous materials employed at the Project Area would include diesel fuel, gasoline, and lubricating grease. Approximately 500 gallons of diesel fuel would be stored in fuel delivery systems on service vehicles. Approximately 100 gallons of gasoline would be stored in fuel delivery systems on a service vehicle. Two 1,000 gallon storage tanks owned and operated by an outside contractor would also be on-site. All containers of hazardous substances would be labeled and handled in accordance with Nevada Department of Transportation (NDOT) and Mining Safety and Health Administration (MSHA) regulations.



Figure 2.1.5: Photograph Showing Width and Shoring of Existing UPRR Track. The photograph shows the width and type of shoring used for the existing UPRR Track.

Figure 2.1.5 Photograph Showing Width and Shoring of Existing UPRR Track

Figure 2.1.6: Photograph Showing Location of Northern Portion of the Proposed Siding and the Existing Disturbance. The photograph shows the location of northern portion of the proposed siding and the existing disturbance in the area. This area consists, in most part, of bare ground.

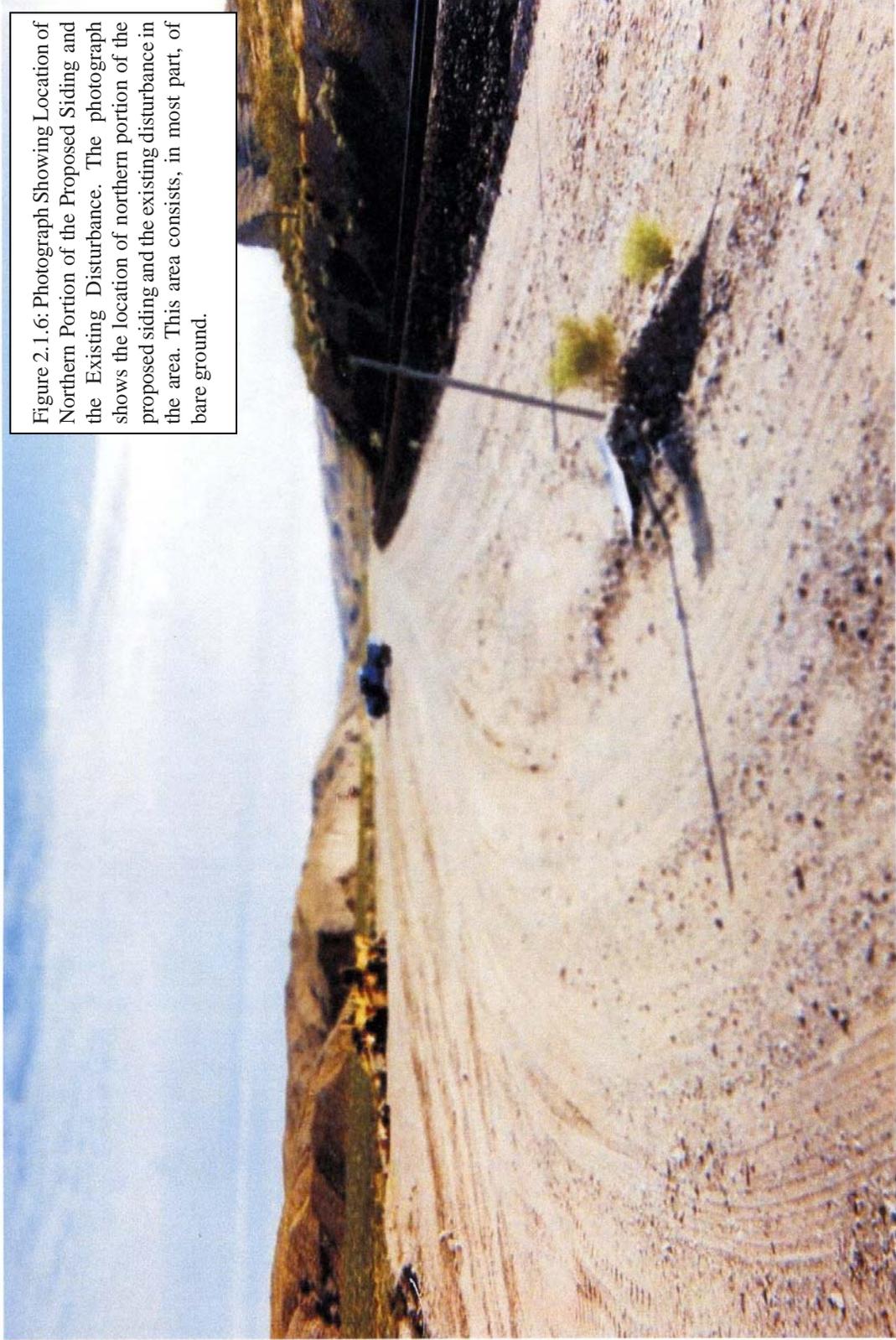


Figure 2.1.6 Photograph Showing Location of Northern Portion of the Proposed Siding and the Existing Disturbance

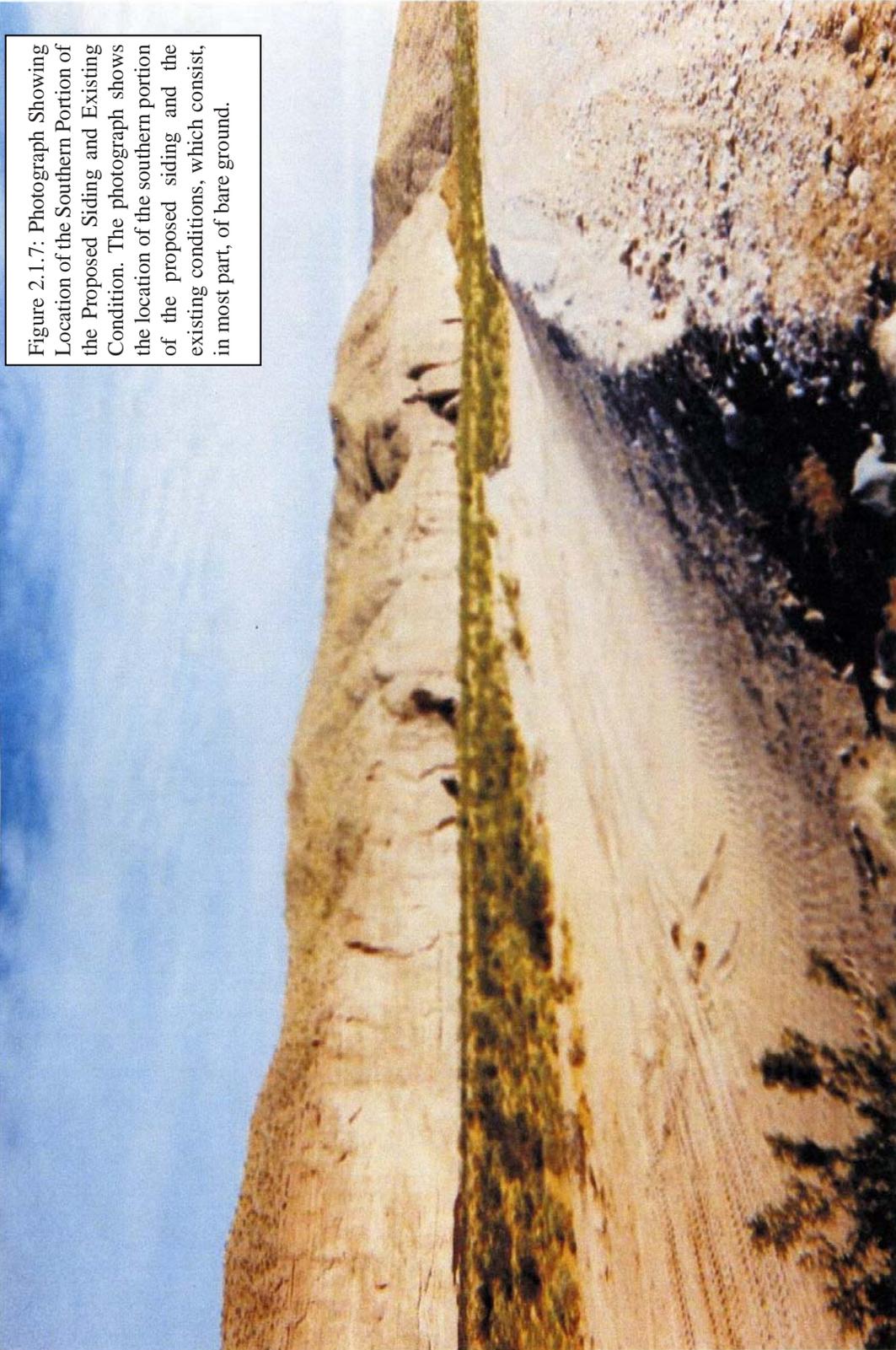


Figure 2.1.7: Photograph Showing Location of the Southern Portion of the Proposed Siding and Existing Condition. The photograph shows the location of the southern portion of the proposed siding and the existing conditions, which consist, in most part, of bare ground.

Figure 2.1.7 Photograph Showing Location of the Southern Portion of the Proposed Siding and Existing Condition

In the event that hazardous or regulated materials, such as diesel fuel, were spilled, measures would be taken to contain the spill, and the BLM, NDEP, and/or the Emergency Response Hotline would be notified, as required. If any oil, hazardous material, or chemicals were spilled during operations, they would be contained and cleaned up in a timely manner. After clean up, the oil, toxic fluids, or chemicals and any contaminated material would be removed from the site and disposed of at an approved disposal facility.

2.1.3 Work Force

MVG anticipates a workforce of approximately six to ten individuals including a supervisor, a lead mechanic, and support personnel.

2.1.4 Reclamation

The intent of the Proposed Action is to reclaim the Project Area to a beneficial land use, minimize adverse environmental impacts on surface resources and reclaim disturbed areas to ensure visual and functional compatibility with surrounding areas. Reclamation would be completed to the standards described in 36 CFR 228.8(g). Constructed roads would be recontoured, where practicable, to approximate the original shape of the ground prior to road construction and to blend with the surrounding area. Certain portions of the road would be constructed in rock outcrops requiring blasting and where there is no room for sidecast materials. It would not be feasible to recontour these road segments. The roads would be covered with stockpiled soils and seeded, where practicable. The Mine Access Road within the Project Area would then be reseeded with a BLM approved certified weed free seed mix at the appropriate time of year and at an application rate for optimum seed sprouting and plant growth (Table 2.1-3). The seed mix is composed of species that are native to the area and have a moderate to rapid growth rate. The seeding would be completed using a broadcast method and then raked. The reclaimed surfaces would be left in a textured or rough condition. Seeded areas would be monitored for stability and revegetation success, during the spring or fall, for a minimum of three years until attainment of the revegetation standards established in the *Nevada Guidelines for Successful Revegetation for the Nevada Division of Environmental Protection, the Bureau of Land Management, and the United States Forest Service* (Instruction Memorandum #NV-13).

Table 2.1-3: Proposed Reclamation Seed List

Species	Scientific Name	PLS ^a (lbs/acre)
Big galleta	<i>Pleuraphis rigida</i>	2.00
Desert needlegrass	<i>Achnatherum speciosum</i>	2.00
Black sagebrush	<i>Artemisia nova</i>	0.25
California buckwheat	<i>Eriogonum fasciculatum</i> var. <i>polyfolium</i>	1.00
Nevada Mormon tea	<i>Ephedra nevadensis</i>	3.00
Creosote bush	<i>Larrea tridentata</i>	1.00
Cheesebush	<i>Hymenoclea salsola</i>	1.00

Species	Scientific Name	PLS ^a (lbs/acre)
White bursage	<i>Ambrosia dumosa</i>	1.00
Desert broom	<i>Baccharis sarothroides</i>	0.10
Total		11.35

^a Pure live seed

Waste rock would be placed within the pit to provide the base for a 3Horizontal (H):1 Vertical (V) finish slope; the back highwall would be pushed back to eliminate any safety hazard; topsoil, if originally removed from the pit would be placed back on the former pit surface.

Highly gypsiferous soils, which currently support sparse vegetation, such as those in the pit area, would not be reseeded (personal communication, Bill Wilson, BLM, September 11, 2006). MVG would plant containerized BLM or United States Fish and Wildlife Service (USFWS) approved native riparian vegetation to replace the tamarisk (*Tamarisk* spp.) along the Meadow Valley Wash bank at the Ford crossing at a two to one ratio (Figure 2.1.4). The revegetation effort along the bank of the Ford site would be monitored for three years. If the containerized vegetation does not survive and tamarisk invades in this portion of the Project Area, MVG would remove the invading tamarisk by the end of final reclamation (personal communication, Bonnie Waggoner, BLM Noxious and Invasive Weed Coordinator, April 2, 2007).

Final reclamation would be completed within two years of Project completion, temporary shut-down, non-use, or abandonment (Table 2.1-4). The BLM would be notified before the commencement of final reclamation work.

Table 2.1-4: Anticipated Exploration Reclamation Schedule

TECHNIQUES	Quarter				Year(s)
	1 st Jan.- Mar.	2 nd April- June	3 rd July- Sept.	4 th Oct.- Dec.	
Regrading					Within 2 years of Project completion
Seeding					Within 2 years of Project completion
Monitoring					3 years beyond regrading and reseeded

The Siding would not be reclaimed by MVG as it is a separate action and located within the UPRR easement. In addition, the UPRR may elect to maintain the Siding for continued use as part of their existing operations.

2.1.5 Environmental Protection Measures

MVG commits to the following environmental protection measures to prevent unnecessary and undue degradation during construction, operation, and reclamation of the Project.

Air Quality

Fugitive emissions from the use of roads would be minimized to the extent reasonable and practicable by using Best Management Practices (BMPs) such as minimizing vehicular traffic, using prudent vehicle speeds (i.e., 15 to 25 miles per hour), and watering to minimize fugitive dust created by travel. MVG would obtain water from a private source near the Carp railroad siding.

Soils/Erosion Control

The following BMPs, which are taken from the Handbook of Best Management Practices adopted by the State Environmental Commission on December 7, 1994, would be employed during construction, operation, and reclamation to minimize sedimentation from disturbed areas, as necessary:

- Trenches or swales would be constructed along the contour of a slope to intercept surface runoff.
- A diversion dike would be designed and constructed at the top of a cut or fill slope to divert surface flow.
- Siltation or filter berms would be placed on the downslope sides of the disturbed areas to capture and retain runoff.
- Silt fences or straw bales could be utilized to retain sediment.

Activities would also be restricted to frozen or dry ground conditions where feasible. Operations would be curtailed when saturated and soft soil conditions exist.

Cultural Resources/Native American Religious Concerns

MVG would not knowingly disturb, alter, injure, or destroy any historical or archaeological site, structure, building, or object. If MVG discovers any cultural resource that might be altered or destroyed by operations, the discovery would be left intact and reported to the authorized BLM officer.

Pursuant to 43 CFR 10.4(g), MVG would notify the BLM authorized officer, by telephone and with written confirmation, immediately upon the discovery of human remains, funerary objects, sacred objects, or objects of cultural patrimony (as defined in 43 CFR 10.2). Further pursuant to 43 CFR 10.4(c) and (d), the operator would immediately stop all activities in the vicinity of the discovery and not commence again for 30 days or when notified to proceed by the BLM authorized officer.

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

Special Status Species

Pending completion of the Section 7 consultation of the Endangered Species Act of 1973 (ESA) and pending the Biological Opinion issued by the USFWS, all desert tortoises would be removed and relocated from the Project Area by a qualified biologist in accordance with USFWS approved protocol. During the desert tortoise active season, the preconstruction clearance would be completed no more than three days before the initiation of construction. During the desert tortoise inactive season (October 15 through March 15) the preconstruction clearance should be completed within ten days before work begins. In addition, the following specific measures would be implemented:

- During construction activities, desert tortoises and their burrows would be avoided whenever possible.
- A maximum speed limit of 25 miles per hour would be observed within the Project Area.
- Fences would be constructed around the Mine Access Road, where practicable, and around the Mine Area to prevent the re-entry of desert tortoises into the Project Area. Fencing along specific sections of the Mine Access Road would not be practicable and may create unnecessary disturbance because these sections are adjacent to steep rock outcrops and cliffs, which would inhibit desert tortoise access at these locations.
- Petroleum products such as gasoline, diesel fuel, and lubricants would be stored in approved containers. Hazardous materials would be properly stored in separate containers to prevent mixing, drainage, or accidents.
- Constructed fences would be inspected and repaired as needed, based on consultation with the BLM quarterly.
- Flagging and wire would be removed from the Project Area at the end of Project to ensure debris is not consumed by desert tortoises.
- To minimize the predation on desert tortoises by ravens, MVG would implement a litter control program. The program would include the use of covered, raven-proof trash receptacles and removal of trash from the Project Area following the close of each workday.
- If desert tortoises are located during construction or operation within harms way, all potentially harmful activity would cease until the desert tortoise moves out of harms way or it is relocated by a qualified biologist.
- MVG would notify the BLM and USFWS if any desert tortoise death or injury should occur as a result of the Project by the close of the following business day of which the incident occurred.

- MVG would comply with the BLM's renumeration fee for disturbance of desert tortoise habitat. According to the Terms and Conditions for the Caliente Management Framework Plan Amendment for Desert Tortoise , renumeration fees are determined based upon the desert tortoise compensation report (Hastey et al. 1991).
- MVG would replace any tamarisk removed from the Meadow Valley Wash during construction of the Ford at a two to one ratio with BLM or USFWS approved containerized native riparian vegetation as potential habitat for the southwestern willow flycatcher.

Solid and Hazardous Wastes and Safety

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

Pursuant to 43 CFR 8365.1-1(b)(3), no sewage, petroleum products, or refuse would be dumped from any trailer or vehicle.

MVG would comply with all applicable federal and state fire laws and regulations and would take all reasonable measures to prevent and suppress fires in the area of operations. MVG and contractors are required to carry fire extinguishers, hand tools, and backpack type water pumps in their vehicles to suppress small fires.

Regulated wastes would be removed from the Project Area and disposed of in a state, federally, or locally designated area.

All refuse generated during the Project would be removed and disposed of in an authorized landfill facility off site, consistent with applicable regulations. No refuse would be disposed of or left on site.

Reclamation

Reseeding would be consistent with all BLM recommendations for mix constituents, application rate, seeding methods, and seeding periods.

Nonnative, Invasive Species and Noxious Weeds

Noxious weeds would be controlled by washing vehicles and equipment with high pressure prior to mobilizing to the Project Area, providing on-site personnel with BLM weed identification information, reseeding the road within the Project Area with a BLM approved certified weed free seed mix, inspecting the gravel source for the presence of noxious weeds prior to placement in the Project Area, and eradication measures that would avoid impacts to wildlife species, if noxious weeds were introduced as a result of the Proposed Action.

Migratory Birds

In order to avoid potential impacts to migratory birds, a nest survey would be conducted within potential breeding habitat prior to any surface disturbance during the avian breeding season (March through June). If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the buffer area

avoided to prevent destruction or disturbance to nests until they are no longer active. No new construction would be scheduled during the migratory bird breeding season prior to conducting a nest survey.

2.2 No Action Alternative

In accordance with BLM NEPA guidelines H-1790-1, Chapter V (BLM 1988), this EA evaluates the No Action Alternative. The objective of the No Action Alternative is to describe the environmental consequences that would result if the Proposed Action were not implemented. The No Action Alternative forms the baseline from which the impacts of all other alternatives can be measured.

Under the No Action Alternative, the Proposed Action would not be approved by the BLM and MVG would not be authorized to conduct gypsum mining operations (i.e., mining, processing, and transporting gypsum). The area would remain available for future commercial gypsum mining, or processing, or for other purposes, as approved by the BLM.

No alternatives other than the No Action Alternative were identified for this EA. No other alternatives are necessary as there are no unresolved conflicts regarding alternative uses of available resources.

2.3 Alternatives Considered but Eliminated from Further Consideration

Alternate Mine Access Road

An alternative access road to the Mine Area was considered. The alternative road would have traversed the drainage to the north of the current access road; however, the alternative was rejected because there were too many rock outcrops to make road construction feasible. In addition, MVG wished to avoid the drainage.

3 AFFECTED ENVIRONMENT

3.1 Introduction

Mandatory items to be considered as identified in the Ely Field Office Environmental Guidebook are listed in Table 3.1.1. Mandatory items that may be affected are further described in this EA. Rationales for not analyzing mandatory items that would not be adversely affected are also provided in Table 3.1-1.

Table 3.1-1: Mandatory Items to Consider and Rationale for Elimination from Detailed Analysis for the Proposed Action

Mandatory Item	No Effect	May Affect	Not Present	Rationale for elimination from Detailed Analysis
Air Quality		X		
Areas of Critical Environmental Concern (ACEC)			X	The northern boundary of the Mormon Mesa ACEC, the closest one to the Project Area, is located approximately three miles to the south.
Cultural, Paleontological and Historic Resources	X			A Class III cultural resources inventory was conducted in May 2006 in the Project Area by the Chambers Group, Inc. (BLM Report No. 8111-NV04-06-1618) Two archaeological sites (26LN4946 and 26LN4947) were discovered and recorded. Both sites are recommended not eligible for inclusion in the National Register of Historic Places (NRHP). In addition, ten isolates (IF-1 through IF-10) were identified. Isolates are ineligible for the NRHP. In addition to the Chambers Group's report (2006), one other cultural resources inventory was conducted within a mile radius of the Project Area. A possible historic railroad grade was identified; however, it was not recorded.
Environmental Justice	X			No population of American Indians, Hispanics, Blacks, Asians, or Pacific Islanders exceed 50 percent of the population for Lincoln County. Although the American Indian population constitutes a higher percentage of the total population within Lincoln County than the minority population in the State of Nevada, the Project Area is located on BLM-administered lands, which are undeveloped and unpopulated; thus, there are no minority or low income populations present. Therefore, for the purposes of screening for environmental justice concerns, the identified populations defined in EPA's guidance (EPA 1998) do not exist within the Project Area.
Farmlands (Prime or Unique)			X	Resource is not present.
Floodplains and Water Quality (Drinking/Ground)		X		
Migratory Birds		X		

Mandatory Item	No Effect	May Affect	Not Present	Rationale for elimination from Detailed Analysis
Native American Religious Concerns	X		X	Informal Native American information gathering and coordination have taken place. The Proposed Action was discussed at five separate tribal coordination meetings on the following dates: February 23, 2005; May 15, 2005; August 18, 2005; February 23, 2006; May 18, 2006 (personal communication, Bill Wilson, BLM Geologist, August 29, 2006). A Request for Scoping Comments and Notice of Proposed Action was mailed to the following tribes on September 12, 2006, to provide additional notice of the Project and to initiate consultation: the Paiute Indian Tribe of Utah; the Moapa Band of Paiutes; the Las Vegas Paiute Tribe; the Duckwater Shoshone Tribe; the Ely Shoshone Tribe; and the Confederated Tribes of the Goshute Indian Reservation (personal communication, Elvis Wall, BLM Archaeologist, September 12, 2006). In addition, the Paiute Indian Tribe of Utah and the Moapa Band of Paiutes were previously informed of the Proposed Action and neither tribe expressed concerns or issues with the Project. The Moapa Band of Paiutes, however, did express interest in a site visit. A site visit would require permission from the UPRR and arrangements would have to be made (personal communication, Elvis Wall, BLM Archaeologist, September 11, 2006). .
Nonnative, Invasive Species and Noxious Weeds		X		
Special Status Species		X		
Wastes (hazardous or solid)		X		
Visual Resource Management		X		
Wetlands/Riparian		X		
Wild and Scenic Rivers			X	No eligible Wild or Scenic Rivers have been identified in the Caliente Resource Area.
Wild Horse and Burro		X		
Wilderness/WSA		X		

In addition to the mandatory items, the BLM considers other resources and uses that occur on public lands and the issues that may result from the implementation of the Proposed Action. The potential resources and uses, that may be affected are as follows:

- Geology and Mineral Resources
- Land Use and Access
- Socioeconomics
- Soils
- Vegetation
- Wildlife

The mandatory and other items that are considered in the EA are described in this section and are analyzed in the Environmental Consequences (Section 4).

3.2 Air Quality

The Project Area lies between the Mormon and Meadow Valley Mountains. Elevations in the Project Area range from approximately 2,640 to 2,800 feet above mean sea level (amsl). The climate is arid, characterized by hot, dry summers and cool, dry winters. The mean annual precipitation in Logandale, Nevada, located approximately 22 miles away is 5.14 inches and the mean annual snowfall is 0.6 inches. The mean annual low temperature is 48.8 degrees Fahrenheit (°F) and the mean annual high is 81.6°F (<http://www.wrcc@dri.edu> 2006).

Ambient air quality and the emission of air pollutants are regulated under both federal and state laws and regulations. Regulations potentially applicable to the Proposed Action and the alternative include the following: National Ambient Air Quality Standards (NAAQS); Nevada State Ambient Air Quality Standards (NSAAQS); Prevention of Significant Deterioration (PSD); New Source Performance Standards; Federal Operating Permit Program (Title V); and State of Nevada air quality regulations (NAC 445B).

Major stationary sources of air pollution and major modifications to major stationary sources are required by the Clean Air Act (CAA) to obtain an air pollution permit before commencing construction. The process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). The Project Area is located within the Lower Meadow Valley Wash Hydrographic Basin (Number 205), which is considered “unclassified” relative to attainment of the federal air quality standards. Permits for major sources in attainment areas are referred to as PSD permits.

The receipt of a complete PSD application creates a regulatory baseline area. The baseline area includes the air quality management area where the source is located, as well as any area expected to be significantly impacted by the proposed major source. Lower Meadow Valley Wash was included in the baseline area for the Moapa Energy Limited Partnership application deemed complete on September 17, 1990. Since the Project Area is located in a baseline area, the Proposed Action would be subject to additional air pollutant impact restrictions beyond the NAAQS. The pollutants subject to the additional restrictions are particulate matter less than ten microns in diameter, nitrogen dioxide, and sulfur dioxide.

3.3 Floodplains and Water Quality (Drinking/Ground)

The Project Area is located within the Lower Meadow Valley Wash Hydrographic Basin. There are no surface waters within the Mine Area or the Mine Access Road area. There are also no seeps or springs within or adjacent to the Mine Area or the Mine Access Road area (Figure 1.1.2). Other surface waters in the vicinity of the Project Area consist of two intermittent drainages and the Meadow Valley Wash.

The Project Area is adjacent to, and a small part of it is within, the Meadow Valley Wash which is the principal drainage of the southeastern portion of the State of Nevada northeast of Las Vegas. The drainage is approximately 110 miles long, originating in eastern Lincoln County in the Wilson Creek Range (http://en.wikipedia.org/wiki/Meadow_Valley_Wash). The Meadow Valley Wash then flows generally south, past Panaca and Caliente, along the east side of the Delamar Mountains and west of the Meadow Valley Range into northeastern Clark County. The Meadow Valley Wash empties into the Muddy River west of U.S. Interstate 15 approximately 40 miles northwest of Las Vegas, which in turn enters the northern arm of Lake Mead, just west of the confluence of the Virgin River. The lower stretch of Meadow Valley Wash including that in the Project Area has running water only in very wet years. According to the United States Geological Survey (USGS) surface water annual statistics, discharge at the Meadow Valley Wash station at Caliente, Nevada, approximately 50 miles north of the Project Area had discharge of 4.69 and 1.96 cfs in May and June of 2006, respectively (<http://waterdata.usgs.gov/nwis/monthly> 2007). 2006 represented a wet year because the mean annual flow of 7.12 cfs was higher than the seven previous years, with the exception of 2005 when there were two major flood events (<http://waterdata.usgs.gov/nwis/annual> 2007). The floods of 2005 did extensive damage to roads, culverts, and other items associated with the railroad. The flood waters scoured the portion of the wash that includes the proposed Ford location removing a portion of the dense stand of tamarisk and creating two small channels where only one existed before (Figures 2.1.3 and 2.1.4).

According to the Federal Emergency Management Agency (FEMA) mapping database (2006), neither the Project Area nor the surrounding area have been inventoried for floodplain classification. However, the Meadow Valley Wash meets the definition of a floodplain as used in Executive Order 11988. In addition to the two flood events in 2005, flooding has occurred in the Meadow Valley Wash within the past 50 years causing the destruction of the public road. The Meadow Valley Wash bed and bank at the Ford site is now approximately 450 feet wide.

The BLM is required by statutes to meet national water quality goals in the management of water resources within its management areas. Water quality goals are considered in approval of projects on BLM-administered lands. There is no ground water within the Mine Area or the Mine Access Road, however the project area is adjacent to the intermittent surface waters within the Meadow Valley Wash.

3.4 Nonnative, Invasive Species and Noxious Weeds

An “invasive species” is defined as a species that is nonnative to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health (Executive Order 13112). Nonnative, invasive species are species that are highly competitive, highly aggressive, and easily spread. They include plants designated as “noxious” and animals designated as “pests” by federal or state law. Animal species designated as “pests” are generally species that are injurious to agricultural and nursery interests or vectors of diseases, which could be transmissible and injurious to humans. There are no known nonnative, invasive animal species (pests) that are mandated for control in the Project Area; therefore pests are not further addressed in this EA.

The BLM Nevada strategy for noxious weed management is to “prevent and control the spread of noxious weeds through local and regional cooperative efforts...to ensure maintenance and restoration of healthy ecosystems on BLM-managed lands. Noxious weed control would be based on... prevention, education, detection, and quick control of small infestations” (BLM 1997). The Nevada Department of Agriculture maintains a “Nevada Noxious Weed List.” The Nevada BLM considers plants listed on the Nevada Noxious Weed List to be noxious.

There are laws, executive orders, regulations, policies, and agreements that pertain to nonnative, invasive species, including the following: Executive Order 11312 (Prevention and Control of Invasive Species); Federal Noxious and Invasive Weed Laws; BLM Manuals and Partners Against Weeds Action Plan; BLM Cooperative Agreements; and Nevada Revised Statutes and NAC, Chapter 555.

A noxious weed survey and assessment was conducted for MVG on May 24 and 25, 2006 (Appendix C). One noxious weed was found in the Project Area, tamarisk. Tamarisk was located within the Meadow Valley Wash. Two nonnative, invasive vegetation species, including redstem filaree (*Erodium cicutarium*) and red brome (*Bromus rubens*), were located within the Project Area; however, these two species are not considered noxious weeds. The nearest BLM-recorded occurrences of noxious weeds outside the Project Area include tamarisk approximately 1.9 miles northeast of the Project Area and white top (*Cardaria draba*) approximately three miles northeast of the Project Area.

3.5 Migratory Birds

“Migratory bird” means any bird listed in 50 CFR 10.13. All native birds found commonly in the United States, with the exception of native resident game birds, are protected under the Migratory Bird Treaty Act (MBTA). The MBTA prohibits taking of migratory birds, their parts, nests, eggs, and nestlings. Executive Order 13186, signed January 10, 2001, directs federal agencies to protect migratory birds by integrating bird conservation principles, measures, and practices.

Additional direction comes from the Memorandum of Understanding (MOU) between the BLM and the USFWS, signed January 17, 2001. The purpose of this MOU is to strengthen migratory bird conservation through enhanced collaboration between the BLM and USFWS, in coordination with state, tribal, and local governments. The MOU identifies management practices that impact populations of high priority migratory bird species, including nesting, migration, or over-wintering habitats, on public lands, and develops management objectives or recommendations that avoid or minimize these impacts.

Nevada has more than 240 breeding bird species with close to 400 bird species having been reported in Nevada. The species of birds with recorded sightings within or near of the Project Area according to the Nevada Breeding Bird Atlas are listed in Table 3.7-1 (Great Basin Bird Observatory 2005).

Table 3.5-1: Avian Species Likely to Breed in the Project Area or Vicinity

Common Name	Scientific Name	PIF ¹ “Long-term Planning and Responsibility Species”	NVPIF ² “Priority Species”	Clark County Multiple Species Habitat Conservation Plan (Evaluation or Covered Species)
Black chinned sparrow	<i>Spizella atrogularis</i>	Yes	No	No
Brewer’s sparrow	<i>Spizella breweri</i>	Yes	No	No
Le Conte’s thrasher	<i>Toxostoma lecontei</i>	Yes	Yes	Yes (Evaluation)
Crissal thrasher	<i>Toxostoma crissale</i>	Yes	No	No
Bendire’s thrasher	<i>Toxostoma bendirei</i>	No (Immediate Action)	No	Yes (Evaluation)
Burrowing owl	<i>Speotyto cunicularia</i>	No	Yes	Yes (Evaluation)
Loggerhead shrike	<i>Lanius ludovicianus</i>	No	Yes	No
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	No	Yes	Yes (Covered)
Southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	No (Management)	Yes	Yes (Covered)
Prairie falcon	<i>Falco mexicanus</i>	No	Yes	No
Red-tailed hawk	<i>Buteo jamaicensis</i>	No	No	No
Golden eagle	<i>Aquila chrysaetos</i>	No	No	No
Northern harrier	<i>Circus cyaneus hudsonius</i>	Yes	No	No
American kestrel	<i>Falco sparverius</i>	Yes	No	No
Ferruginous hawk	<i>Buteo regalis</i>	No	No	No
Virginia’s warbler	<i>Vermivora virginiae</i>	Yes	Yes	No
Western scrub-jay	<i>Aphelocoma californica</i>	Yes	No	No
Cooper’s Hawk	<i>Accipiter cooperii</i>	No	Yes	No
White-throated swift	<i>Aeronautes saxatalis</i>	Yes	No	No
Abert’s towhee	<i>Pipilo aberti</i>	Yes	No	No
Ash-throated flycatcher	<i>Myiarchus cinerascens</i>	No	Yes	No
Bell’s vireo	<i>Virea bellii</i>	Yes	No	Yes (Covered)
Black-tailed gnatcatcher	<i>Poliophtila melanura</i>	Yes	No	No
Blue grosbeak	<i>Passerina caerulea</i>	No	Yes	Yes (Covered)

Common Name	Scientific Name	PIF ¹ “Long-term Planning and Responsibility Species”	NVPIF ² “Priority Species”	Clark County Multiple Species Habitat Conservation Plan (Evaluation or Covered Species)
Gambel’s quail	<i>Callipepla gambelii</i>	Yes	Yes	No
Lucy’s warbler	<i>Vermivora luciae</i>	Yes	Yes	No
Phainopepla	<i>Phainopepla nitens</i>	Yes	Yes	Yes (Covered)
Summer tanager	<i>Piranga rubra</i>	No	No	Yes (Covered)
Verdin	<i>Auriparus flaviceps</i>	Yes	No	No
Vermilion flycatcher	<i>Pyrocephalus rubinus</i>	No	No	Yes (Covered)
Wilson’s warbler	<i>Wilsonia pusilla</i>	No	Yes	No
Yellow-breasted chat	<i>Icteria virens</i>	No	Yes	No
Black-throated sparrow	<i>Amphispiza bilineata</i>	Yes	No	No
Cactus wren	<i>Campylorhynchus brunneicapillus</i>	Yes	Yes	Yes (Evaluation)
Costa’s hummingbird	<i>Calypte costae</i>	Yes	No	No
Scott’s oriole	<i>Icterus parisorum</i>	Yes	Yes	No

¹Partners in Flight

²Nevada Partners in Flight

Due to the distance of the Project Area from a perennial water source and the lack of cover, forage, and nesting substrate in the Project Area, the potential of migratory bird species breeding in the Project Area would be extremely low (personal communication, Steve Abele, Eastern Nevada Landscape Coalition [ENLC], third party contractor for the BLM, April 3, 2007). Virtually all migrant avian species utilizing western flyways potentially pass through the Meadow Valley Wash during spring and fall migrations. The Project Area likely serves as a location for foraging during migration for many avian species. Although rock outcrops are present in the Project Area and vicinity, cliffs that would serve as nesting habitat for raptors are extremely limited in the Project Area and vicinity.

3.6 Special Status Species

Special status species are those species for which state or federal agencies afford an additional level of protection by law, regulation, or policy. According to Instruction Memorandum NV-98-013 special status species meet one or more of the following criteria:

- Federally designated threatened, endangered, proposed and candidate species;

- State-protected species if in a category implying potential endangerment, extinction, extirpation, or local rarity;
- Sensitive species as designated by the State Director, in cooperation with the State of Nevada.

3.6.1 Special Status Animal Species

Special status animal species with potential habitat located within the Project Area provided by the BLM are summarized in Table 3.6-1 (personal communication, Steve Abele, ENLC Biologist, third party contractor for the BLM, March 30, 2007).

Table 3.6-1: Special Status Animal Species Determined by the BLM to Contain Potential Habitat within the Project Area

Common Name	Scientific Name	Common Name	Scientific Name
Birds		Mammals	
Le Conte's thrasher	<i>Toxostoma lecontei</i>	Pallid bat	<i>Antrozous pallidus</i>
Crissal thrasher	<i>Toxostoma crissale</i>	Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
Burrowing owl	<i>Speotyto cunicularia</i>		
Loggerhead shrike	<i>Lanius ludovicianus</i>	Spotted bat	<i>Euderma maculatum</i>
Yellow-billed cuckoo ¹	<i>Coccyzus americanus</i>	Silver-haired bat	<i>Lasionycteris noctivagans</i>
Southwestern willow flycatcher ¹	<i>Empidonax traillii extimus</i>	California myotis	<i>Myotis californicus</i>
Prairie falcon	<i>Falco mexicanus</i>	Small-footed myotis	<i>Myotis ciliolabrum</i>
Golden eagle	<i>Aquila chrysaetos</i>	Long-eared myotis	<i>Myotis evotis</i>
Ferruginous hawk	<i>Buteo regalis</i>	Little brown myotis	<i>Myotis lucifugus</i>
Lucy's warbler	<i>Vermivora luciae</i>	Fringed myotis	<i>Myotis thysanodes</i>
Phainopepla	<i>Phainopepla nitens</i>	Long-legged myotis	<i>Myotis volans</i>
Summer tanager	<i>Piranga rubra</i>	Yuma myotis	<i>Myotis yumanensis</i>
Yellow-breasted chat	<i>Icteria virens</i>	Brazilian free-tailed bat	<i>Tadarida brasiliensis</i>
Amphibians		Western pipistrelle	<i>Pipistrellus hesperus</i>
Arizona toad ¹	<i>Bufo microscaphus</i>	Desert Valley kangaroo mouse	<i>Microdipodops megacephalus albiventer</i>
Fish		Desert bighorn sheep	<i>Ovis canadensis nelsoni</i>
<i>Catostomus clarki</i>			

Common Name	Scientific Name	Common Name	Scientific Name
Meadow Valley Wash desert sucker ¹	ssp.	Hoary bat	<i>Lasiurus cinereus</i>
Meadow Valley Wash speckled dace ¹	<i>Rhinichthys osculus</i> ssp.	Reptiles	
		Chuckwalla	<i>Sauromalus ater</i>
		Desert tortoise ¹	<i>Gopherus agassizii</i>

¹ Identified by USFWS as potentially occurring in the Project Area (Appendix D).

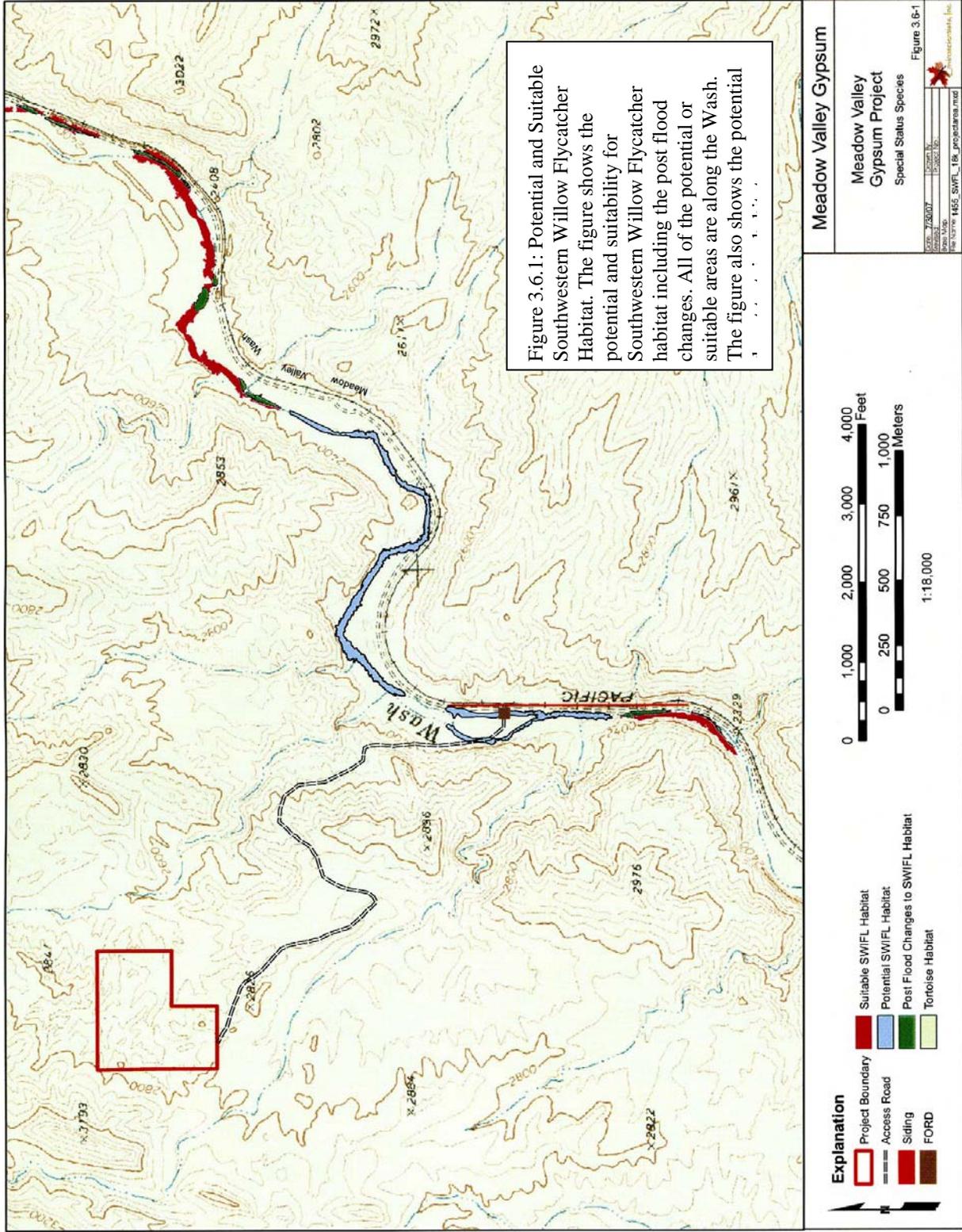
Section 7 of the ESA, as amended, and regulations implementing the ESA [50 CFR 402.12(f) and 402.14(a)] require federal agencies to ensure that actions authorized, funded, or carried out by them are not likely to jeopardize the continued existence of proposed, threatened, or endangered species, or result in the destruction or adverse modification of their critical habitats.

ESA Section 7 consultation for the Project was initiated on March 21, 2006, at a meeting held at the BLM Field Office in Caliente. The USFWS was not present at the meeting, however USFWS comments were mailed electronically to the BLM the day of the meeting. The USFWS identified two federally listed species that have the potential to occur within or in the vicinity of the proposed Project Area, the threatened desert tortoise and endangered southwestern willow flycatcher. Potential and suitable southwestern willow flycatcher habitat is shown on Figure 3.6.1 (BIO-WEST, Inc. 2005). The entire Project Area is considered tortoise habitat (Figure 3.6.1). The USFWS also identified the following three Nevada BLM Special Status Species: Meadow Valley Wash speckled dace, Meadow Valley Wash desert sucker, and Arizona toad (Appendix D).

In a response to the BLM's written request, the USFWS identified the candidate yellow-billed cuckoo as a federally listed species that may occur in or near the Project Area in addition to the threatened desert tortoise and endangered southwestern willow flycatcher (Appendix D).

Due to the distance of the Project Area from a perennial water source and the lack of cover, forage, and nesting substrate in the Project Area, the potential of migratory bird species or special status bat species breeding in the Project Area would be extremely low (personal communication, Steve Abele, ENLC Biologist, third party contractor for the BLM, April 3, 2007). Virtually all migrant avian species utilizing western flyways potentially pass through the Meadow Valley Wash during spring and fall migrations. The Project Area likely serves as a location for special status bat species foraging and avian foraging during migration.

The BLM also identified desert bighorn sheep, a Nevada BLM Sensitive Species, as potentially occurring within the Project Area. The Project Area is within desert bighorn sheep range and migration corridors (BLM 2005). Due to the limited amount of forage available in the Mine Area, bighorn sheep use in the Mine Area is likely limited and ephemeral.



3.6.2 Special Status Plant Species

Special status vegetation species with potential habitat located within the Project Area provided by the BLM are summarized in Table 3.9-2 (personal communication, Steve Abele, ENLC Biologist, third party contractor for the BLM, April 20, 2006).

Table 3.6-2: Special Status Plant Species Determined by the BLM to Contain Potential Habitat within the Project Area

Common Name	Scientific Name	BLM Status	State of Nevada Status
White bearpoppy	<i>Arctomecon merriamii</i>	Sensitive	n/a
Silverleaf sunray	<i>Enceliopsis argophylla</i>	Sensitive	n/a
Parish phacelia	<i>Phacelia parishii</i>	Sensitive	n/a
Schlesser pincushion	<i>Sclerocactus schlesseri</i>	Sensitive	Protected as a Cactus, Yucca, or Christmas Tree
Las Vegas buckwheat	<i>Eriogonum corymbosum</i> var. <i>nilesii</i>	Sensitive	n/a

A survey of the Project Area was conducted by Enviroscientists on May 24 and 25, 2006, and no special status plant species were located in the Project Area.

3.7 Wastes, Hazardous and Solid

Hazardous and solid wastes within the Project Area would consist of solid wastes, such as refuse, paper, and other inert materials, generated for Project activities. In addition, hazardous nontoxic materials would be used in the Project Area including fuels used to operate equipment associated with Project activities. Section 2.1.2 of this EA outlines the amounts and management of these wastes and hazardous materials.

3.8 Wetlands/Riparian Zones

Wetland/riparian areas are some of the most productive resources found on BLM-administered lands. Wetland habitats provide important ecological functions such as habitat diversity, ground water recharge, sediment uptake, and runoff treatment. These functions become more important when wetlands are scarce in the landscape. In addition, wildlife utilize wetland/riparian areas disproportionately more than any other type of habitat.

According to the National Wetlands Inventory (<http://wetlands.fws.er.usgs.gov> 2006), neither the Project Area nor the adjacent portion of the Meadow Valley Wash are shown as wetlands. This stretch of Meadow Valley Wash has running water only in very wet years and only for part of those wet years. According to the USGS surface water annual statistics, at the Meadow Valley Wash station at Caliente, Nevada, the mean discharge for 2006 was 7.12 cubic feet per second (cfs). With the exception of 2005, when there was a major flood event and for which no data is available, 2006 had a higher discharge than the seven prior years (<http://waterdata.usgs.gov/nwis/annual> 2007). There was some water in the wash in January 2006 during a BLM Interdisciplinary (ID) Team field visit.

By May 15, 2006, when a resource specialist from Enviroscientists, Inc. visited the property, the wash within the vicinity of the Ford was dry. This information would be consistent with the USGS surface water annual statistics, which show that discharge at the Meadow Valley Wash station at Caliente, Nevada, approximately 50 miles north of the Project Area had discharge of 4.69 and 1.96 cfs in May and June of 2006, respectively (<http://waterdata.usgs.gov/nwis/monthly> 2007). The Ford to be constructed across the Meadow Valley Wash would be regulated by the USACE. A 404 Permit Application was submitted to the USACE on July 27, 2006 (Appendix B).

The Ford would disturb approximately 0.13 acre. Up to two tamarisk, a noxious species, would be removed. The tamarisk plants in this portion of the Project Area constitute an extremely small portion of the total riparian habitat that exists along the Meadow Valley Wash.

3.9 Wilderness

The Project Area lies between the Meadow Valley and Mormon Mountain ranges and is adjacent to two wilderness areas, the Meadow Valley Range Wilderness and the Mormon Mountains Wilderness.

The Meadow Valley Range Wilderness encompasses 123,488 acres and is located in the Meadow Valley Mountain range approximately 50 miles northeast of Las Vegas. The elevation within the Meadow Valley Wilderness ranges from approximately 2,100 to 5,022 feet amsl. Access to the wilderness area is 30 miles south of Alamo, Nevada, on U.S. Highway 93.

The Meadow Valley Range Wilderness is characterized by rolling bajadas speckled with cholla, yucca, and Joshua trees, intricately carved canyons forested with piñon pine and juniper, and jagged mountain peaks topped with stands of old-growth ponderosa pine. The various climates and elevations in these areas provide important habitat for a wide spectrum of wildlife. Vegetation consists of low desert shrub with the exception of the northern section of the Meadow Valley Mountains, which is pinon pine and juniper forest. Grapevine Spring on the west end is a hiking destination. On the east side, Hackberry and Vigo Canyons are common day hiking areas. Backpackers also utilize the numerous loops and through routes.

The Project Area was originally included in the Meadow Valley Range Wilderness Study Area; however, due to the presence of valuable minerals and pre-existing valid mining claims, the wilderness boundary was moved to exclude the gypsum claim.

The Mormon Mountains Wilderness is located in southern Lincoln County with a portion in northeastern Clark County, approximately 60 miles northeast of Las Vegas. This wilderness encompasses 157,938 acres with an elevation range of 2,200 to 7,414 feet amsl. Access to the northern portion of the Mormon Mountains Wilderness is from Glendale, Nevada, east 14 miles on U.S. Interstate 15 to an unnamed county road northbound. Access to the northern portion of the Wilderness starting in Caliente is achieved via State Route 317 through Elgin, Lyman Crossing, and Carp.

The Mormon Mountains Wilderness is similar to the Meadow Valley Range Wilderness in topography, geology, vegetation, and wildlife habitat. However, throughout the Mormon Mountains

are some of the most valuable prehistoric sites in Nevada. Literally thousands of archaeological sites are present including petroglyphs, pictographs, agave roasting pits, prehistoric camp sites, and rock shelters. The Mormon Mountain Wilderness is used recreationally for camping, hiking, backpacking, and hunting.

Camping, hiking, backpacking, fishing, and hunting are allowed in the wilderness areas as regulated by state or local laws. Mechanized and motorized vehicles are not allowed in wilderness areas; however, vehicles can be parked outside of the wilderness boundary, which is setback 100 feet from access roads.

3.10 Geology and Minerals

Geology in the area around the Project Area consists of Quaternary unconsolidated alluvial and playa deposits in the basins and mountain ranges consisting of volcanic, sedimentary, metamorphic, and igneous intrusive rocks. Tertiary volcanic rocks and sedimentary rocks ranging in age from pre-Cambrian to Paleozoic are the most widespread, with smaller areas of intrusive Tertiary igneous rocks such as granites and diorites (Natural Resource Conservation Service [NRCS] 2000).

Pennsylvanian and Permian limestone can be found within the Project Area and throughout Lincoln County. These limestones, which are predominantly carbonate rocks, are more restricted in their distribution than the older Paleozoic rocks. The thickness of these formations increases rapidly westward, across a northeast-striking hinge line near Meadow Valley Wash, from 1,500 to 1,800 feet amsl in the southern Mormon Mountains to about 4,300 feet amsl in the Meadow Valley range. The sandy facies in the upper part of the Bird Song Formation (Mississippian, Pennsylvanian, and Permian) along Meadow Valley Wash probably were derived from a topographic high in the southeast, perhaps from an area where Lower Cambrian rocks crop out. The Pennsylvanian limestone unit consists of alternating massive dark-gray cherty limestone layers that weather light gray, and thin-bedded or platy, yellowish-brown silty or limestone dolomite layers that weather gray, brown, or pale reddish gray. The unit characteristically weathers to form steplike slopes. The Pennsylvanian rocks exposed in the southeast corner of Lincoln County are shelf deposits laid down near the margin of the miogeosyncline and are only about 1,000 feet thick in the Mormon Mountains. The section along Meadow Valley Wash contains brownish and reddish, fine-grained, calcareous or dolomitic, silty sandstone in numerous layers up to 200 feet thick. The sandstone is underlain by gray and pinkish gray limestone, which contains as much as 40 percent chert (Nevada Bureau of Mines and Geology 1970).

A concentration of gypsum is located within the Project Area. Gypsum is widely distributed in rocks of Permian Age in the southeast corner of Lincoln County. Beds of gypsum occur just above and below the limestone cliff-former of the Toroweap Formation. Gypsum of unknown commercial quality occurs near the top of the Permian red beds and at the base of the Moenkopi Formation in the area; high quality gypsum, often 50 feet thick, is located between the cliffs formed by the Toroweap Formation and Kaibab Limestone (Nevada Bureau of Mines and Geology 1970).

3.11 Land Use and Access

Land uses within and around the Project Area include, livestock grazing, dispersed recreation and the UPRR easement, which was granted in the early 1900's by the General Land Office under the authority of the General Railroad Act of 1875. Infrastructure within the easement includes the track and UPRR service road. The UPRR crosses the Project Area at the Ford site. The Project Area is adjacent to the Meadow Valley Wilderness and the Mormon Mountains Wilderness Areas. These wilderness areas are described in Section 3.9.

The Project is located within the Henrie Complex Grazing Allotment, which consists of 165,060 acres of public land. There are approximately 120 acres per AUM for the allotment (an AUM represents the amount of forage required to support one cow/calf pair, or unit, for a month); however, due to sparse forage and a lack of consistent water sources, it is likely the Project Area supports an even lower grazing intensity. Recreational use in and adjacent to the Project Area is of a dispersed nature and primarily consists of hiking, backpacking, camping, rock climbing, and geocaching. No developed recreational sites are located in or near the Project Area.

Access to the Project Area would either be via the UPRR service road, or the public road, which is currently impassable due to past flooding, but which Lincoln County plans to reconstruct from Carp to Rox, Nevada. Depending on which road is available for use, MVG would utilize one or the other to transport construction materials, personnel and water; however, product would not be transported along either route. The Mine Area would be located approximately 1.5 miles from the UPRR track and the Ford at the base of the temporary Mine Access Road. The Mine Access Road would be utilized to transport the processed gypsum from the Mine Area to the proposed Siding adjacent to the Ford.

Since the UPRR road occurs on an exclusive easement, public use upon it is restricted and there are no other roads in the immediate area. Unless the County rebuilds the public road,, there would be no public access to the Meadow Valley Wash area, the Project Area, or the wilderness areas between Carp and Rox.

3.12 Socioeconomics

The Project Area is located in Lincoln County, Nevada, in an area between the Meadow Valley Mountains and the Mormon Mountains, approximately 50 miles south of Caliente and approximately 35 miles north of Moapa (Figure 1.1.1). Caliente provides services that include a grocery store, church, post office, restaurants, service stations, motels/recreational vehicle parks, emergency services, and schools. Moapa also provides the above listed services.

The Nevada State Demographer estimated the 2005 population of Caliente and Moapa to be 1,015 and 1,261, respectively (www.nsbdc.org/what/data_statistics/demographer/pubs 2006). While the 2005 population for the entire Moapa Valley was estimated at 6,726 (www.nsbdc.org/what/data_statistics/demographer/pubs 2006).

The population estimate for Lincoln County for 2005 was 3,886 (www.nsbdc.org/what/data_statistics/demographer/pubs/pop_increase 2006). According to the United States Census Bureau, the county population increased 10.3 percent between 1990 and 2000

(2006b). United States Census Bureau 2004 statistics stated that the American Indian and Hispanic populations constituted approximately 1.9 and 6.2 percent, respectively, of the total population of Lincoln County. Black, Asian, and Pacific Islanders comprised 2.0, 0.4, and 0.0 percent, respectively, of Lincoln County's population (United States Census Bureau 2006a). It is likely that these percentages would be similar for 2005 and 2006.

The median household income in Lincoln County was \$36,032 (United States Census Bureau 2006a). According to the Census Bureau's Small Area Income and Poverty Estimates for Nevada Counties in 2003, the percentage of individuals below the poverty level in Lincoln County was 13.5 percent (United States Census Bureau 2006a). The median value of owner-occupied housing units in 2000 was \$80,300 and the home ownership rate was 75.1 percent (United States Census Bureau 2006a). The number of housing units in 2004 in Lincoln County was 2,211 (United States Census Bureau 2006a). MVG would employ a workforce of up to ten individuals, including a supervisor and a lead mechanic. Temporary housing would be secured in Caliente or Moapa.

The net proceeds mine tax would be assessed on the gypsum mined by MVG. The State of Nevada would assess the tax using a formula based on gross receipts and profitability and the tax revenue would be passed on to the state and county as general fund monies. The net proceeds mine tax is imposed in lieu of property taxes. MVG has only proposed temporary mine facilities, which would be removed during final reclamation; therefore, no real property taxes would be assessed for MVG. MVG would be subject to sales taxes, as well as payroll and other business taxes to be determined by the state and county as applicable.

3.13 Soils

The Project Area lies within the Basin and Range Physiographic Province. It has the typical basin and range topography with relatively narrow north-south trending mountain ranges separated by wider alluvium-filled basins. The Project is located between the Mormon and Meadow Valley Mountains near the Meadow Valley Wash, a major drainage that empties in the Muddy River and then to Lake Mead. The map units delineated in the Project Area include the following soil associations: St. Thomas-Zeheme-Rock Outcrop, Zeheme-Chinkle-Shankba, and Geta-Bluepoint-Arizo (NRCS 2000). Characteristics of the soil series comprising these associations are outlined in Table 3.19-1. The surface textures consist of very gravelly fine sandy loam to cobbly loam to unweathered bedrock. According to the NRCS, the drainage classes for the various soils found in the Project Area vary from well drained to excessively drained and permeability ranges from moderate to very rapid (Table 3.19-1).

3.14 Vegetation

Ford

As discussed in Section 3.6, vegetation in and adjacent to the Ford site is limited to tamarisk.

Mine Access Road and Mine Area

Vegetation along the Mine Access Road route is described as Mojave Desert Scrub and is dominated by white bursage (*Ambrosia dumosa*), creosote bush (*Larrea tridentata*), and Joshua Trees (*Yucca brevifolia*). Common shrub species include the following: Fremont's dalea (*Psoralea fremontii*), spiny menodora (*Menodora spinescens*), Goldenhills brittlebrush (*Encelia farinosa*), Mojave ceanothus (*Ceanothus greggii* var. *vestitus*), bladder sage (*Salazaria mexicana*), and littleleaf ratany (*Krameria erecta*). Forbs and grasses along the Mine Access Road route include redstem filaree, desert trumpet (*Eriogonum inflatum*), *Poa* sp., red brome, and desert needlegrass (*Achnatherum speciosum*).

Cacti found along the Mine Access Road route and Mine Area include the following species: buckhorn cholla (*Cylindropuntia acanthocarpa*), silver cholla (*Cylindropuntia echinocarpa*), cotton top (*Echinocactus polycephalus*), barrel (*Ferocactus cylindraceus*), and plains prickly pear (*Opuntia polyacantha*).

Vegetation in the Mine Area is sparse due to the high gypsum content of the soils. Three forbs located in the Mine Area include the following: desert prince's plume (*Stanleya pinnata*), Palmer's phacelia (*Phacelia palmeri*), and Parry's sandpaper plant (*Petalonyx parryi*). These forbs can tolerate gypsum-rich soils and are abundant outside of the Mine Area.

3.15 Visual Resources

Scenic quality is a measure of the visual appeal of a parcel of land. Section 102(a)(8) of the Federal Land Policy and Management Act of 1976 emphasizes protection of the quality of scenic resources on public lands. Section 101(b) of NEPA requires that measures be taken to ensure that aesthetically pleasing surroundings be retained for all Americans.

The Visual Resource Management (VRM) system designates classes for BLM-administered lands in order to identify and evaluate scenic values to determine the appropriate levels of management during land use planning. Each management class portrays the relative value of the visual resources and serves as a tool that describes the visual management objectives. The Project Area is located in a Class IV VRM area (personal communication, Steve Leslie, BLM Wilderness Planner, September 6, 2006). The objective of this class is to provide for management activities that allow for major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. Management activities could dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of such activities through careful location, minimal disturbance and repeating the basic elements of line, form, color, and texture (BLM 1986).

Table 3.13-1: Soils in the Project Area

Association	Inclusions	Soil Series	Landform	Percent Slope	Profile of Surface Soil Texture	Potential Erosion Hazard	Permeability	Drainage Class
St. Thomas-Zeheme-Rock Outcrop Association (1061)	Inclusion 1: Type Calciorthids, 4-15% slopes (6%).	St. Thomas	Mountains	30-50% slopes	Very gravelly sandy loam	Severe	Moderately rapid	Well drained
	Inclusion 2: Type Torriorthents, 2-4% slopes (3%).	Zeheme	Mountains	30-50% slopes	Very gravelly fine sandy loam	Severe	Moderately rapid	Well drained
	Inclusion 3: Riverwash, 2-4% slopes (1%).	Rock outcrop	Mountains	30-50% slopes	Unwea-thered bedrock	Severe	-	-
Zeheme-Chinkle-Shankba Association (1062)	Inclusion 1: Rock outcrop (8%).	Zeheme	Mountains	15-50% slopes	Cobbly loam	Severe	Moderately rapid	Well drained
	Inclusion 2: Type Calciorthids, 4-15% slopes (4%).	Chinkle	Mountains	15-50% slopes	Very gravelly very fine sandy loam	Severe	Moderately rapid	Well drained
	Inclusion 3: Type Torriorthents, 0-4% slopes (2%). Inclusion 4: Riverwash, 0-4% slopes (1%).	Shankba	Mountains	15-30% slopes	Very gravelly fine sandy loam	Severe	Moderate	Well drained
Geta-Bluepoint-Arizo Association (1102)	Inclusion 1: Aquic Torriorthents, 0-2% slopes (5%).	Geta	Semi-bolsons landform; stream terraces	0-2%	Very fine sandy loam	Slight	Rapid	Well drained
	Inclusion 2: Typic	Blue-point	Semi-bolsons landform; dunes	0-2%	Loamy fine sand	Slight	Rapid	Somewhat excessively drained

Association	Inclusions	Soil Series	Landform	Percent Slope	Profile of Surface Soil Texture	Potential Erosion Hazard	Permeability	Drainage Class
	Torriorthents, 4-8% slopes (5%). Inclusion 3: Riverwash, 0-2% slopes (5%).	Arizo	Semi-bolsons landform; drainages	0-2%	Very gravelly loamy sand	Slight	Rapid to very rapid	Excessively drained

A visual analysis was performed from Key Observation Point (KOP) #1 from the UPRR access road 1 (Figure 1.1.2) on January 26, 2006 (Appendix E). The only component of the Project that would be visible from this KOP is the Mine Access Road that would form a diagonal line across the slope in 3 the middle ground, disappear behind a ridge and form another diagonal line in the background before disappearing from sight.

3.16 Wildlife

The wildlife species that inhabit the Project Area are typical of the arid/semi-arid environment in the central Great Basin. Wildlife species common to the Mojave desert with potential habitat in the Project Area include the following: common raven (*Corvus corax*), desert cottontail (*Sylvilagus audubonii*), black-tailed jack rabbit (*Lepus californicus*), desert woodrat (*Neotoma lepida*), desert iguana (*Dipsosaurus dorsalis*), horned lizard (*Phrynosoma platyrhinos*), common chuckwalla, western collared lizard (*Crotaphytus collaris baileyi*), long-nosed leopard lizard (*Crotaphytus wislizenii*), northern desert horned lizard (*Phrynosoma platyrhinos platyrhinos*), Great Basin fence lizard (*Sceloporus occidentalis biseriatus*), ground snake (*Sonora semiannulata isozona*), side-blotched lizard (*Uta stansburiana stansburiana*), western rattlesnake (*Crotalus viridus*), and glossy snake (*Arizona elegans*). Additionally, the Nevada Natural Heritage Program (NNHP) identified the banded Gila monster (*Heloderma suspectum cinctum*) as occurring within the Project Area (Appendix F)

Desert tortoises are also known to occur in the vicinity of the Project Area and are discussed in further detail in Section 3.9. 21

3.17 Wild Horses and Burros

The BLM manages this herd management area (HMA) for zero horses due to wildfire impacts to resources in the area (personal communication, Susan Howle, BLM NEPA Coordinator, March 7, 26 2007). A wild horse herd gather took place between February 20 and February 28, 2006, in order to prevent wild horse death and/or suffering from starvation due to a lack of forage as well as to provide for stabilization of the burned area. Therefore, the Meadow Valley HMA is de facto eliminated and there are no wild horses managed by the BLM in the Project Area and no burros occur in the Project Area (personal communication, Susan Howle, BLM NEPA Coordinator, March 31 7, 2007). Wild horses are known to occur near Elgin, Nevada (personal communication, Jared Bybee, BLM Wild Horse Specialist, August 22, 2006).

4 ENVIRONMENTAL CONSEQUENCES

This Section analyzes the potential impacts of the Proposed Action, as well as construction of the Siding (the connected action), on the resources carried forward from Section 3. Construction of the proposed Siding will not have impacts to all of the resources identified herein; therefore, this it is only discussed under those resources where there is potential for the connected action to result in impacts.

4.1 Air Quality

4.1.1 Proposed Action and Connected Action

The construction, mining, processing, and vehicle use associated with the Proposed Action could result in fugitive dust emissions. However, air pollutant emissions created by the Proposed Action would be regulated by the NDEP, Bureau of Air Pollution Control (BAPC). Before construction commences, MVG would be required to obtain an air quality operating permit that would include control measures to limit particulate emissions from process equipment (crushers, conveyors, hopper, etc.) and fugitive dust emissions from vehicular activities, disturbed areas, and stockpiles. MVG would also be required to provide a compliance demonstration with both the ambient and PSD increment consumption standards via pollutant dispersion modeling. Construction of the siding would incorporate BMPs (e.g., spraying water, covers on haul vehicle, installation of wind barriers) and UPRR would obtain required applicable air pollution emissions permits from the BAPC. Material handling/loading by MVG is included in the Proposed Action and would therefore be conducted under the permits discussed previously. These measures would reduce the impact of the Proposed Action on air resources to levels that are consistent with the ambient air quality standards.

4.1.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation 19 of the Proposed Action would occur.

4.2 Floodplains/Water Quality Drinking/Ground

4.2.1 Proposed Action

Executive Order 11988 directs all Federal agencies to reduce the risk of flood loss; minimize the impact of floods on human safety, health and welfare; and restore and preserve the natural and beneficial values served by floodplains in carrying out the agency's responsibilities for conducting Federal activities and programs affecting land use, including but not limited to water and related land resources planning, regulating, and licensing activities. According to 33 CFR 320.4(l) floodplain values include: (1) Water resources values (natural moderation of floods, water quality maintenance, and groundwater recharge), (2) Living resource values (fish wildlife, and plant resources), (3) Cultural resource values (open space, natural beauty, scientific study, outdoor education, and recreation): and (4) Cultivated resource values (agriculture, aquaculture, and forestry).

There is no surface or ground water within the Mine Area. The proposed Siding and Ford site in the Meadow Valley Wash would be regulated by the USACE thus minimizing any impacts to the floodplain. In addition, BMPs and other measures outlined in Section 2.1.5 would be implemented to minimize stormwater runoff or sedimentation, which may otherwise affect the Meadow Valley Wash. Therefore, impacts to the floodplain and water resources are expected to be minimal.

4.2.2 No Action

Under the No Action Alternative, as with the Proposed Action, there would be no impacts to floodplains or water quality.

4.3 Nonnative, Invasive Species and Noxious Weeds

4.3.1 Proposed Action

New surface disturbance from the Proposed Action would increase the potential for and promote the establishment and spread of nonnative, invasive species and noxious weeds. The only noxious species observed in the area consists of tamarisk, which occurs in Meadow Valley Wash. This species requires water in order to survive. The Ford would disturb approximately 0.13 acre and up to two tamarisk would be removed. Nonnative, invasive species located in the Project Area include redstem filaree and red brome. Impacts from nonnative, invasive species would be low based on implementation of environmental protection measures outlined in Section 2.1.5.

Although construction of the Siding would disturb up to 1.8 acres adjacent to the Meadow Valley Wash, the Siding would be constructed in an area that was previously disturbed by flooding and UPRR activities. As shown in Figures 2.1.6 and 2.1.7 the area is characterized by bare ground. Measures outlined in Section 2.1 and 2.1.5 would be implemented to reduce the possibility of the introduction of noxious weeds therefore impacts from this activity would be low.

4.3.2 No Action

Under the No Action Alternative, none of the impacts or weed control measures identified above as a result of implementation of the Proposed Action would occur.

4.4 Migratory Birds

4.4.1 Proposed Action

The Proposed Action would result in up to 46.7 acres of surface disturbance. In order to avoid potential impacts to migratory birds, a nest survey would be conducted within potential breeding habitat prior to any surface disturbance during the avian breeding season (March through June). If nests were located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nest material, transporting food) were observed, a protective buffer (the size depending on the habitat requirements of the species) would be delineated and the buffer area avoided to prevent destruction or disturbance to nests until they are no longer active. No new construction, including construction

of the Siding, would be scheduled during the migratory bird breeding season prior to conducting a nest survey

4.4.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.5 Special Status Species

4.5.1 Proposed Action

4.5.1.1 Special Status Animal Species

Yellow-billed Cuckoo

Currently, limited potential breeding habitat exists for the yellow-billed cuckoo in the Project Area and limited occurrences of migratory individuals of this species have been documented in the Meadow Valley Wash in recent years. Given the short duration of the Proposed Action, limited habitat disturbance associated with the Ford, and planned mitigation measures, the Proposed Action may affect, but would not contribute to the need to list the yellow-billed cuckoo.

Southwestern Willow Flycatcher

Currently, limited potential breeding habitat exists for the southwestern willow flycatcher in the Project Area and the only known presence is of one breeding pair approximately 40 miles north of the Project Area. Given the short duration of the Proposed Action, limited habitat disturbance associated with the Ford, and planned mitigation measures, the Proposed Action may affect, and is likely to adversely affect the southwestern willow flycatcher. The Proposed Action would have no effect on critical habitat for the southwestern willow flycatcher.

Desert Tortoise

It was determined that no desert tortoise surveys would be conducted within the Project Area due to the fact that tortoise densities in vicinity of the Project Area are known (personal communication, Steve Abele, ENLC, third party contractor for the BLM, May 3, 2006). The Proposed Action would result in temporary removal of 46.7 acres of potential desert tortoise habitat. Potential impacts to desert tortoises could include burrow collapse as a result of blasting, attracting desert tortoises to water on the access road, and mortality along the access road. The potential impact would be reduced based on the environmental protection measures outlined in Section 2.1.5 and mitigation measures in Appendix G. Measures include removal and relocation of all desert tortoises from the Mine Area prior to surface disturbance by a qualified biologist, as well as the construction of a desert tortoise-proof fence around the Mine Area to prohibit or exclude desert tortoises from re-entering the Mine Area. Water would be utilized in the Project Area for dust suppression activities and would not create ponds or excessive run-off.

Although the Project would affect desert tortoises and occurs in known desert tortoise habitat (Figure 3.6.1), the Project Area is not located within designated critical habitat. Designated critical habitat is located 7.5 miles southwest of the Project Area. Approximately 754,600 acres including and surrounding the Project Area are included in the BLM's Planning Area for the Proposed Caliente Management Framework Plan Amendment and Final Environmental Impact Statement for the Management of Desert Tortoise Habitat as potential habitat (BLM 1999). The 46.7 acres of temporary disturbance is less than 0.01 percent of total desert tortoise habitat.

In the general vicinity of the Project Area, desert tortoise densities are relatively low. Habitat at the Mine Area appears to offer limited suitable habitat for desert tortoise due to the fact that the gypsum creates a hard soil surface and vegetation is sparse. The gypsum-rich soils support a limited number of plant species that are not preferred by desert tortoises. Impacts to desert tortoises could occur from operation of heavy machinery and blasting to create roads. Direct effects from the Proposed Action would be minimized by the implementation of environmental protection measures and mitigation measures. Therefore, the Proposed Action may affect, and is likely to adversely affect desert tortoise. The Project would have no effect on critical habitat for the desert tortoise. The USFWS, under Section 7 of the ESA, will conduct an analysis of the potential impacts on the desert tortoise before the Proposed Action is implemented.

Mammals

Impacts to special status mammal species, including bats (Table 3.9-1), Desert Valley kangaroo mouse, and bighorn sheep would consist of temporary loss of foraging habitat, displacement as the result of removal of vegetative cover, and disturbance from human activity and noise associated with blasting during road construction and mining. Disturbance would occur in the Mojave Desert Scrub vegetation community, along the Mine Access Road portion of the Project Area, resulting in short-term loss of foraging area for mammals. Although the Project Area is located in a bighorn sheep range and migration corridors, large acreages of habitat similar to that which occurs along the Mine Access Road are available in the area surrounding the Project Area. Therefore, impacts to mammals in the Mine Access Road would be minimal. The gypsum-rich soils support a limited number of forage plant species; therefore, impacts are not expected to occur to mammals in the Mine Area.

Amphibian and Fish Species

Available habitat for special status amphibians and fish species identified in Table 3.9-1 is limited by the lack of water present in the Project Area. During a flood event, potential habitat for these species may become ephemerally available in the Meadow Valley Wash portion of the Project Area.

Reptiles

Impacts to special status reptile species, including chuckwallas, and Gila monsters, would consist of temporary loss of foraging habitat, displacement as the result of removal of vegetative cover, and disturbance from human activity and noise associated with blasting during road construction and mining. Disturbance would occur in the Mojave Desert Scrub vegetation community, along the Mine Access Road portion of the Project Area, resulting in short-term loss of habitat for reptiles. Large acreages of habitat similar to that which occurs along the Mine Access Road are available in the area

surrounding the Project Area; therefore, impacts to reptiles in the Mine Access Road would be minimal. The gypsum-rich soils support a limited number of forage plant species; therefore, impacts are not expected to occur to reptiles in the Mine Area.

4.5.1.2 Special Status Plant Species

There are no known special status plant species in the Project Area. Therefore, the Proposed Action may affect but would not contribute to the need to list special status plant species if they were identified at some future time.

4.5.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.6 Wastes, Hazardous and Solid

4.6.1 Proposed Action

A minimal amount of general refuse, associated with work operations, would be created in the Project Area. All refuse generated during Project activities would be removed and disposed of consistent with applicable regulations, in an authorized off-site landfill facility. No refuse would be disposed of or left on site. Self-contained, portable, chemical toilets would be used for human waste. The human waste and toilet chemicals would not be buried on site.

Hazardous materials used in the Project Area would include diesel fuel, gasoline, and lubricating grease. All containers of hazardous substances would be labeled and handled in accordance with NDOT and MSHA regulations. Due to implementation of measures outlined in Sections 2.1.2 and 2.1.5, no impacts associated with hazardous and solid wastes are anticipated.

4.6.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.7 Wetlands/Riparian Zones

4.7.1 Proposed Action

There are no delineated wetlands within the Project Area; therefore, there would be no impacts to wetlands from the Proposed Action. The only riparian vegetation in the Project Area that would be impacted by the Project includes two tamarisk located at the Ford. The tamarisk plants in this portion of the Project Area constitute an extremely small portion of the total riparian habitat that exists along the Meadow Valley Wash and are considered a noxious weed. Therefore, impacts to wetland/riparian zones are considered minimal.

Construction of the Siding would be conducted adjacent to the Meadow Valley Wash in an area characterized by dry, bare ground (Figure 2.1.6 and 2.1.7) and no known wetlands have been identified for this area. In addition, construction of the Siding would be regulated by the USACE thus minimizing any impacts to the Meadow Valley Wash.

4.7.2 No Action

Under the No Action Alternative, as with the Proposed Action, there would be no impacts to wetlands within the Project Area.

4.8 Wilderness

4.8.1 Proposed Action

The Project and Proposed Siding are not within designated wilderness and there is no buffer required for activities proposed outside of the wilderness boundary. However, if Lincoln County reconstructs the public road, the visitors within portions of the wilderness areas newly accessible to the public could be affected by sights and sounds of the Proposed Action

4.8.2 No Action

Under the No Action Alternative, as with the Proposed Action, there would be no impacts to wilderness.

4.9 Geology and Minerals

4.9.1 Proposed Action

The Proposed Action would affect geology and mineral resources by excavating, modifying, or covering natural topographic and geomorphic features and by removing mineral deposits. However, removal of the mineral resource would be consistent with multiple-use management of BLM-administered lands, the General Mining Law of 1872, as amended, and the Surface Use and Occupancy Act of July 23, 1955.

No impacts to geology and minerals resources from construction or use of the Siding are anticipated.

4.9.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.10 Land Use and Access

4.10.1 Proposed Action

The Proposed Action would result in minimal impacts to land use in the Project Area. Less than one AUM would be affected, so the Proposed Action would not be the cause of any reduction in grazing. Because current access is limited there would be a negligible impact on recreation. Construction of the Siding within the UPRR easement, would not require an amendment to the easement and should not have any additional impacts to land use or access.

No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.11 Socioeconomics

4.11.1 Proposed Action

The Proposed Action and construction of the Siding would have temporary beneficial impacts on the local economies as the contract workers would obtain lodging, meals, and supplies in the nearby towns and would most likely be based out of Caliente or Moapa. No additional facilities or housing would need to be constructed and the maximum workforce of ten persons would not strain the local housing supply or other services. Therefore, impacts to socioeconomics would be temporary and minimal.

4.11.2 No Action

Under the No Action Alternative, the local community would be deprived of potential future employment opportunities and this economic use of the public lands would not occur.

4.12 Soils

4.12.1 Proposed Action

Surface disturbance associated with the Proposed Action would impact up to 46.7 acres of soils. The drainage classes for the various soils found in the Project Area are predominantly gravelly associations, which vary from well drained to excessively drained with permeability ranges from moderate to very rapid; therefore, the greatest potential source for erosion in the Project Area is by water (Table 3.19-1). The annual average precipitation is 4.7 inches; therefore, the impacts from water erosion would be slight. Road construction and mining operations would incorporate BMPs and other measures outlined in Section 2.1.5 to minimize soil erosion and storm runoff. In addition, interim seeding using the mix outlined in Table 2.1-1 would be conducted on salvaged topsoil and other disturbed areas along the Mine Access Road and within portions of the Mine Area. Upon completion of the Project activities, Mine Access Road and Mine Area disturbance would be

reclaimed and reseeded as outlined in Section 2.1.4. Following successful reclamation, soil loss due to the Proposed Action would be temporary and minimal.

The Siding would impact an additional 1.8 acres of soils. However, implementation of BMPs and other measures outline in Section 2.1 would minimize soil erosion/loss and storm runoff so this action should have temporary and minimal impacts to soils.

4.12.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.13 Vegetation

4.13.1 Proposed Action

The Proposed Action would result in surface disturbance of approximately 46.7 acres of vegetation. Road development and drilling activity would take place predominantly within the Mojave Desert Scrub vegetation community, which is the abundant vegetation type within the Project Area and in the vicinity. Topsoil located on the Mine Access Road would be salvaged, where practicable, and replaced after Project activities are completed prior to reseeded. In addition, interim seeding using the mix outlined in Table 2.1-1 would be conducted on salvaged topsoil and other disturbed areas along the Mine Access Road and within portions of the Mine Area. Reclamation of the Mine Access Road using the methods outlined in Section 2.1.4 would begin upon completion of exploration activities.

The forb species in the Mine Area are not commonly associated with forage or wildlife habitat, thus it is unlikely that the area would be utilized by bighorn sheep, desert tortoises, or other wildlife. As stated previously, due to the gypsum-rich soils, the sparse occurrence of the vegetation in the pit area, and low probability of revegetation success from seed species, no seeding is proposed in this area.

The majority of disturbance would occur in the pit area (approximately 44 acres) consisting of gypsum-rich soils in which few plants can grow. No reseeded would be required on gypsiferous soils. The gypsum-loving plants that would be removed are abundant outside of the Mine Area and would be expected to self seed. Topsoil within the pit area consists of gypsum, which would be mined as part of the Project; therefore, salvaging of topsoil within the pit area would not occur. Although individual plants may be removed, no native plant communities would be eliminated from the Project Area as a result of the Proposed Action.

As stated previously in Section 3.20, the only vegetation that would be disturbed along Meadow Valley Wash are two tamarisk plants located at the Ford. Tamarisk is a noxious species and the Tamarisk plants in this portion of the Project Area constitute an extremely small portion of the total riparian habitat that exists along the Meadow Valley Wash. In addition, reclamation measures include planting of riparian vegetation to replace the tamarisk that is removed. Impacts on riparian vegetation from the Proposed Action would be minimal.

As shown in Figures 2.1.6 and 2.1.7, the location of the proposed Siding is primarily characterized by previously disturbed, bare ground; therefore impacts to vegetation from this connected action would be minimal.

4.13.2 No Action

Under the No Action Alternative, none of the impacts or revegetation measures identified above as a result of implementation of the Proposed Action would occur.

4.14 Visual Resources

4.14.1 Proposed Action

The Proposed Action would result in short-term visual impacts principally affecting the visual elements of line and texture associated with the Mine Access Road (Appendix E). The level of change from creation of the Mine Access Road would be moderate in line and texture and weak in color. Other Project activities would be concealed by the topography and vegetation of the surrounding area. With successful reclamation of the Mine Access Road, long-term visual impacts would be minimized further. In addition, the effects of the Proposed Action on visual resources would be consistent with BLM prescribed Class IV VRM objectives.

The Siding would result in visual impacts; however, the location of the siding is already disturbed and located adjacent to the existing UPRR track. In addition, although the Siding would be constructed on the UPRR easement, the visual impacts would be consistent with the BLM Class IV VRM objectives for the surrounding area.

4.14.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.15 Wildlife

4.15.1 Proposed Action

Impacts to wildlife would consist of temporary habitat loss, displacement as the result of removal of vegetative cover, and disturbance from human activity and noise associated with blasting during road construction and mining. Approximately 46.7 acres of existing wildlife habitat would be temporarily impacted, in a phased manner, by the Proposed Action over a ten year period. Disturbance would occur in the Mojave Desert Scrub vegetation community, along the Mine Access Road portion of the Project Area, resulting in short-term loss of foraging area for mammals and nesting habitat for shrub and ground nesting birds. Large acreages of habitat similar to that which occurs along the Mine Access Road are available in the area surrounding the Project Area. The gypsum-rich soils support a limited number of forage plant species; therefore, impacts are not expected to occur to wildlife in the Mine Area.

Wildlife sensitive to human activity and noise may be temporarily displaced as a result of the Proposed Action. Construction of roads and the pit and the operation of heavy equipment may disturb wildlife due to the presence of humans and the creation of noise and dust. However, many animals could be expected to become habituated to the regular noise and resume their use of otherwise unaffected habitat. Wildlife foraging activities within the Project Area could continue to be dispersed, allowing wildlife to move around and between Project activities. Impacts to wildlife would be minimized by reclaiming disturbed areas as quickly as possible. No long-term impacts to wildlife habitat are likely to occur since reclamation and reestablishment of shrub species would likely take place within several years of Project completion. Therefore, the Proposed Action would have minimal impacts on wildlife species.

As shown in Figures 2.1.6 and 2.1.7, the location of the proposed Siding is primarily characterized by previously disturbed, bare ground; therefore impacts to wildlife from this action would be minimal.

4.15.2 No Action

Under the No Action Alternative, none of the impacts identified above as a result of implementation of the Proposed Action would occur.

4.16 Wild Horses and Burros

4.16.1 Proposed Action

As stated in Section 3.23, the Meadow Valley HMA is managed for zero horses; therefore neither the Proposed Action nor the Siding would have impacts on wild horses or burros.

4.16.2 No Action

Under the No Action Alternative, as with the Proposed Action, there would be no impacts to wild horses or burros.

5 CUMULATIVE IMPACTS

For the purposes of this EA, the cumulative impacts are the sum of all past and present actions, the Proposed Action, and reasonably foreseeable future actions (RFFAs) resulting primarily from public uses. The purpose of the cumulative analysis in the EA is to evaluate the significance of the Proposed Action's contributions to cumulative impacts. A cumulative impact is defined under federal regulations as follows: "...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7).

As required under the NEPA and the regulations implementing NEPA, this chapter addresses those cumulative effects on the environmental resources in the Cumulative Effects Study Areas (CESAs), which could result from the implementation of the Proposed Action; past actions; present actions; and RFFAs. The extent of any given CESA will vary with each resource, based on the geographic or biologic limits of that resource. As a result, the list of projects considered under the cumulative analysis may vary according to the resource being considered. In addition, the length of time for cumulative effects analysis will vary according to the duration of impacts from the Proposed Action on the particular resource.

For the purposes of this analysis and under federal regulations, "impacts" and "effects" are assumed to have the same meaning and are interchangeable. The cumulative impacts analysis was accomplished through the following three steps:

Step 1: Identify, describe, and map CESAs for each resource to be evaluated in this chapter.

Step 2: Define time frames, scenarios, and acreage estimates for cumulative impact analysis.

Step 3: Identify and quantify the location of potential specific impacts from the Proposed Action and judge these contributions to the overall impacts.

5.1 Introduction

Environmental consequences of the Proposed Action were evaluated previously in Chapter 4 for the various environmental resources. Based upon the analysis of the environmental resources, the resources, which are considered to have the potential to be cumulatively impacted by actions within the identified CESA for that resource, are discussed in the following sections. Based on the preceding analysis, the Proposed Action would not impact the following resources and would therefore not have cumulative impacts: cultural resources; environmental justice; floodplains; Native American traditional concerns; wetlands; and wilderness. In addition, socioeconomics is expected to have only temporary, beneficial impacts. These resources are not discussed further in the cumulative impacts section.

The geographical areas considered for the analysis of cumulative effects vary in size and shape to reflect each evaluated environmental resource and the potential area of impact to each from the Proposed Action as determined through the analysis in Section 4.0 (Figures 1.1.2 and 5.1.1). For this cumulative impact analysis, the Project Area is the CESA for the following resources: geology and

minerals; hazardous and solid wastes; nonnative, invasive species and noxious weeds; land use, access, and recreation; migratory birds; soils; special status species; vegetation; wildlife; and VRM (Figure 1.1.2). The CESA for water resources and air resources is the Lower Meadow Valley Wash Hydrographic Basin, which encompasses 616,846 acres (Figure 5.1.1). Table 5.1-1 outlines the CESA area by each resource.

Table 5.1-1: Cumulative Effects Study Areas for Each Resource

Resource	CESA	Resource	CESA
Air Quality	Hydrographic Basin #205	Soils	Project Area
Nonnative, Invasive Species and Noxious Weeds	Project Area	Vegetation	Project Area
Migratory Birds	Project Area	Geology and Mineral Resources	Project Area
Hazardous and Solid Wastes	Project Area	Wildlife	Project Area
Special Status Species	Project Area	Land Use and Access	Project Area
Floodplains and Water Resources	Hydrographic Basin #205	Visual Resource Management	Project Area

5.2 Past Actions

Past actions have been associated primarily with UPRR activities historic mining, livestock grazing, dispersed recreation, floods, wildland fire, fire rehabilitation, and wild horse herd gathers. The UPRR is adjacent to the Project Area along the Meadow Valley Wash (Figures 1.1.2 and 2.1.3) with disturbance associated with the track, bridges, service road, and staging areas for equipment. The Southern Nevada Complex Fires were ignited by dry lightning storms and burned approximately 740,000 acres from June 22, 2005 to July 10, 2005. Of the total areas burned, 597,096 acres were on lands managed by the Ely BLM Field Office. The fire burned approximately 80 percent (77,000 out of 97,000 acres) of the Meadow Valley Mountains HMA. The Meadow Valley Mountains Fire was located approximately 20 miles south of Caliente. The flood of January 2005 caused a great deal of damage to the UPRR tracks, bridges, and service road as well as to Meadow Valley Wash. Reconstruction of the UPRR track, bridges, and service road resulted in disturbance to Meadow Valley Wash and the adjacent areas.

5.3 Present Actions

Present actions include livestock grazing, dispersed recreation, 3, fire rehabilitation, and activities conducted by UPRR with disturbance associated with the track, bridges, service road, and staging areas for equipment. There are also a number of utility developments and ongoing mining activities within the hydrographic basin.

5.4 Reasonably Foreseeable Future Actions

The RFFAs within the CESAs include the following: 1; fire rehabilitation; mining activities, and utility developments within the hydrographic basin and reconstruction of the public road on the west side of Meadow Valley Wash. The utility developments include construction of a rail spur in the Meadow Valley Wash north of Carp for the Toquop utility project.

5.5 Cumulative Impact Analysis

5.5.1 Air Resources

Past Actions – There are no past actions that continue to cause emissions or impact air quality.

Present Actions - Present actions within the CESA that may have impacts to air resources include fire rehabilitation and construction, maintenance of the UPRR, the UPRR service road, as well as other mining activities, vehicular and train emissions, and utility operations.

RFFAs - the reconstruction of the public road with the associated dust and emissions from construction and future traffic.

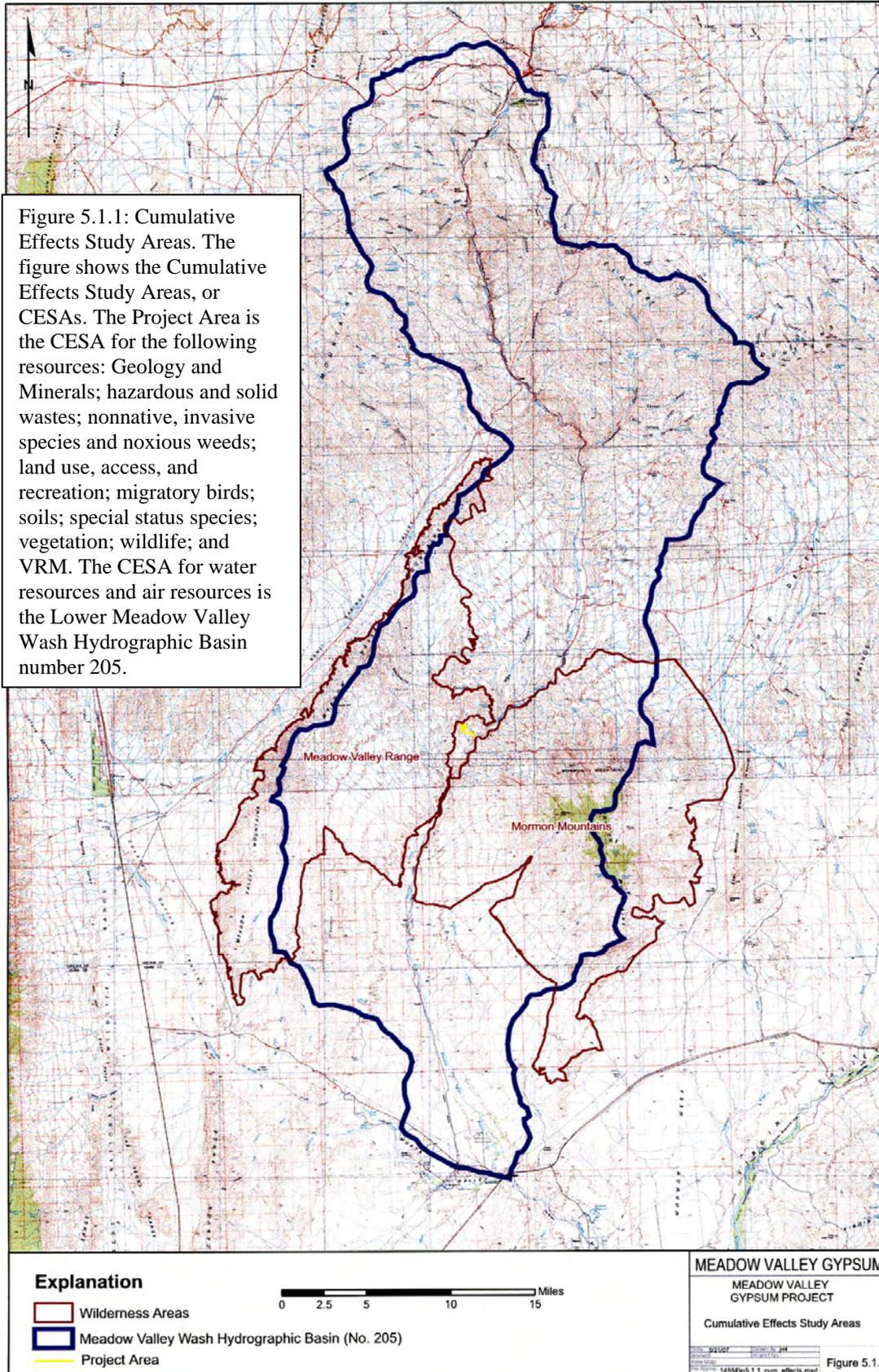
Cumulative impacts to air resources within the CESA would result from the present actions, and RFFAs when combined with the Proposed Action and the connected action. However; air pollutant emissions created by most of these actions would be regulated by the BAPC and air resource impacts would be reduced to levels that are consistent with the ambient air quality standards.

5.5.2 Floodplains/Water Quality (Drinking/Ground)

Past Actions - Construction of the UPRR, the UPRR service road, other roads, scouring caused by floods and denuding of vegetation of the watershed by wildland fires have resulted in excess (above baseline) sedimentation and runoff within the CESA.

Present Actions - Present actions such as maintenance of the UPRR track and road and livestock grazing, within the CESA contribute to the excess sedimentation and runoff; however, management of the Meadow Valley and Mormon Mountain Wilderness Areas to preserve wilderness character protects a large portion of the CESA from erosion-producing development.

RFFAs – Continued maintenance of the UPRR or UPRR service road, reconstruction of the public road and livestock grazing, would intensify the impacts of the past and present actions. Excess sedimentation and runoff caused by past and present actions, and RFFAs could result in negative impacts to downstream water quality, and exceed the capacity of the floodplain to contain runoff.



Cumulative impacts to the floodplain and water resources within the CESA would result from the past, present, and RFFAs when combined with the Proposed Action. However, cumulative impacts from the proposed action to the floodplain and water resources would be limited due to implementation of the environmental protection measures (Section 2.1.5) at the Project Area throughout the life of the Project and because water resources in the CESA are only impacted by the new siding and the Ford (low water crossing) through Meadow Valley Wash. The construction of the siding and the Ford would be conducted under a USACE permit and any impacts to the wash would be regulated and minimized.

5.5.3 Nonnative, Invasive Species and Noxious Weeds

Past Actions - Past actions including construction and maintenance of the UPRR, the UPRR service road and the public road, as well as floods, livestock grazing, and wildland fires could have resulted in the introduction and spread of nonnative, invasive species and noxious weeds and had impacts within the CESA.

Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, potential flooding, livestock grazing, or wildland fires could result in the introduction or spread of nonnative, invasive species and noxious weeds.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of public road, floods, livestock grazing, or wildland fires would have the potential to result in impacts from nonnative, invasive species and noxious weeds within the CESA.

Cumulative impacts from nonnative, invasive species and noxious weeds within the CESA as a result of the past, present, and RFFAs when combined with the Proposed Action and the connected action would be limited due to implementation of the environmental protection measures (Section 2.1.5) over the Project Area throughout the life of the Project and the implementation of construction practices outline for the Siding in Section 2.1. Impacts would be further reduced through completion of reclamation as outlined in Section 2.1.4.

5.5.4 Migratory Birds

Past Actions - Past actions including construction and maintenance of the UPRR, the UPRR service road and the public road, as well as floods, livestock grazing, and wildland fires, could have resulted in the degradation of nesting and foraging habitat. within the CESA and therefore could have had impacts to migratory birds.

Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, potential flooding, livestock grazing, or wildland fires may have impacts on migratory birds if they result in the degradation of nesting and foraging habitat.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of the public road, floods, livestock grazing, or wildland fires would have the potential to impact migratory birds within the CESA.

Cumulative impacts to migratory birds within the CESA as a result of the past, present, and RFFAs when combined with the Proposed Action and connected action would be limited due to implementation of the environmental protection measures (Section 2.1.5) at the Project Area throughout the life of the Project.

5.5.5 Special Status Species

Past Actions - Past actions include construction and maintenance of the UPRR, the UPRR service road and the public road, as well as floods, livestock grazing, and wildland fires, and could have had impacts to special status species within the CESA. These actions could have resulted in a degradation of habitat for special status species within the CESA.

Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, potential flooding, livestock grazing, or wildland fires may have impacts on special status species if they result in the degradation of habitat for these species.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction the public road, floods, livestock grazing, or wildland fires would have the potential to impact special status species within the CESA.

Cumulative impacts to special status species within the CESA as a result of the past, present, and RFFAs when combined with the Proposed Action and connected action would impact desert tortoises and have the potential to impact southwestern willow flycatchers and yellow-billed cuckoos. However, cumulative impacts to special status species would be limited due to implementation of the environmental protection measures (Section 2.1.5) and the limited amount of disturbance at the Project Area throughout the life of the Project.

5.5.6 Wastes, Hazardous and Solid

Past Actions - Past actions including construction and maintenance of the UPRR, the UPRR service road, and the county road could have resulted in production of wastes within the CESA. Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, or wildland fire suppression efforts could create waste products in the CESA.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of the public road, or wildland fire suppression efforts would have the potential to create the presence of wastes within the CESA.

There is potential for the creation of wastes within the CESA as a result of the past, present, and RFFAs when combined with the Proposed Action and connected action. However, cumulative impacts from hazardous and solid wastes would be limited due to implementation of the measures outlined in Section 2.1.2 and the environmental protection measures (Section 2.1.5) at the Project Area throughout the life of the Project. Specifically, the following measures would be implemented to address the creation and handling of hazardous and solid wastes: all refuse generated during Project activities would be removed and disposed of consistent with applicable regulations; all containers of hazardous substances would be labeled and handled in accordance with NDOT and

MSHA regulations; and in the event of a spill, control measures would be implemented and the appropriate agencies notified.

5.5.7 Geology and Minerals

Past Actions - Past exploration in the CESA consisted of gypsum prospecting, which resulted in very small disturbance footprints and no mineral resource development. Past activities in the CESA would not have resulted in minimal impacts to geology and minerals.

Present Actions - There are no present actions that would have the potential to affect geology and mineral resources within the CESA. RFFAs - There are no RFFAs that would have the potential to affect geology and mineral resources within the CESA.

The only actions leading to cumulative impacts to geology and minerals within the CESA are the past actions and the Proposed Action. The Proposed Action incorporates reclamation measures to address impacts to geology (Section 2.1.4); therefore, the cumulative impacts would be minimal and would be in keeping with the BLM's multiple-use management.

5.5.8 Land Use and Access

Past Actions - Past actions such as dispersed recreation, construction and maintenance of the UPRR, the UPRR service road and the public road, as well as floods, livestock grazing, and wildland fires could have resulted in use conflicts or access restrictions and could have had impacts on land use and access within the CESA.

Present Actions - Construction and maintenance of the UPRR tracks, bridges and service road, as well as increased railroad security measures, has resulted in restrictions on access, and conflicts with other uses and authorizations.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, in addition to the reconstruction of the public road, and floods, would have the potential to continue to impact land use and access within the CESA.

Cumulative effects to land use and access within the CESA would result from the past, present, and RFFAs when combined with the Proposed Action. However, cumulative impacts to land use and access would be limited due to the fact that current use is limited by access and there are no realty authorizations other than the UPRR easement within the CESA that would be affected.

5.5.9 Soils

Past Actions - Past actions including construction and maintenance of the UPRR, the UPRR service road and the county road, as well as floods, livestock grazing, and wildland fires could have resulted in ground disturbance and led to erosion or runoff thus impacting soils within the CESA.

Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, potential flooding, livestock grazing, or wildland fires could increase soil erosion and thus have impacts to soils.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of the public road, floods, livestock grazing, or wildland fires would have the potential to impact soils within the CESA.

Cumulative impacts to soils within the CESA would result from the past, present, and RFFAs when combined with the Proposed Action and connected action. However, cumulative impacts to soils would be limited due to use of BMPs and implementation of the environmental protection measures (Section 2.1.5) at the Project Area throughout the life of the Project and the completion of reclamation as outlined in Section 2.1.4.

5.5.10 Vegetation

Past Actions - Past actions including construction and maintenance of the UPRR, the UPRR service road and the county road, as well as floods, livestock grazing, and wildland fires could have led to a reduction in vegetation species or communities and resulted in impacts to vegetation within the CESA.

Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, potential flooding, livestock grazing, or wildland fires could disturb or reduce vegetation and result in impacts to vegetation.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of the public road, floods, livestock grazing, or wildland fires would have the potential to impact vegetation within the CESA.

Cumulative impacts to vegetation within the CESA would result from the past, present, and RFFAs when combined with the Proposed Action. Cumulative impacts to vegetation would be limited due to implementation of the environmental protection measures (Section 2.1.5) over the Project Area throughout the life of the Project and the completion of reclamation as outlined in Section 2.1.4. 23.

5.5.11 Visual Resources

Past Actions - Past actions including construction and maintenance of the UPRR, the UPRR service road and the county road, as well as floods and wildland fires, could have had impacts to visual resources within the CESA by altering the characteristics of line, form, color, and texture. Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, and potential flooding, or wildland fires could alter the characteristics of line, form, color, and texture and result in impacts on visual resources.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of the public road, wildland fires, and floods would have the potential to impact visual resources within the CESA by altering the characteristics of line, form, color, and texture.

All of the past and present actions, RFFAs, as well as the Proposed Action and connected action activities are in keeping with the Class IV VRM designation. In addition, the topography of the CESA creates a view screen from the bottom of the Meadow Valley Wash (Appendix E). The cumulative impacts to visual resources would be minimal.

5.5.12 Wildlife

Past Actions - Past actions could have had impacts to wildlife within the CESA by reducing cover or forage or disturbing habitat.

Present Actions - Present actions within the CESA such as construction and maintenance of the UPRR and UPRR service road, potential flooding, livestock grazing, or wildland fires may reduce cover or forage or disturb habitat and result in impacts to wildlife.

RFFAs - Further construction and maintenance of the UPRR or UPRR service road, reconstruction of the public road, floods, livestock grazing, or wildland fires would have the potential to impact wildlife within the CESA.

Cumulative impacts to wildlife within the CESA would result from the past and present actions and RFFAs when combined with the Proposed Action and connected action. Cumulative impacts to wildlife would be limited due to implementation of the environmental protection measures (Section 2.1.5) at the Project Area throughout the life of the Project and the completion of reclamation as outlined in Section 2.1.4.

5.6 Proposed Mitigation Measures

Mitigation has been included as part of the Proposed Action (Section 2.1.5) and may also include measures for desert tortoises outlined in Appendix G.

5.7 Suggested Monitoring

Monitoring measures have been included as part of the Proposed Action (Section 2.1.5) and no additional mitigation is proposed.

6 CONSULTATION AND COORDINATION

This EA was prepared at the direction of the BLM, Ely Field Office, Ely, Nevada, by Enviroscientists, Inc., under a contract with MVG. The following is a list of individuals responsible for preparation of the EA.

6.1 List of Preparers

Bureau of Land Management, Ely Field Office

Bill Wilson	Project Lead
Kari Harrison	Air Quality, Water Quality, Floodplains, Soils
Bonnie Waggoner	Nonnative, Invasive Species and Noxious Weeds
Chris Mayer	Range
Steve Abele	Riparian/Wetlands, Migratory Birds, Vegetation, Wildlife, Special Status Species
Alicia Styles	Riparian/Wetlands, Migratory Birds, Vegetation, Wildlife, Special Status Species
Jared Bybee	Wild Horse and Burro Specialist
Steve Leslie	Wilderness, VRM
Jack Tribble	Recreation
Doris Metcalf	Lands
Melanie Peterson	Wastes, Hazardous and Solid
Elvis Wall	Native American Religious Concerns
Susan Howle	NEPA Coordinator
Karen Prentice	UPRR Coordinator, Meadow Valley Wash Project Manager
Mark Henderson	Cultural Resources

Enviroscientists, Inc.

Richard DeLong	Project Principal
Opal Adams	Project Manager, Geology
Michele Lefebvre	Nonnative, Invasive Species, Migratory Birds, Special Status Species, Vegetation, Wildlife
Clay Postlethwaite	Air Quality
Jennifer Thies	Environmental Justice, Land Use, Range/Livestock Grazing, Socioeconomics, Visual Resources, Soils, Recreation, Water Resources, Wetlands/Riparian Zones, Hazardous and Solid Wastes, Native American Religious Concerns, Floodplains

Meadow Valley Gypsum

Les Thrasher
Norm Harvey

6.2 Persons, Groups, and Agencies Contacted

Federal Agencies

Michael Burroughs and/or USFWS
Christiana Manville
Susan Nall USACE
Steve Roberts USACE
Amy Miller USEPA

State Agencies

Brad Hardenbrook NDOW
Todd Suessmith NDEP, BMRR

Native Americans

Lora Tom, Chairperson Paiute Indian Tribe of Utah
Kami Miller, Chairperson Moapa Band of Paiutes
Alfreda L. Mitre, Chairperson Las Vegas Paiute Tribe
Rube Sam, Chairperson Duckwater Shoshone Tribe
Diana Buckner, Chairperson Ely Shoshone Tribe
Rupert Steele, Chairman Confederated Tribes of the Goshute Indian Reservation

Industries/Businesses

Kent Hargraves UPRR

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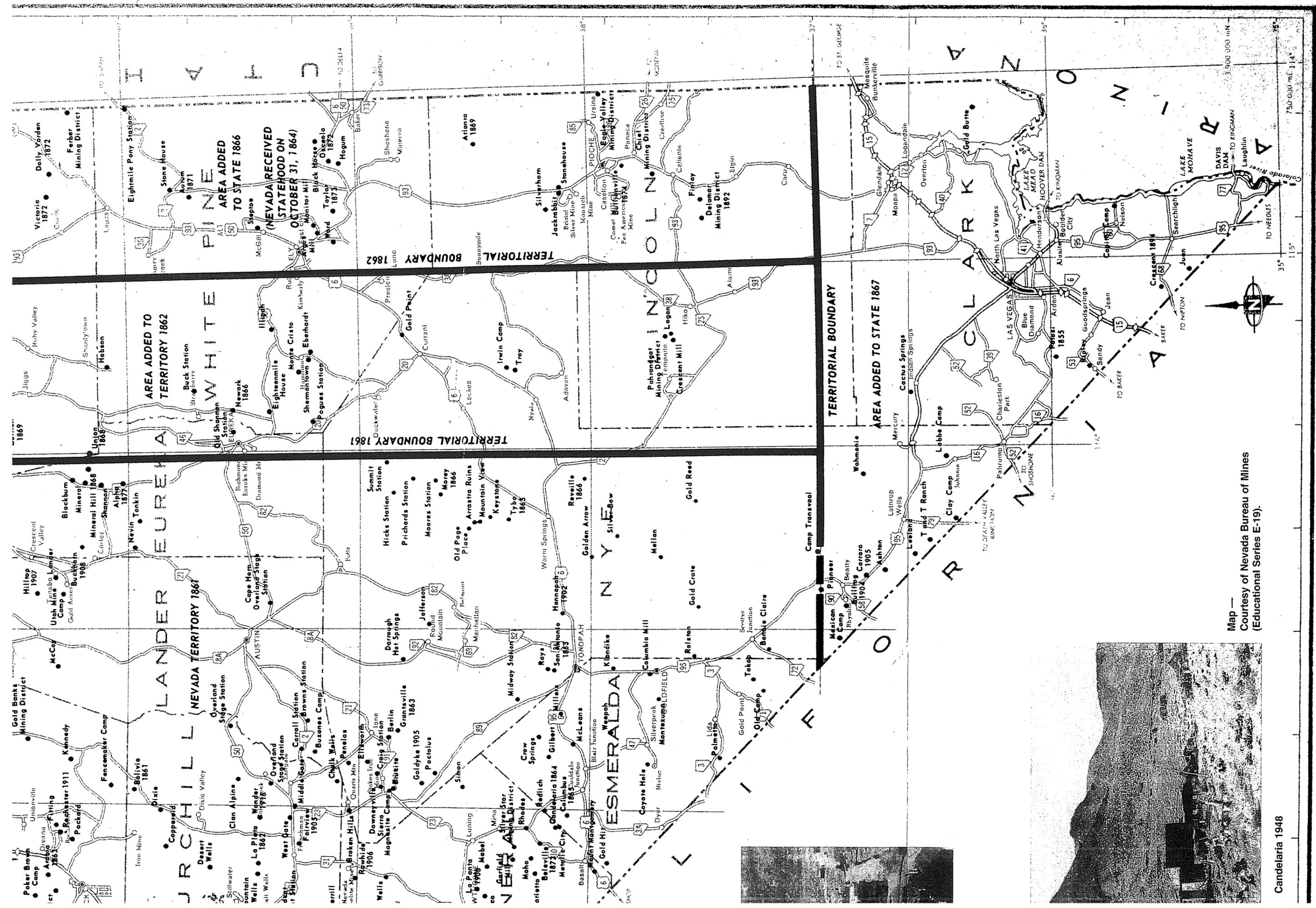
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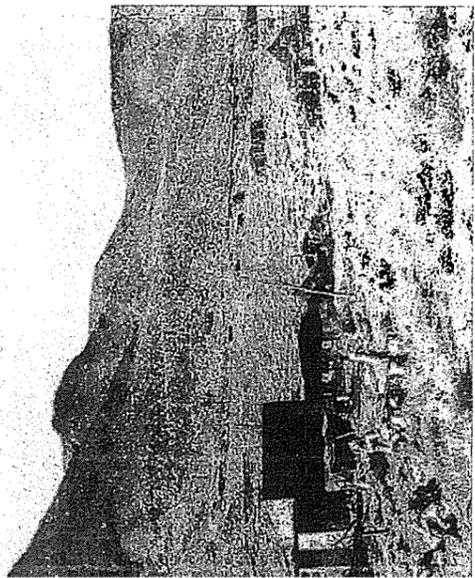
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APPENDIX A

**PORTION OF HISTORIC MINING MAP SHOWING
PUBLIC ROAD THROUGH MEADOW VALLEY WASH**



Map —
 Courtesy of Nevada Bureau of Mines
 (Educational Series E-19).



Candelaria 1948

APPENDIX B

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT



Enviroscientists, Inc.

4600 Kietzke Lane, Suite C129
Reno, Nevada 89502
Phone: (775) 826-8822 Fax (775) 826-8857
www.enviroincus.com

FILE

Office Locations:

Reno, Nevada
Elko, Nevada

July 27, 2006

via Certified Mail

Mr. Steve Roberts
St. George Regulatory Office
Corps of Engineers
321 N. Mall Dr., Suite L-101
St. George, Utah 84790

Re: Meadow Valley Gypsum Project, Lincoln County, Nevada; 404 Permit Application

Dear Mr. Roberts:

Enviroscientists, Inc., (Enviroscientists) has been retained by Mr. Les Thatcher and Mr. Norm Harvey to provide the enclosed application (ENG FORM 4345) to construct a low water crossing (ford) for the Meadow Valley Gypsum Project located in Lincoln County, Nevada. We know that the area has probable habitat for the Desert Tortoise. The BLM has submitted a consultation letter to the U.S. Fish & Wildlife Service (USFWS) for their input on the project. Would you please advise either me or Mr. Bill Wilson of the Ely Field Office of the Bureau of Land Management (BLM) on how you wish to coordinate the Corps of Engineers' consultation with the USFWS? Mr. Wilson can be reached at (775) 289-1882.

Enviroscientists appreciates the help that you gave over the phone. The BLM has been copied on this letter and application so that we can make sure all of our communication is complete and transparent for all of the agencies involved. If you have any questions, please contact our office at (775) 826-8822.

Sincerely,

Enviroscientists, Inc.

Opal Adams
Vice President

OA:ns

cc: Mr. Bill Wilson - BLM - Ely, NV w/enclosure
Mr. Norm Harvey - MVG - Sonora, CA w/enclosure
Mr. Les Thrasher - MVG - Las Vegas, NV w/o enclosure

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT
(33 CFR 325)

OMB APPROVAL NO. 0710-003

FILE

Public reporting burden for this collection of information is estimated to average 5 hours per response, including the time for reviewing instructions, Searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States; the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

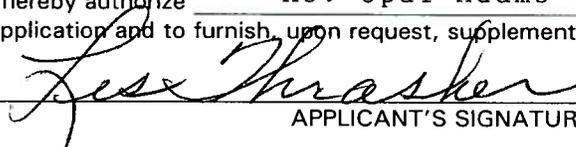
1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME Mr. Les Thrasher	8. AUTHORIZED AGENT'S NAME & TITLE (an agent is not required) Enviroscientists, Inc. Opal Adams, Vice President
6. APPLICANT'S ADDRESS 10629 Heritage Hills Dr. Las Vegas, Nevada 89134	9. AGENT'S ADDRESS 4600 Kietzke Lane, Suite C129 Reno, Nevada 89502
7. APPLICANT'S PHONE NUMBERS WITH AREA CODE a. Residence (702) 221-6466 b. Business (702) 221-6466	10. AGENT'S PHONE NUMBERS WITH AREA CODE a. Residence (775) 826-8822 b. Business (775) 826-8822

11. STATEMENT OF AUTHORIZATION

I hereby authorize Ms. Opal Adams to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.


APPLICANT'S SIGNATURE

7/22/06
DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) Meadow Valley Gypsum	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Meadow Valley Wash	14. PROJECT STREET ADDRESS (if applicable) NA
15. LOCATION OF PROJECT COUNTY Lincoln STATE Nevada	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) See attachment Block 16	
17. DIRECTIONS TO THE SITE See attachment Block 17.	

18. NATURE OF ACTIVITY (Description of project, include all features)

See attachment Block 18.

19. PROJECT PURPOSE (Describe the reason or purpose of the project, see instructions)

See attachment Block 19.

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. REASON(S) FOR DISCHARGE

See attachment Block 20.

21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS

See attachment Block 21.

22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (see instructions)

See attachment Block 22.

23. IS ANY PORTION OF THE WORK ALREADY COMPLETE? YES NO IF YES, DESCRIBE THE WORK

24. ADDRESSES OF ADJOINING PROPERTY OWNERS, LESSEES, ETC. WHOSE PROPERTY ADJOINS THE WATERBODY (If more than can be entered here, please attach a supplemental list)

See attachment Block 24.

25. LIST OF OTHER CERTIFICATIONS OR APPROVALS/DENIALS RECEIVED FROM OTHER FEDERAL, STATE, OR LOCAL AGENCIES FOR WORK DESCRIBED IN THIS APPLICATION

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
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See attachment Block 25.

* Would include but is not restricted to zoning, building and flood plain permits.

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Les Washer
SIGNATURE OF APPLICANT 7/22/06
DATE

SIGNATURE OF AGENT _____
DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

Block 16 Other Location

Sections 27, 28, and 34 of Township 10 South, Range 66 East), Mount Diablo Base and Meridian Latitude 37°02'42", Longitude 114°35'40"

Block 17 Directions

The proposed project is located approximately 50 miles south of Caliente, Nevada. The site is reached by traveling from Caliente 0.6 mile on US Highway 93 to the intersection with Nevada State Route (SR) 317. Travel on SR 317 for approximately 21 miles to Elgin, Nevada. Turn left onto Kane Springs Road (portions are unpaved), travel for approximately 13 miles to County Road 4230. Travel approximately 3.5 miles south to the town of Carp. Continue traveling southwesterly along the railroad for approximately seven miles. The ford site is located approximately two miles southeast of the Vigo Siding.

Block 18. NATURE OF ACTIVITY

Meadow Valley Gypsum (MVG) proposes to mine gypsum (Proposal) in Lincoln County, Nevada, in an area between the Meadow Valley Mountains and the Mormon Mountains, approximately 40 miles south of Caliente, Nevada (Figure 1 Vicinity Map, all figures are included in Appendix A). The Meadow Valley and Mormon mountain ranges are separated by a Union Pacific railroad (UPRR) track and the Meadow Valley Wash road. The gypsum mine would be located approximately 1.5 miles from the UPRR track and existing road which follows an historic route along the Meadow Valley Wash. All project activities would be located on public land administered by the BLM in Sections 27, 28, and 34 of Township 10 South, Range 66 East (T10S, R66E), Mount Diablo Base and Meridian (MDB&M) (Project Area) (Figure 2). The Proposal includes mining the gypsum deposit in phases over ten years. A total of approximately 47 acres of public land would be disturbed over the life of the Project with 0.13 acre of that disturbance within the Meadow Valley Wash as detailed in this Application.

The construction of a low water reinforced crossing in the Meadow Valley Wash (Figures 3 and 4) would be required to reach the beginning of the proposed access road. The ford would be constructed using material from an existing pit on private property downstream from the site that contains the same lithologic material as exists along the streambed. Water is intermittent and flows in this particular part of the wash only in very wet years for only a few months. When water is present, it is confined to two to three shallow, narrow streams that have cut through the silty banks. The largest channel is 58 feet wide and approximately four feet deep. The other channels are three to ten feet wide and one to two feet deep. The flood plain for the stream is much wider than the stream channels; therefore, the reinforced crossing would be expected to cross the entire wash for a total of approximately 450 feet. Best Management Practices (BMPs) for sediment control would be employed during construction, operation, and reclamation to minimize sedimentation from disturbed areas.

Block 19. PROJECT PURPOSE

The purpose of the Project is to provide access from the Union Pacific right-of-way via a ford across Meadow Valley Wash to the starting point of the access road for the Meadow Valley Gypsum mine site and processing plant. The Meadow Valley Wash flood plain (bed and bank) at the ford site is approximately 450 feet wide. The wash is cut by two narrow channels that will require fill. This stretch of Meadow Valley Wash has running water only in very wet years. After many years without flooding, in 2005 there were two floods that did extensive damage to roads, culverts, and other items associated with the railroad. The flood waters scoured this part of the wash removing most of a dense stand of salt cedar and creating two channels where only one existed before. In an effort to provide uninterrupted flow of water, when it is present, Meadow Valley Gypsum plans to fill the channels with material that would not impede water or organisms in the water from passing through the material. The ford will be approximately 450 long and 12 feet wide. The equipment that will be used to construct the ford are dump trucks and a frontend loader. The work will begin as soon as the Plan of Operations and Environmental Assessment are approved in approximately four months.

Block 20. REASON FOR DISCHARGE

Material will be placed in the drainage to provide safe passage for street legal haulage trucks to haul gypsum products from the mine and processing site to Carp, Nevada.

Block 21. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT IN CUBIC YARDS

Drain Rock (limestone or sandstone three to six inches in size): 100 Cubic Yards
Coarse Base Rock (limestone or sandstone 0.5 to 2.5 inches in size):60 Cubic Yards
Gravel (limestone or sandstone 0.25 to 1.5 inches in size): 430 Cubic Yards

The material in the wash in the immediate area of the planned ford is composed primarily of layered fine silt and sand full of organic material. This material will not be disturbed. Material that will be placed into the wash will consist of varying sizes of limestone and sandstone recovered from a borrow pit located on private property. The material will be sorted and washed off site before being placed in the wash. The base of the channel will receive up to three feet of drain rock three to six inches in size, overlain by up to one-foot of coarse base material up to 2.5 inches in size. Overlying the drain rock and coarse base will be up to 12 inches of gravel ranging in size from 0.25 to 1.5 inches.

Block 22. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED

The distance across the Meadow Valley Wash is 450 feet with a road width of 12 feet. This would result in 0.13 acre of surface area within the drainage. The equipment that will be used to construct the ford are dump trucks and a frontend loader.

Block 24.

Union Pacific Contact List
Company Mailing Address and Phone

Union Pacific Railroad
1400 Douglas Street
Omaha, NE 68179

UP Main Number: 402-544-5000
UP Operator: 888-870-8777

Bureau of Land Management
Ely Field Office
702 North Industrial Way
HC33 Box 33500
Ely, Nevada 83901-9408

Phone: (775) 289-1800
Fax: (775) 289-1910

Block 25 Other Certifications

Bureau of Land Management, Plan of Operations Permit, 3809 (NV043) N79685, Jan 2006, in progress
NDEP Bureau of Air Pollution Control, Air Quality Permit, not yet applied for
NDEP Bureau of Mining Regulation and Reclamation, Reclamation Permit, in progress
US Fish & Wildlife Service, Section 7 Consultation, in progress

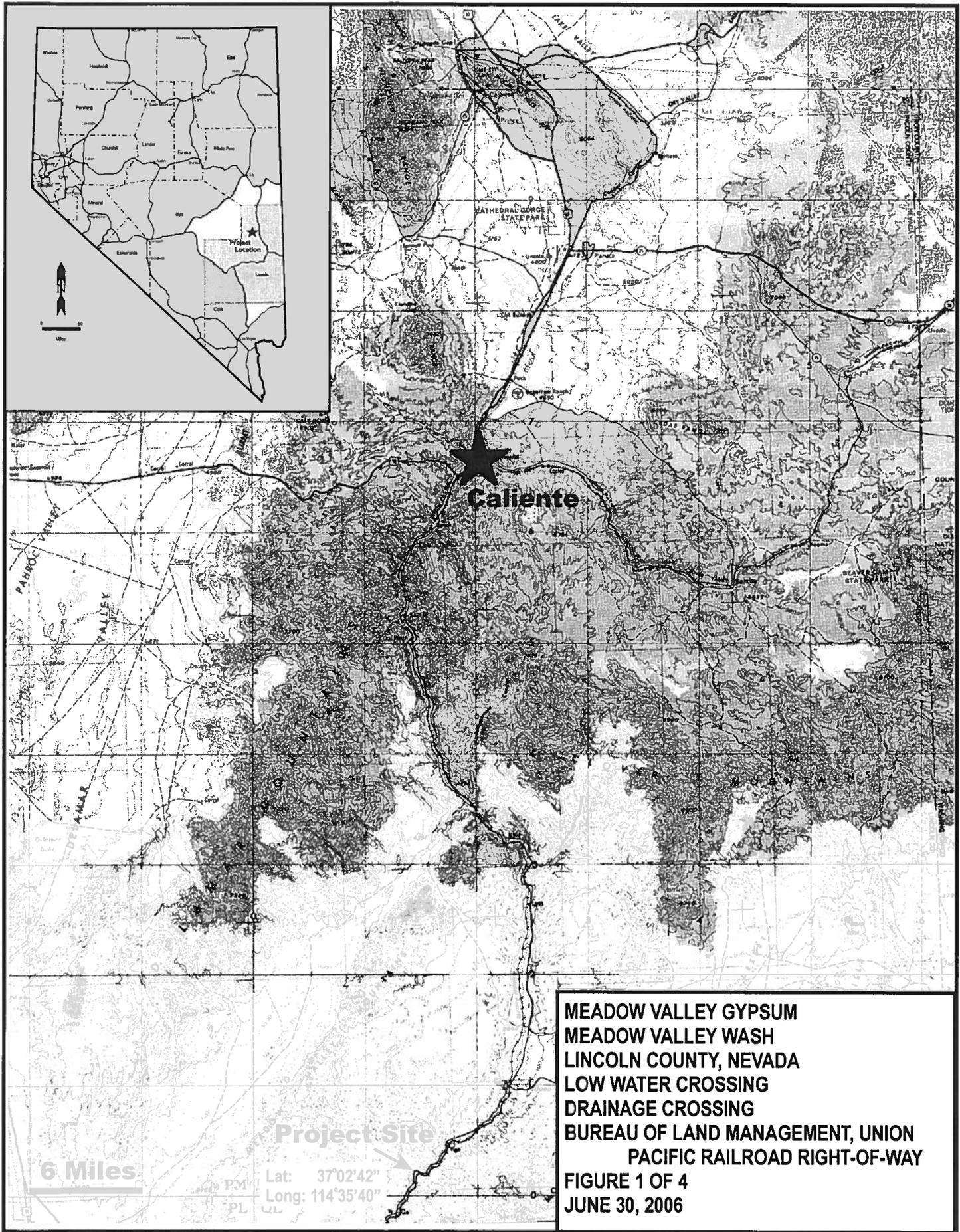


Figure 1 Vicinity Map

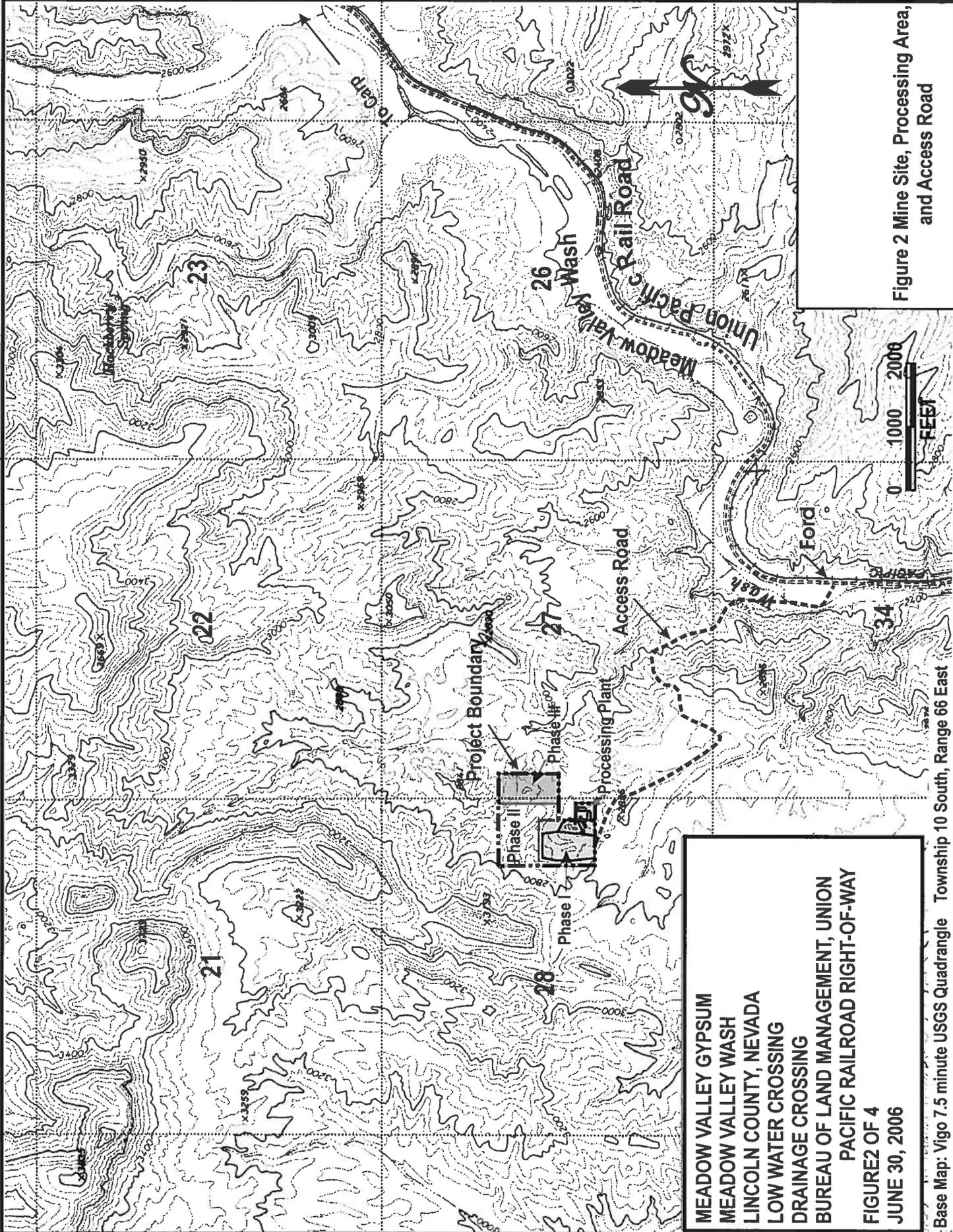
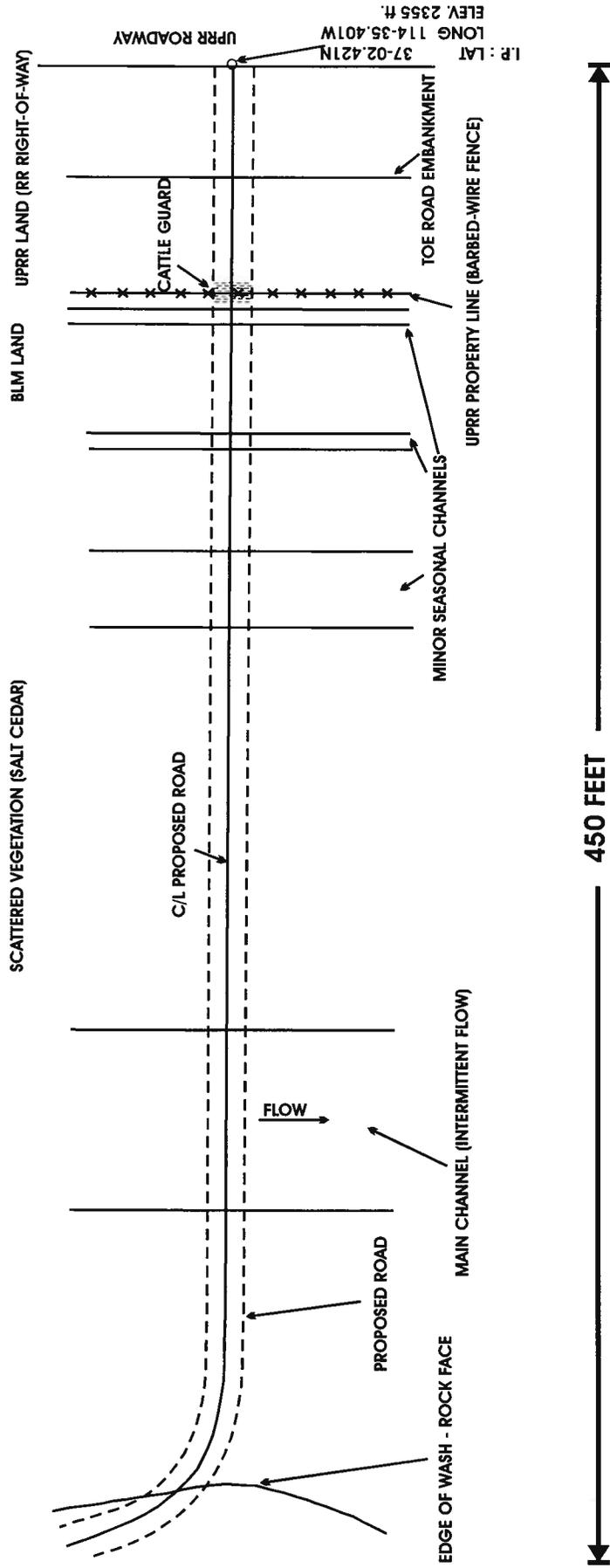


Figure 2 Mine Site, Processing Area, and Access Road

MEADOW VALLEY GYPSUM
 MEADOW VALLEY WASH
 LINCOLN COUNTY, NEVADA
 LOW WATER CROSSING
 BUREAU OF LAND MANAGEMENT, UNION
 PACIFIC RAILROAD RIGHT-OF-WAY
 FIGURE 2 OF 4
 JUNE 30, 2006

Base Map: Vigo 7.5 minute USGS Quadrangle Township 10 South, Range 66 East

PLAN VIEW

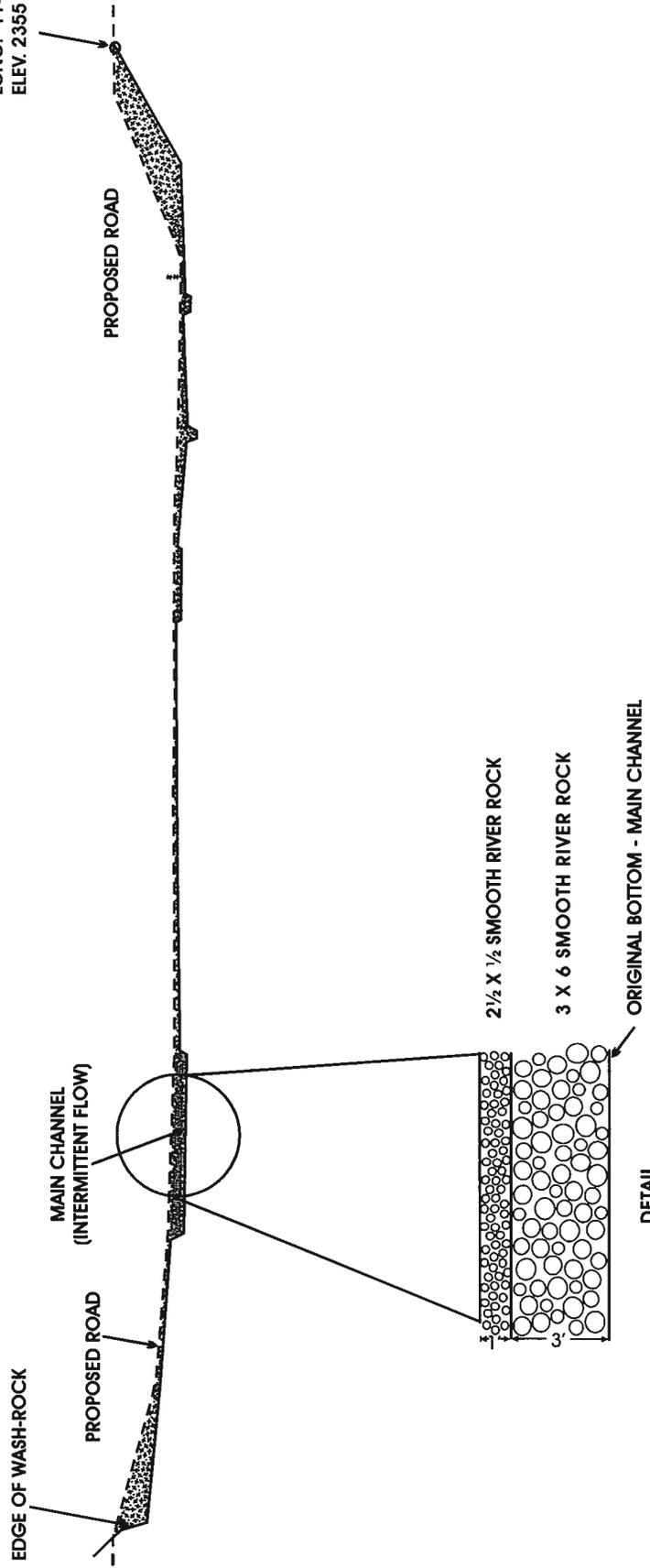


MEADOW VALLEY GYPSUM
 MEADOW VALLEY WASH
 LINCOLN COUNTY, NEVADA
 LOW WATER CROSSING
 DRAINAGE CROSSING
 BUREAU OF LAND MANAGEMENT, UNION
 PACIFIC RAILROAD RIGHT-OF-WAY
 FIGURE 3 OF 4
 JUNE 30, 2006

SCALE: 1 inch = 50 feet

CROSS-SECTION

I.P. : LAT. 37-02.421N
 LONG. 114-35.401W
 ELEV. 2355 ft.



CROSS SECTION LOOKING NORTH

SCALE: 1 inch = 50 feet

MEADOW VALLEY GYPSUM
 MEADOW VALLEY WASH
 LINCOLN COUNTY, NEVADA
 LOW WATER CROSSING
 DRAINAGE CROSSING
 BUREAU OF LAND MANAGEMENT, UNION
 PACIFIC RAILROAD RIGHT-OF-WAY
 FIGURE 4 OF 4
 JUNE 30, 2006

APPENDIX C

NOXIOUS WEED ASSESSMENT

NOXIOUS WEED RISK ASSESSMENT FOR THE MEADOW VALLEY GYPSUM PROJECT

On May 24 and 25, 2006, Enviroscientists, Inc. completed a noxious weed survey on behalf of Meadow Valley Gypsum (MVG) for a gypsum mining project. The project is 46.7 acres and is located on public lands in Lincoln County, Nevada, in the area legally described as parts of Sections 27, 28, and 34 of Township 10 South, Range 66 East, Mount Diablo Base and Meridian.

For this project, the first factor rate assessing the likelihood of noxious weed species spreading to the project area can be described as “low,” with a rating of one (Table 1). A first factor rate of one is defined as having “noxious weed species present in areas adjacent to but not within the project area. Project activities can be implemented to prevent the spread of noxious weeds into the project area.” The only noxious weed located during the field survey was tamarisk (*Tamarix ramosissima*). This species was present only near the Meadow Valley Wash. MVG proposes to construct a ford to cross the Meadow Valley Wash and would remove a small number of tamarisk within the project area. Conditions present along the rest of the proposed road and the project area have enough water to sustain this species. Therefore, the potential of spread into other portions of the project area are unlikely.

Table 1. Factor 1 Ratings and Descriptions

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

For this project, the second factor assessing the consequences of noxious weed establishment in the project area can be described as “low,” with a rating of one (Table 2). A second factor rate of two is defined as having no expected cumulative effects.

Table 2. Factor 2 Ratings and Descriptions

Factor 2 Rating	Description
Low (1-3)	No cumulative effects expected.
Moderate (4-7)	Possible adverse effects on site and possible expansion of infestation within the project area. Cumulative effects on native plant communities are likely, but limited.
High (8-10)	Obvious adverse effects within the project area and probable expansion of noxious weed infestations to areas outside the project area. Adverse cumulative effects on native plant communities are probable.

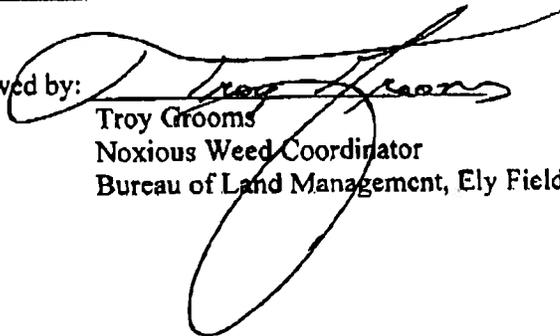
For this project, the risk rating (obtained by multiplying the first factor by the second factor) is also “low,” with a rating of one (Table 3). With a risk rating of one, the project may proceed as planned. Control measures should be initiated on noxious weed populations that get established in the area. MVG will also utilize Best Management Practices and adopt preventative measures to reduce the risk of introduction or spread of noxious weeds into the area. MVG would reseed the project area with a seed mix approved by the Bureau of Land Management.

Table 3. Risk Ratings and Descriptions

Risk Rating	Description
None (0)	Proceed as planned.
Low (1-10)	Proceed as planned. Initiate control treatment on noxious weed populations that get established in the area.
Moderate (11-49)	Develop preventative management measures for the proposed project to reduce the risk of introduction or spread of noxious weeds into the area ... Monitor the area for at least three consecutive years and provide for control of newly established populations of noxious weeds and follow-up treatment for previously treated infestations.

Risk Rating	Description
High (50-100)	Project must be modified to reduce risk level through preventative management measures, including seeding with desirable species to occupy disturbed sites and controlling existing infestations of noxious weeds prior to project activity, washing all work vehicles before entering the site and at regular intervals throughout the project, requiring project advocate to watch for, report, and eradicate small weed patches in their project area, incorporating weed detection into project compliance inspection activities, encouraging the advocate to attend weed identification workshops when offered. Project must provide at least five consecutive years of monitoring and follow up weed treatment for previously treated infestations.

Reviewed by:



8/31/06

Troy Grooms
Noxious Weed Coordinator
Bureau of Land Management, Ely Field Office

APPENDIX D

SPECIES LIST FOR THE MEADOW VALLEY GYPSUM PROJECT,

LINCOLN COUNTY, NEVADA,

BY THE UNITED STATES FISH AND WILDLIFE SERVICE



United States Department of the Interior



FISH AND WILDLIFE SERVICE

Nevada Fish and Wildlife Office

1340 Financial Blvd., Suite 234

Reno, Nevada 89502

Ph: (775) 861-6300 ~ Fax: (775) 861-6304

RECEIVED August 16, 2006

File No. 1-5-06-SP-540

Ely, NV

Memorandum

To: Field Manager, Ely Field Office, Bureau of Land Management, Ely, Nevada

From: Field Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Species List for the Meadow Valley Gypsum Project, Lincoln County, Nevada

This responds to your letter dated July 18, 2006, requesting information on endangered and threatened species that might occur within the proposed Meadow Valley Gypsum Project located in Lincoln County, Nevada. The project is located approximately 40 miles south of Caliente and extends from Meadow Valley Wash west approximately 1.5 miles where the mining will occur. The following federally listed species may occur in the project area:

- Desert tortoise (*Gopherus agassizii*) (Mojave population), threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*), endangered
- Yellow-billed cuckoo (*Coccyzus americanus*) (Western U.S. DPS), candidate

This response fulfills the requirement of the Fish and Wildlife Service to provide information on federally listed species pursuant to section 7(c) of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.), for projects that are authorized, funded, or carried out by a Federal agency. The yellow-billed cuckoo is a candidate species that receives no legal protection under the Act, but could be proposed for listing in the near future. Consideration of candidate species during project planning may assist species conservation efforts and may prevent the need for future listing actions.

The Nevada Fish and Wildlife Office no longer provides species of concern lists. Most of these species for which we have concern, are also on the sensitive species list for Nevada maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's sensitive species list and are partnering with them to provide distribution data and information on the conservation needs for sensitive species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities

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of native plants, animals, and their habitats, particularly those most vulnerable to extinction or are in serious decline. Consideration of these sensitive species and exploring management alternatives early in the planning process can provide long-term conservation benefits and avoid future conflicts.

For a list of sensitive species by county, visit Heritage's website at www.heritage.nv.gov. For a specific list of sensitive species that may occur on the property, you can obtain a data request form from the website or by contacting Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, 775-684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the Act. During project analyses, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

We are particularly concerned that the proposed project may directly or indirectly affect native fish and amphibian species in the Meadow Valley Wash. The Meadow Valley Wash desert sucker (*Catostomus clarki* ssp.) and Meadow Valley Wash speckled dace (*Rhinichthys osculus* ssp.) are two undescribed native subspecies that only occur in Clover Creek and Meadow Valley Wash. The Meadow Valley Wash desert sucker is classified as a sensitive species by the State of Nevada (NAC 503.067). The Arizona toad (*Bufo microscaphus*) is a relatively rare amphibian that occurs in Clover Creek and Meadow Valley Wash. It is important that these native species be considered during project planning in coordination with the Nevada Department of Wildlife. Any erosion from surface disturbance, on-site runoff and discharge of materials, chemicals, etc. during the initial establishment of the mine and throughout its operation should be appropriately contained on-site and disposed of in the proper manner in accordance with Federal and State regulations.

Our agency also holds conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et. seq.). Projects should be evaluated for potential impacts to migratory birds in the area. Under the MBTA, nests (nests with eggs or young) of migratory birds may not be harmed, nor may migratory birds be killed. Such destruction may be in violation of the MBTA. Therefore, we recommend land clearing, or other surface disturbance associated with proposed projects, be conducted outside the avian breeding season to avoid potential destruction of bird nests or young, or birds that breed in the area. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Field Manager

File No. 1-5-06-SP-540

Please reference File No. 1-5-06-SP-540 in future correspondence concerning this species list. If you have any questions regarding this correspondence or require additional information, please contact Christiana Manville in our Southern Nevada Field Office at (702) 515-5230.

Cynthia T. Martinez
for Robert D. Williams

cc:
Supervisory Biologist – Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

APPENDIX E

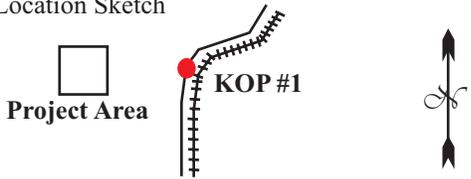
KOP ASSESSMENT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date:	January 17, 2006
District:	Ely District
Resource Area:	Ely Field Office
Activity (program):	Mining

SECTION A. PROJECT INFORMATION

1. Project Name: Meadow Valley Gypsum	4. Location: Meadow Valley Wash, Lincoln Co., Nevada Township 10 South Range 66 East Sections 27, 28, and 34	Location Sketch 
2. Key Observation Point: KOP#1 from Union Pacific Railroad		
3. VRM Class: IV		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Foreground: Railroad embankment/wash Middleground: Dry seasonal floodplain Background: Low hills with outcrops	Irregular foreground with sparse vegetation Sparse low vegetation/patchy Tamerisk Low even desert vegetation in background with some taller Joshua trees	Barbed wire fence in foreground None in middleground None in background
LINE	Linear foreground and middleground Linear, well bedded outcrop in background with some vertical components	Linear aspect in foreground and middleground Uniform to linear background	Barbed wire fence in foreground None in middleground None in background
COLOR	Light beige foreground Light green and yellow middleground Light green background with red and pink outcrops	Dark green in foreground Yellow, pink, and medium green in middleground Light green and yellow in background	Barbed wire fence in foreground None in middleground None in background
TEXTURE	Very coarse textured foreground Medium textured middleground Fine textured background	Very fine to rough in foreground Coarse middleground Medium-grained to uniform background	Flat in foreground None in middleground None in background

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Low uniform width low water crossing. Road crosscutting hillside.	Same	None
LINE	Perpendicular to wash (crosscutting linear feature). Road cutting hillside at an angle.	Same	None
COLOR	Beige and pink. Pink and red.	Same	None
TEXTURE	Fine to coarse-grained. Fine to medium-grained.	Same	None

SECTION D. CONTRAST RATING

SHORT TERM **LONG TERM**

1.	DEGREE OF CONTRAST	FEATURES												2. Does project design meet visual resource management objectives? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	3. Additional mitigating measures recommended <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (Explain on reverse side)
ELEMENTS	FORM		✓					✓					✓	
	LINE		✓					✓					✓	
	COLOR			✓				✓					✓	
	TEXTURE			✓			✓						✓	

SECTION D. (Continued)

Comments from item 2.

The VRM Class in this area is rated at IV. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic landscape elements. The only portion of the Project that will be observed from the KOP is the road that will continue up the hillside across the drainage. This change will be briefly visible to individuals while driving through the area.

Additional Mitigating Measures (See item 3).

No additional mitigation measures are recommended because this is a VRM Class IV area, which allows for major changes to the landscape.



Looking west at the area where the low water crossing and access road would cross Meadow Valley Wash.

APPENDIX F

NEVADA NATURAL HERITAGE PROGRAM DATABASE SEARCH



Nevada Natural Heritage Program
Nevada Department of Conservation and Natural Resources
Richard H. Bryan Building



901 South Stewart Street, suite 5002 • Carson City, Nevada 89701-5245, U.S.A.
tel: (775) 684-2900 • internet: <http://heritage.nv.gov>

19 January 2006

Kristin F. Kuyper
Enviroscientists, Inc.
4600 Kietzke Lane, Suite C-129
Reno, NV 89502

RECEIVED

JAN 21 2006

ENVIROSCIENTISTS

RE: Data request received 19 January 2006

Dear Ms. Kuyper:

We are pleased to provide the information you requested on endangered, threatened, candidate, and/or At Risk plant and animal taxa recorded within or near the Meadow Valley Gypsum Mine Project area. We searched our database and maps for the following:

Township 10S Range 66E Sections 27, 28 and 34

The enclosed printout lists the taxa recorded within the given area. Please be aware that habitat may also be available for, the Meadow Valley Wash speckled dace, *Rhinichthys osculus* ssp. 11, a Nevada Bureau of Land Management (BLM) Sensitive Species, and the Meadow Valley Wash desert sucker, *Catostomus clarkii* ssp. 2, a Nevada BLM Sensitive Species. We do not have complete data on various raptors that may also occur in the area; for more information contact Ralph Phenix, Nevada Division of Wildlife at (775) 688-1565. Note that all cacti, yuccas, and Christmas trees are protected by Nevada state law (NRS 527.060-.120), including taxa not tracked by this office.

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

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

Sincerely,

Eric S. Miskow
Biologist III/Data Manager

At Risk Taxa Recorded Near the Meadow Valley Gypsum Mine Project Area

Compiled by the Nevada Natural Heritage Program for Enviroscientists, Inc.

19 January 2006

<u>Scientific name</u>	<u>Common name</u>	<u>Usfws</u>	<u>Blm</u>	<u>Usfs</u>	<u>State</u>	<u>Srank</u>	<u>Grank</u>	<u>Lat</u>	<u>Long</u>	<u>Prec</u>	<u>Last observed</u>
Reptiles											
<i>Gopherus agassizii</i>	desert tortoise (Mojave Desert pop.)	LTNL	S	T	YES	S2S3	G4	370318N	1143426W	S	1987-1990
<i>Heloderma suspectum cinctum</i>	banded Gila monster	xC2NL	N;C		YES	S2	G4T4	T102S	R0660E	S	1992-03
<i>Heloderma suspectum cinctum</i>	banded Gila monster	xC2NL	N;C		YES	S2	G4T4	T102S	R0660E	S	1992-03

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

LT Listed Threatened - likely to be classified as Endangered in the foreseeable future if present trends continue
 x C2 Former Category 2 Candidate, now species of concern
 NL Not Listed (no status) in a portion of the species' range

Bureau of Land Management (Blm) Species Classification:

S Nevada Special Status Species - USFWS listed, proposed or candidate for listing, or protected by Nevada state law
 N Nevada Special Status Species - designated Sensitive by State Office
 C California Special Status Species (see definition S and N)

United States Forest Service (Usfs) Species Classification:

T Region 4 and/or Region 5 Threatened species

Nevada State Protected (State) Species Classification:

Fauna:
 YES Species protected under NRS 501.

Precision (Prec) of Mapped Occurrence:

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

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

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

G Global rank indicator, based on worldwide distribution at the species level
 T Global trinomial rank indicator, based on worldwide distribution at the infraspecific level
 S State rank indicator, based on distribution within Nevada at the lowest taxonomic level

- Critically imperiled and especially vulnerable to extinction or extirpation due to extreme rarity, imminent threats, or other factors
- Imperiled due to rarity or other demonstrable factors
- Vulnerable to decline because rare and local throughout its range, or with very restricted range
- Long-term concern, though now apparently secure; usually rare in parts of its range, especially at its periphery
- Demonstrably secure, widespread, and abundant

A Accidental within Nevada
 B Breeding status within Nevada (excludes resident taxa)
 H Historical; could be rediscovered
 N Non-breeding status within Nevada (excludes resident taxa)
 Q Taxonomic status uncertain
 U Unrankable
 Z Enduring occurrences cannot be defined (usually given to migrant or accidental birds)
 ? Assigned rank uncertain

APPENDIX G

**MITIGATION MEASURES TO PROTECT DESERT
TORTOISES FROM GROUND DISTURBING ACTIVITIES**

Biological Opinion on Certain Multiple-Use and Desert Tortoise Recovery Activities Proposed in the Caliente Management Framework Plan Amendment (1-5-99-F-450) with incorporated Standard Operating Procedures and Stipulations from the Caliente Management Framework Plan Amendment and Record of Decision for the Management of Desert Tortoise Habitat

REASONABLE AND PRUDENT MEASURES

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize take of desert tortoise:

5. Measures shall be taken to eliminate or minimize take of desert tortoises and destruction of tortoise habitat resulting from authorization of surface-disturbing activities by the proponent.
6. Measures shall be taken to minimize take of desert tortoises from potential tortoise predators attracted to project areas.
7. Measures shall be implemented to educate project personnel on the desert tortoise to eliminate or minimize potential impacts to desert tortoise and its habitat.
8. Measures shall be taken to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the proponent must comply with the following terms and conditions, which implement the reasonable and prudent measures described above. These terms and conditions are non-discretionary.

5. To implement Reasonable and Prudent Measure Number 5, the proponent shall fully implement the following terms and conditions to reduce impacts to desert tortoise and its habitat from authorization of surface-disturbing activities by the Bureau:
 - a. If fence construction occurs during the tortoise active season, a qualified tortoise biologist shall be onsite during construction of the tortoise-proof fence to ensure that no tortoises are harmed. If the fence is constructed during the tortoise inactive season, a biologist will thoroughly examine the proposed fenceline and burrows for the presence of tortoises no more than three days before construction. Any desert tortoises or eggs found in the fenceline will be relocated offsite by a qualified tortoise biologist in accordance with approved protocol (Desert Tortoise Council 1994, revised 1999). Tortoise burrows that occur immediately outside of the fence alignment that can be avoided by fence construction activities, shall be clearly marked to prevent crushing.
 - b. In accordance with current specifications, fencing will consist of 1-inch horizontal by 2-inch vertical mesh. The mesh will extend at least 18 inches above ground and, where feasible, 6 to 12 inches below ground. In situations where it is not feasible to bury the fence, the lower 6-12 inches of the fence shall be bent at a 90-degree angle towards potentially approaching tortoises and covered with cobble or other suitable material to ensure that tortoise or other animals cannot dig underneath, thus creating gaps through which tortoises may traverse.

c. The fence shall be inspected on a quarterly basis, and any repairs completed within 72 hours from March 15 through October 15, and 7 days from October 16 through March 14. The operator shall inspect the fencing at least on a quarterly basis and after major precipitation events to insure zero ground clearance, and that it is in compliance with the terms and conditions of this biological opinion. Monitoring and maintenance shall include regular removal of trash and sediment accumulation and restoration of zero ground clearance between the ground and the bottom of the fence, including re-covering the bent portion of the fence if not buried. The operator shall perform maintenance when needed, including removing trash, sediment accumulation, and other debris. Fencing may be removed upon termination and reclamation of the project, or when it is determined by the Bureau and Service that the fence is no longer necessary.

d. After a project has been fenced and a tortoise clearance completed, if a desert tortoise is encountered in imminent danger, it shall be moved out of harm's way and onto adjacent Bureau land by personnel that have completed the training required in Terms and Conditions 8.h. If the tortoise cannot be avoided or moved out of harm's way onto Bureau land, it shall be placed in a cardboard box or other suitable container and held in a shaded area until Bureau personnel can retrieve the tortoise.

e. A speed limit of 25 miles per hour shall be required for all vehicles on the project site and unposted dirt access roads.

f. During surface-disturbing activities, tortoise burrows should be avoided whenever possible. If a tortoise is found onsite during project activities, which may result in take of the tortoise (e.g., in harm's way), such activities shall cease until the tortoise moves, or is moved, out of harm's way. The tortoise shall be moved by a qualified tortoise biologist. All workers will also be instructed to check underneath all vehicles before moving such vehicles and within stockpiled materials. Tortoises often take cover under vehicles and construct burrows in stockpiled material.

g. Construction sites, staging areas, and access routes will be cleared by a qualified tortoise biologist before the start of construction. The project area shall be surveyed for desert tortoise using survey techniques which provide 100-percent coverage. From March 15 through October 15, the preconstruction clearance shall be no more than 3 days before initiation of construction and from October 16 through March 14, the preconstruction clearance shall be within 10 days before work begins. All desert tortoise burrows, and other species' burrows which may be used by tortoises, will be examined to determine occupancy of each burrow by desert tortoises. Tortoise burrows shall be cleared of tortoises and eggs, and collapsed. Any desert tortoises or eggs found in the fenced area will be removed under the supervision of a qualified tortoise biologist in accordance with Service protocol (Desert Tortoise Council 1994, revised 1999).

h. The Bureau must approve the selected consulting firm/biologist to be used by the applicant to implement the terms and conditions of this biological opinion or permit issued by the Bureau. Any biologist and/or firm not previously approved must submit a curriculum vitae and be approved by the Bureau before being authorized to represent the Bureau in meeting compliance with the terms and conditions of this biological opinion. Other personnel may assist with implementing terms and conditions that involve tortoise handling, monitoring, or surveys, only under direct field supervision by the approved qualified biologist.

Tortoises and nests found shall be handled and relocated by a qualified tortoise biologist in accordance with Service-approved protocol (Desert Tortoise Council 1994, revised 1999). Burrows containing tortoises or nests will be excavated by hand, with hand tools, to allow removal of the tortoise or eggs. Desert tortoises moved during the tortoise inactive season or those in hibernation, regardless of date, must be placed into an adequate burrow; if one is not available, one will be constructed in accordance with Desert Tortoise Council (1994, revised 1999). During mild temperature periods in the spring and early fall, tortoises removed from the site will not necessarily be placed in a burrow. Tortoises and burrows will only be relocated to federally-managed lands. If the responsible federal agency is not the Bureau, verbal permission, followed by written concurrence, shall be obtained before relocating the tortoise or eggs to lands not managed by the Bureau.

i. Tortoises that are moved offsite and released into undisturbed habitat on public land must be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with Desert Tortoise Council (1994, revised 1999).

j. If possible, overnight parking and storage of equipment and materials, including stockpiling, shall be in previously disturbed areas or areas to be disturbed which have been cleared by a tortoise biologist. If not possible, areas for overnight parking and storage of equipment shall be designated by the tortoise biologist which will minimize habitat disturbance.

k. All vehicular traffic will be restricted to existing access roads, or those roads approved by the Bureau in consultation with the Service.

l. Project activity areas will be clearly marked or flagged at the outer boundaries before the onset of construction. All activities shall be confined to designated areas. Blading of vegetation will occur only to the extent necessary and shall be limited to areas designated for that purpose by the Bureau or tortoise biologist.

m. Prior to issuance of any permit, lease, or authorization for any surface-disturbing activity, the project proponent shall pay a remuneration fee for each acre of surface disturbance. Remuneration fees in critical habitat shall be based upon the desert tortoise compensation report (Hastey, et al. 1991). Base land values in critical habitat and desert tortoise ACECs shall be \$603 per acre, or the amount currently assessed (see below) adjusted for inflation. The base land value shall be multiplied by the compensation rate for the project. For phased projects, fees will be paid prior to surface disturbance associated with each phase.

This rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year. The next adjustment shall occur on January 31, 2000. Fees assessed or collected for projects covered under this biological opinion after January 31st of each year, will be adjusted based on the CPI-U. Information on the CPI-U can be found on the Internet at: <http://stats.bls.gov/news.release/cpi.nws.htm>. The adjusted rate of \$603 per acre of disturbance was indexed for inflation for 1999 by increasing the previous rate of \$587 per acre, 2.7 percent (\$16). This rate becomes effective on March 1, 2000.

This fee will be paid directly to the Desert Tortoise Public Lands Conservation Fund Number 730-9999-2315, administered by Lincoln County or any other administrator

approved by both the Service and Bureau. The administrator serves as the banker of these funds and receives no benefit from administering these funds. These funds are independent of any other fees collected by Lincoln County for desert tortoise conservation planning.

The payment shall be accompanied by the Section 7 Fee Payment Form (Attachment A), and completed by the payee. The project proponent or applicant may receive credit for payment of such fees and deduct such costs from desert tortoise impact fees charged by local government entities. Payment shall be by certified check or money order payable to Lincoln County (or other administrator named by the Bureau and Service), and delivered to:

Lincoln County Habitat Conservation Fund 77
Lincoln County Treasurer
P.O. Box 416
Pioche, NV 89043
(775) 962-5805

In addition, a copy of the form will be accompanied by a payment verification and delivered to:

The Bureau of Land Management
Ely Field Office
HC 33 Box 33500
Ely, Nevada 89301-9408
Attn: Field Office Manager

n. Projects resulting in residual impacts will require the submission of a Bureau- and Service-approved reclamation plan, unless determined by the Bureau and Service that reclamation rehabilitation is not necessary. The reclamation/rehabilitation plan will describe objectives and methods to be used, species of plants and/or seed mixture to be used, time of planting, success standards, and follow-up monitoring. Depending upon the size and location of the project, reclamation could simply involve recontouring; rehabilitation and restriction of access points; or intensive reclamation over the entire area of surface disturbance. The plan shall be prepared within 60 days following completion of the surface disturbance phase of the project. Reclamation will be addressed on a case-by-case basis.

Lands & Realty Standard Operating Procedures

Permitting

1. The operator shall furnish a map showing where the exploration and/or operation will take place. The map shall be a minimum scale of ½ inch to the mile.
2. Desert tortoises moved in the winter (i.e., October 15 through March 15) or those in hibernation regardless of date must be placed into an adequate burrow; if one is not available, one will be constructed utilizing the protocol for burrow in section B.5.f. of the USFWS approved guidelines (Desert Tortoise Council 1994).
3. Temporary roads for exploration and operation will be closed to the public by use of gates, signs or other barrier of entry. These roads will be reclaimed once use is over.

Exploration

1. Unless otherwise authorized, access to mineral operations will be limited to the existing roads and trails. Any cross country travel will have a qualified biologist monitor for tortoise and move them as needed.
2. No oil or other fluid materials shall be drained onto the ground surface.
3. Vibriosis, drill hole shot or surface shot will not be completed within 100 yards of known tortoise burrows.
4. Access road construction for exploration should be planned such that a permanent road can later be constructed in the event of development.

Construction

1. The project applicant shall notify the Authorized Officer at least ten days before initiation of the project.
2. Proposed actions will not required fencing unless otherwise identified in the NEPA process.
3. During construction, if trenches or holes are to remain open overnight during the period of March 15 through October 15, they will be checked for tortoises at the end and beginning of each workday. The trenches or holes shall be checked immediately prior to backfilling.
4. Construction and maintenance of roads would occur within the existing disturbance of the rights-of-way unless otherwise allowed by the authorized officer.

Operations

1. Petroleum products such as gasoline, diesel fuel, helicopter fuel, and lubricants will be containerized in approved containers. Hazardous materials shall be properly stored in separate containers to prevent mixing, drainage, or accidents.
2. Prior to starting operations each day on any lands or energy and minerals operation which has not been totally enclosed by tortoise proof fencing and cattle guards, the operator will be responsible for assuring a desert tortoise survey is conducted by qualified desert tortoise biologists using techniques approved by the USFWS and BLM to make an inspection to determine if any desert tortoises are present, at the following:
 - a. around and under all equipment;
 - b. in and around all disturbed areas to include stockpiles and reject materials areas;
 - c. in and around all routes of ingress and egress;
 - d. in and around all other areas where the operation might expand to during that day.

If a tortoise is discovered during this inspection or later in the day, the operator will immediately cease all operations in the immediate vicinity of the tortoise and will immediately notify the Authorized Officer. The tortoise will be left unharmed and will

not be touched. Operations will remain stopped until approval to proceed is granted by the Authorized Officer.

3. Upon determination of an impending field development, a transportation plan will be requested to reduce unnecessary access road.
4. Companies controlling new road segments may be required to restrict access to the general public. This access could be in the form of closed gates and these restrictions will not apply to legitimate, authorized agents of the operator or their subcontractor(s), the land managing agency and other agencies with a legitimate need.

Reclamation

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

2. Seeding will occur during November 15 to March 15 to insure a greater chance of success.

3. Reclamation release criteria is as follows:
100% of the perennial plant cover of selected comparison areas, normally like adjacent habitat. If the adjacent habitat is severely disturbed, a range site description may be used as a cover standard. Cover is normally crown cover as estimated by the point intercept method. Selected cover can be determined using a method as described in Sampling Vegetation Attributes, Interagency Technical Reference, 1996, BLM/RS/ST-96/002+1730. The reclamation plan for the area project should identify the site specific release criteria and associated statistical methods in the reclamation plan or permit.

No noxious weeds will be allowed on the sites for reclamation release. Any noxious weeds that become established will be controlled. A list of Nevada noxious weeds will be provided by the authorized officer.

4. All available growth medium will be salvaged and stockpiled prior to disturbance. Stock piles will be seeded if left for more than one growing season. All disturbance areas will be recontoured to blend as nearly as possible with the natural topography prior to revegetation. All compacted portions of the disturbance will be ripped to a depth of 12 inches unless solid rock is encountered. An adequate, fine grain, seed bed must be established to provide good seed to soil contact. Large blocks and clumps of soil with deep pockets should be avoided. This normally requires some type of tillage procedure after ripping.

5. All portions of access roads not needed for other uses as determined by the authorized officer will be reclaimed.

6. Mulching of the seed-bed following seeding may be required under certain conditions, such as severe erosion.

7. The success of the vegetative growth on a reclaimed site may be evaluated for release no sooner than during the third growing season after earthwork and planting have been completed. Where it has been determined that revegetation success has not been met, the agencies and the operator will meet to decide on the best course of actions necessary to meet the reclamation goal.

Implementation

1. Consultation with the USFWS is required per Section 7 of the Endangered Species Act before the project can be approved if the Bureau determines that the proposed action may affect the desert tortoise. If consultation determines that an adverse impact to the desert tortoise or its habitat will occur, the proposal must be modified or denied per appropriate regulations.

2. Operators submitting a notice for activities within desert tortoise habitat will be informed by BLM of their responsibilities to comply with specific provisions of the ESA.

3. The operator of mineral actions will conform to all Federal and State laws, regulations, including terms and conditions of biological opinions.

4. Prior to issuance of any material contract, free use permit, material site right-of-way, letter of authorization to conduct sampling and testing, FLPMA right-of-way or Land Use Authorization, all applicants could pay a Section 7 fee for the on-site and off site mitigation of desert tortoise habitat or rehabilitated desert tortoise habitat. The fee amount will be determined by the Authorized Officer.

6. To implement Reasonable and Prudent Measure Number 6, the proponent shall fully implement the following terms and conditions for all actions covered under this biological opinion, to reduce impacts to desert tortoise from predators:

A litter-control program shall be implemented to minimize predation on tortoises by ravens drawn to the project site. This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site. The litter-control program should apply to all actions covered under this biological opinion. A litter-control program shall be implemented by the responsible party or their contractor, to minimize predation on tortoises by ravens and other predators drawn to the project site.

7. To implement Reasonable and Prudent Measure Number 7, the proponent shall fully implement the following terms and conditions for all actions covered under this biological opinion, to educate project personnel on the desert tortoise to minimize or eliminate potential impacts to tortoise and its habitat:

The proponent shall present a tortoise-education program to all personnel working on projects or activities covered under this biological opinion. This program shall be presented by a qualified tortoise biologist for those projects with the greatest potential impacts to desert tortoises.

The program will include information on the life history of the desert tortoise, legal protection for desert tortoises, penalties for violations of federal and state laws, general tortoise-activity patterns, reporting requirements, measures to protect tortoises, terms and conditions of this

biological opinion, and personal measures employees can take to promote the conservation of desert tortoises. The definition of take will also be explained. Specific and detailed instructions will be provided on the proper techniques to capture and move tortoises which appear onsite, in accordance with this biological opinion and Service-approved protocol. Currently, the Service-approved protocol is Desert Tortoise Council 1994, revised 1999. Workers will be encouraged to carpool to and from project sites.

8. To implement Reasonable and Prudent Measure Number 8, the proponent shall fully implement the following terms and conditions for all actions covered under this biological opinion, to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and reinitiation requirements contained in this biological opinion:

a. The project applicant shall notify the Bureau's authorized officer at least 10 days before initiation of any project. Notification shall be made to the Bureau's wildlife staff in Caliente at (775) 726-8100, or Ely at (775) 289-1800.

b. The Bureau (775/726-8100- Caliente, or 775/289-1800- Ely), and the Service's Southern Nevada Field Office (702/647-5230) must be notified of any desert tortoise death or injury due to the project implementation by close of business on the following work day. In addition, the Service's Division of Law Enforcement shall be notified in accordance with the reporting requirements of this biological opinion.

c. All appropriate NDOW permits or letters of authorization shall be acquired prior to handling desert tortoises and their parts, and prior to initiation of any activity which may require handling tortoises.

d. The project proponent must submit a document to the Bureau within 30 days of completion of the project, showing the number of acres disturbed; remuneration fees paid; and number of tortoises taken, which includes capture and displacement, killed, injured, and harassed by other means, during project activities covered under this biological opinion.

e. In accordance with Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise (Service 1992), a qualified desert tortoise biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields as determined by the Bureau. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum of 60 days field experience. All tortoise biologists shall comply with the Service- approved handling protocol (Desert Tortoise Council 1994, revised 1999) prior to conducting tasks in association with terms and conditions of this biological opinion. In addition, the biologist shall have the ability to recognize tortoise sign and accurately record survey results.