

- **Mitigation Measure 3.19.3.7-1:** EML would maintain their existing Emergency Response Plan (EML 2006; Appendix 11).
- **Effectiveness of Mitigation and Residual Effects:** The implementation of this mitigation measure would result in EML completing the necessary steps to understand how to respond to emergency situations with hazardous materials. This mitigation measure would be effective when an emergency condition develops because EML would have completed readiness preparation for responding to the emergency conditions.

#### 3.19.3.7.2 Residual Adverse Impacts

The Slower, Longer Project Alternative would have the unavoidable indirect potential to adversely affect employee or public safety through the accidental spill or release of hazardous materials either during transport to the Project Area, or from activities within the Project Area; however, due to the low probability of a significant accidental hazardous materials spill or release, the potential impact is considered less than significant.

### 3.20 Historic Trails

#### 3.20.1 Regulatory Framework

The Pony Express Trail is the only historic trail within or adjacent to the Project Area. In 1992 the US Congress amended the National Trails System Act to include the California and Pony Express Trails. The act directs the Secretary of Interior to provide for the development and maintenance of the trails within federally administered areas. To this end, the BLM issued two IMs in 2003 that address the management and assessment of potential impacts to the trail. One of these IMs, NV-2204-004, specifically addressed the evaluation of potential effects under the National Trails System Act. In addition, information in this section was compiled from the Comprehensive Management and Use Plan Final EIS for the California National Historic Trail and the Pony Express National Historic Trail (NPS 1999).

The Pony Express Trail is considered a historic property, and Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470, et seq.) (NHPA), and its implementing regulations under 36 CFR 800 require all federal agencies to consider effects of federal actions on cultural resources eligible for or listed in the NRHP. Other laws related to NHPA with which agencies must comply include, but are not limited to, the following:

- Archaeological and Historic Preservation Act of 1974 (AHPA); and
- Archaeological Resource Protection Act of 1979 (ARPA).

#### 3.20.2 Affected Environment

##### 3.20.2.1 Study Methods

The cultural resources inventory for the Project was used to develop the description of the Pony Express Trail activities and the physical features of the trail within and adjacent to the Project Area (Kautz 2007). EML's assessment of the viewshed from the Pony Express trail within the Project Area was used in the impact assessment. Google Earth Pro<sup>R</sup> was used to determine the viewshed from the trail outside of the Project Area.

### 3.20.2.2 Historic Development

The Pony Express was a short-lived horse-and-rider relay that carried light mail between Missouri and California in 1860 and 1861. Westbound from St. Joseph, the Pony Express followed the established emigrant trails to Salt Lake City and then continued through Nevada along the Central Overland mail and military route developed by George Chorpenning, Howard Egan, and Army Captain James Simpson. The trail crossed the Sierra Nevada at Carson Pass, ending in Sacramento. Eastbound mail followed the same route back to St. Joseph. The operation had approximately 150 stations, 500 horses, and 80 riders - some of whom earned celebrity for their courage and feats of physical endurance. Though the Pony Express has become highly mythologized, it was in fact historically important for demonstrating that mail could be expedited year-round between east and west, and for its role in carrying important news and dispatches to California on the cusp of the Civil War. The first ride began on April 3, 1860. The Pony Express' parent company, the Central Overland California & Pike's Peak Express Co., went bankrupt largely due to a string of bad business decisions and misfortunes unrelated to the Pony Express. Although that operation was a financial failure, this failure was also brought on because Congress never awarded the government contract. The Pony Express closed because completion of the transcontinental telegraph on October 24, 1861, eliminated the need for overland express mail, which made the Pony Express obsolete. The Pony Express shut down two days later on October 26, 1861. Figure 3.20.1 shows the location of the Pony Express Trail in the vicinity of the Project Area.

The numerous stations that were constructed along the Pony Express Trail across the Great Basin provided fresh mounts for the riders but are also historically important in that they mark the inception of nonnative occupation in the area. Several of the stations developed into ranches that are still in operation today.

### 3.20.2.3 Existing Conditions

That portion of the historic trail in the vicinity of the Project Area has been identified as the Overland Canyon to Simpson Park Station Segment (NPS 1999). In the vicinity of the Project Area the trail is a two-track dirt road, which is used for general public land access, access by grazing permittee, and by recreationists. The Comprehensive Management and Use Plan Final EIS for the California and Pony Express National Historic Trails identified high potential segments and sites along these trails (NPS 1999). This segment has been determined to be a high potential segment of the Pony Express Trail. A high potential segment is one having greater than average scenic values or affording an opportunity to vicariously share the experience of the original users of a historic route, and is relatively free from intrusion. A high potential site is an area along the trail that exhibits visible historic remnants, conveys historic significance, retains scenic quality, and is relatively free from intrusion. There are no high potential sites in the Project Area. Even though the Pony Express Trail crosses the Project Area, no stations were located within Project Area. The closest Pony Express stations were located at Roberts Creek Ranch, just 0.6 mile west of the Project Area, and Sulphur Springs, which is 4.3 miles east of the Project Area. Both locations are now private land, and there are no remains of the structures (Kautz 2007).

There are a number of organizations that promote and support the Pony Express Trail and the memory of the Pony Express system. Their activities include the placement and maintenance of trail markers, as well as conducting the Pony Express re-ride. The re-ride is an annual event that

generally occurs in June between St. Joseph, Missouri and Sacramento, California. The re-ride, which is sponsored by the National Pony Express Association (NPEA), is managed within each state by that state's NPEA division. The schedule for each of the annual re-rides is set months to over a year in advance. Within each state, the divisions are given an allotted amount of time to complete the ride and the specific time for the handoff from one state to the other is defined. Within the Nevada Division the re-ride is divided into sections and each section has a specific amount of time to complete the ride. The Project Area is within the Top of the Diamonds to Grubb's Well Section and seven hours are allocated to complete the ride. The re-ride on this section of the trail generally consists of a single rider or double riders and several support vehicles with horse trailers. This section of the trail is entirely a two-track road and vehicles can generally travel with the riders. The one exception to this is the portion of the trail through the western portion of the Project Area where the terrain would make vehicle travel with a horse trailer unsafe. There are also other organizations that support the Pony Express Trail that conduct individual or group rides on segments or the entire length of the trail. In 2006 there were 45 re-ride participants on the segment of the trail within the Project Area. Also in 2006 there were a total of 230 individuals that used the segment of the trail within the Project Area. For the Nevada portion of the re-ride there were 215 participants.

### **3.20.3 Environmental Consequences and Mitigation Measures**

Major issues related to the Pony Express Trail include the following: a) changes to the viewshed as seen from the Pony Express Trail; and b) access to the Pony Express Trail within the Project Area.

#### **3.20.3.1 Significance Criteria**

Impacts to historic trails would be considered significant if the Proposed Action or alternatives result in any of the following:

- Changes to the landscape adjacent to a historic trail that cannot be mitigated to a BLM Class II VRM objective, as outlined in BLM IM NV-2004-004; or
- Limiting the use of an identified portion of a historic trail.

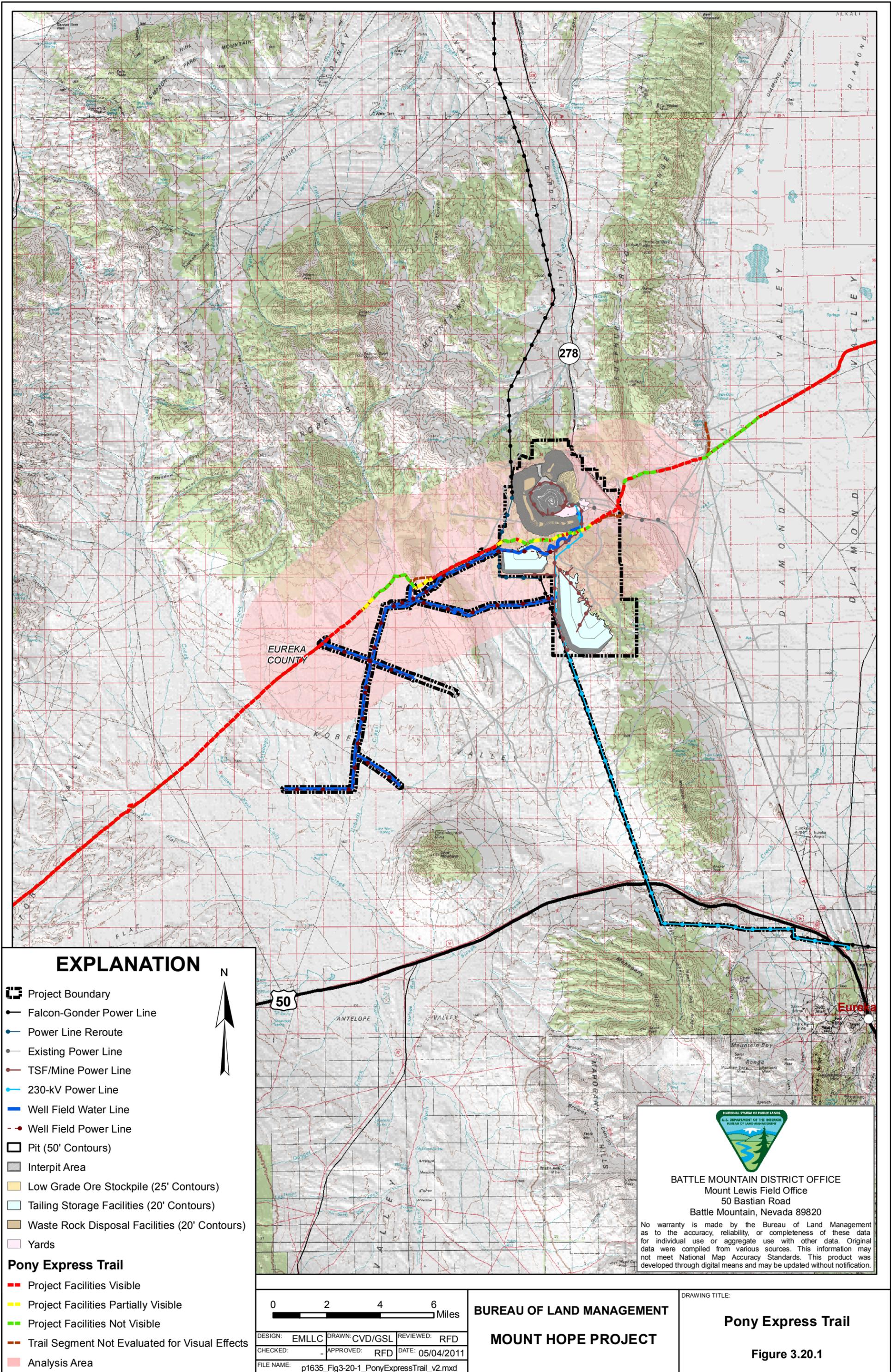
#### **3.20.3.2 Assessment Methodology**

Potential impacts of the Proposed Action and Project alternatives were assessed based on the guidance in BLM IM NV-2004-004. The assessment is based on the potential effects within three miles of the centerline of the designated trail. The criterion for the evaluation is based on the BLM VRM Class II threshold.

#### **3.20.3.3 Proposed Action**

##### **3.20.3.3.1 Historic Trail Viewshed**

The Proposed Action would modify the existing viewshed through mining the top portion of the mountain known as Mount Hope and creating visible highwalls, the construction of WRDFs adjacent to the location of Mount Hope, all north of the historic trail, and the construction of two TSFs south of the historic trail. In addition, a number of Project-related activities would occur immediately adjacent to the historic trail with the initial Project development, that include the



### EXPLANATION

- Project Boundary
  - Falcon-Gonder Power Line
  - Power Line Reroute
  - Existing Power Line
  - TSF/Mine Power Line
  - 230-kV Power Line
  - Well Field Water Line
  - Well Field Power Line
  - Pit (50' Contours)
  - Interpit Area
  - Low Grade Ore Stockpile (25' Contours)
  - Tailing Storage Facilities (20' Contours)
  - Waste Rock Disposal Facilities (20' Contours)
  - Yards
- Pony Express Trail**
- Project Facilities Visible
  - Project Facilities Partially Visible
  - Project Facilities Not Visible
  - Trail Segment Not Evaluated for Visual Effects
  - Analysis Area



0 2 4 6 Miles

DESIGN: EMLLC	DRAWN: CVD/GSL	REVIEWED: RFD
CHECKED: _____	APPROVED: RFD	DATE: 05/04/2011
FILE NAME: p1635_Fig3-20-1_PonyExpressTrail_v2.mxd		



**BATTLE MOUNTAIN DISTRICT OFFICE**  
 Mount Lewis Field Office  
 50 Bastian Road  
 Battle Mountain, Nevada 89820

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**BUREAU OF LAND MANAGEMENT**  
**MOUNT HOPE PROJECT**

DRAWING TITLE:  
**Pony Express Trail**  
 Figure 3.20.1

following: documentation, interpretation, and protection of historic trail remnants and associated structures; the construction of a 900-foot underpass through and subsequently beneath the historic trail for the Project tailings lines; the construction of an underground waterline and an above and below ground powerline adjacent to the historic trail for a distance of eight miles to the west of the mine facilities; and construction of water development facilities to the north and south of the historic trail in Kobeh Valley.

This impact is limited to those areas where the Project is visible from the historic trail. Due to the local topography, proximity to the Proposed Action is not always directly correlated to the degree of impact. There are a number of areas, as shown on Figure 3.20.1, immediately adjacent to the Project where there is no impact to the viewshed from the historic trail, in contrast to areas three miles from the mine area in Kobeh Valley where the Project activities are plainly visible. As a result, the potential impact of the Project is sporadic; however, the overall effect of the Project on the viewshed of this portion of a high potential segment of the historic trail is one of a changed landscape from the point that the Project is visible at the three mile assessment distance. Once any riders pass the Project facilities, then the Project is no longer in the individual's direct line of sight unless the individual turns around to again to look back at the Project facilities.

The below ground activities that would occur beneath and adjacent to the historic trail would decrease in visual contrast as the Project reclamation measures take effect; however, the removal of a portion of Mount Hope, the construction of the open pit, WRDFs, and the North TSF would be permanent changes to the viewshed that would be diminished with reclamation. The South TSF would be constructed beyond the three-mile assessment boundary.

- **Impact 3.20.3.3-1:** The Proposed Action would permanently modify the viewshed from the historic trail within three miles of the centerline to a degree that is not consistent with the BLM VRM Class II threshold.

**Significance of the Impact:** This potential impact to the historic trail is significant. There has been no mitigation identified that could reduce the visual impact to less than significant.

#### 3.20.3.3.2 Historic Trail Access

The Proposed Action includes the construction of a public exclusion fence around the entire Project. As a result, access to that portion of the trail within the Project Area would be cut off for the duration of the Project, which could be as long as 80 years.

- **Impact 3.20.3.3-2:** The Proposed Action would eliminate access to that portion of the historic trail within the Project exclusion fence.

**Significance of the Impact:** This potential impact to the historic trail access is significant.

- **Mitigation Measure 3.20.3.3-2:** EML would implement the mitigation plan included in Appendix C to provide access through the Project Area during the annual Pony Express re-ride, which generally occurs in June. This mitigation would allow for independent (non-NPEA) re-riders to follow the trail through the Project Area at other times of the year, subject to 30-day advance notice and certain safety restrictions, and subject to

EML's approval, and to provide for an alternative route for trail riders during other times of the year, weather permitting.

- **Effectiveness of Mitigation and Residual Effects:** Implementation of this mitigation measure would affectively mitigate the impact for those times in June of each year when the re-ride occurs, as well as individual use at other times of the year. In addition, the mitigation would be effective by providing a continuous route, although not the designated route, year round. However, this mitigation has no effect on the closure of the designated route for most of the year.

#### 3.20.3.3.3 Residual Adverse Impacts

The residual impact to the viewshed of the historic trail remains a significant effect and is an irretrievable and irreversible commitment of this resource. The potential residual impact to access to the historic trail is less than significant due to the mitigation. The overall impact to historic trail access is not irreversible or irretrievable.

#### 3.20.3.4 No Action Alternative

##### 3.20.3.4.1 Historic Trail Viewshed

As a result of implementation of the No Action Alternative, none of the impacts to the viewshed from the historic trail would occur. As a result, there would be no impacts.

##### 3.20.3.4.2 Historic Trail Access

As a result of the implementation of the No Action Alternative there would be no impacts to historic trail access.

##### 3.20.3.4.3 Residual Adverse Impacts

Under the No Action Alternative there would be no residual impacts.

#### 3.20.3.5 Partial Backfill Alternative

##### 3.20.3.5.1 Historic Trail Viewshed

Implementation of the Partial Backfill Alternative would result in potential visual impacts to the historic trail that are similar to, but proportionally less than those outlined under the Proposed Action. Even though the Non-PAG WRDF would be smaller, the PAG WRDF and the open pit high wall would remain visible and dominant features on the landscape.

- **Impact 3.20.3.5-1:** The Partial Backfill Alternative would permanently modify the viewshed from the historic trail within three miles of the centerline to a degree that is not consistent with the BLM VRM Class II threshold.

**Significance of the Impact:** This potential impact to the historic trail is significant. There appears to be no mitigation that could reduce the impacts to less than significant.

### 3.20.3.5.2 Historic Trail Access

Implementation of the Partial Backfill Alternative would result in similar impacts to historic trail access as those discussed under the Proposed Action.

- **Impact 3.20.3.5-2:** The Partial Backfill Alternative would eliminate access to that portion of the historic trail within the Project exclusion fence.

**Significance of the Impact:** This potential impact to the historic trail access is significant.

- **Mitigation Measure 3.20.3.5-2:** EML would implement the mitigation plan included in Appendix C to provide access through the Project Area during the annual Pony Express re-ride, which generally occurs in June. This mitigation would allow for independent (non-NPEA) re-riders to follow the trail through the Project Area at other times of the year, subject to 30-day advance notice and certain safety restrictions, and subject to EML's approval, and to provide for an alternative route for trail riders during other times of the year, weather permitting.
- **Effectiveness of Mitigation and Residual Effects:** Implementation of this mitigation measure would affectively mitigate the impact for those times in June of each year when the re-ride occurs, as well as individual use at other times of the year. In addition, the mitigation would be effective by providing a continuous route, although not the designated route, year round. However, this mitigation has no effect on the closure of the designated route for most of the year.

### 3.20.3.5.3 Residual Adverse Impacts

The residual impact to the viewshed of the historic trail remains a significant effect and is an irretrievable and irreversible commitment of this resource. The potential residual impact to access to the historic trail is less than significant due to the mitigation. The overall impact to historic trail access is not irreversible or irretrievable.

### 3.20.3.6 Off-Site Transfer of Ore Concentrate for Processing Alternative

#### 3.20.3.6.1 Historic Trail Viewshed

Implementation of the Off-Site Transfer of Ore Concentrate for Processing Alternative would result in potential impacts that are similar to those outlined under the Proposed Action.

- **Impact 3.20.3.6-1:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would permanently modify the viewshed from the historic trail within three miles of the centerline to a degree that is not consistent with the BLM VRM Class II threshold.

**Significance of the Impact:** This potential impact to the historic trail is significant. There appears to be no mitigation that could reduce the impacts to less than significant.

### 3.20.3.6.2 Historic Trail Access

Implementation of the Off-Site Transfer of Ore Concentrate for Processing Alternative would result in similar impacts to historic trail access as those discussed under the Proposed Action.

- **Impact 3.20.3.6-2:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would eliminate access to that portion of the historic trail within the Project exclusion fence.

**Significance of the Impact:** This potential impact to the historic trail access is significant.

- **Mitigation Measure 3.20.3.6-2:** EML would implement the mitigation plan included in Appendix C to provide access through the Project Area during the annual Pony Express re-ride, which generally occurs in June. This mitigation would allow for independent (non-NPEA) re-riders to follow the trail through the Project Area at other times of the year, subject to 30-day advance notice and certain safety restrictions, and subject to EML's approval, and to provide for an alternative route for trail riders during other times of the year, weather permitting.
- **Effectiveness of Mitigation and Residual Effects:** Implementation of this mitigation measure would effectively mitigate the impact for those times in June of each year when the re-ride occurs, as well as individual use at other times of the year. In addition, the mitigation would be effective by providing a continuous route, although not the designated route, year round. However, this mitigation has no effect on the closure of the designated route for most of the year.

### 3.20.3.6.3 Residual Adverse Impacts

The residual impact to the viewshed of the historic trail remains a significant effect and is an irretrievable and irreversible commitment of this resource. The potential residual impact to access to the historic trail is less than significant due to the mitigation. The overall impact to historic trail access is not irreversible or irretrievable.

### 3.20.3.7 Slower, Longer Project Alternative

Impacts to historic trails from the Slower, Longer Project Alternative are expected to be similar to impacts from the Proposed Action; however, impacts from the Slower, Longer Project Alternative would occur over a period approximately twice as long in duration compared to the Proposed Action.

#### 3.20.3.7.1 Historic Trail Viewshed

- **Impact 3.20.3.7-1:** The Slower, Longer Project Alternative would permanently modify the viewshed from the historic trail within three miles of the centerline to a degree that is not consistent with the BLM VRM Class II threshold.

**Significance of the Impact:** This potential impact to the historic trail is significant. There has been no mitigation identified that could reduce the impact to less than significant.

#### 3.20.3.7.2 Historic Trail Access

- **Impact 3.20.3.7-2:** The Slower, Longer Project Alternative would eliminate access to that portion of the historic trail within the Project exclusion fence.

**Significance of the Impact:** This potential impact to the historic trail access is significant.

- **Mitigation Measure 3.20.3.7-2:** EML would implement the mitigation plan included in Appendix C to provide access through the Project Area during the annual Pony Express re-ride, which generally occurs in June. This mitigation would allow for independent (non-NPEA) re-riders to follow the trail through the Project Area at other times of the year, subject to 30-day advance notice and certain safety restrictions, and subject to EML's approval, and to provide for an alternative route for trail riders during other times of the year, weather permitting.
- **Effectiveness of Mitigation and Residual Effects:** Implementation of this mitigation measure would effectively mitigate the impact for those times in June of each year when the re-ride occurs, as well as individual use at other times of the year. In addition, the mitigation would be effective by providing a continuous route, although not the designated route, year round. However, this mitigation has no effect on the closure of the designated route for most of the year.

#### 3.20.3.7.3 Residual Adverse Impacts

The residual impact to the viewshed of the historic trail remains a significant effect and is an irretrievable and irreversible commitment of this resource. The potential residual impact to access to the historic trail is less than significant due to the mitigation. The overall impact to historic trail access is not irreversible or irretrievable.

### 3.21 Cultural Resources

#### 3.21.1 Regulatory Framework

Section 106 of the NHPA and its implementing regulations under 36 CFR 800 require all federal agencies to consider effects of federal actions on cultural resources eligible for or listed in the NRHP. Other laws related to the NHPA with which agencies must comply include, but are not limited to, the following:

- AHPA;
- ARPA;
- American Indian Religious Freedom Act of 1978 (AIRFA); and
- Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).

Properties of cultural or religious importance (PCRIs) are protected under the AIRFA, and NAGPRA. A PCRI may be eligible for listing in the NRHP because of its association with cultural practices or beliefs of a living community that are: (a) rooted in the history of the community or tribe; and, (b) important in maintaining the continuing cultural identity of the community or tribe. Consultation with tribes regarding PCRIs can be found in the Native American Traditional Values Section (Section 3.22).

### **3.21.2 Affected Environment**

#### **3.21.2.1 Area of Potential Effect**

The NHPA and 36 CFR Part 800 requires the BLM to consider effects to historic properties within the Area of Potential Effect (APE). The APE for historic properties is defined in 36 CFR 800.9(a) as “the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” The Project APE or area of possible direct and indirect impacts for historic properties was defined by the BLM to include the areas of the undertakings for exploration and development projects subject to surface disturbance as shown on Figure 2.1.7. Mine development activities for each of the alternatives include areas that would be directly and indirectly affected (i.e., the footprint of the mine facilities, pipelines, access roads, rerouted transmission lines, staging areas, borrow areas, and other facilities). The BLM also determined that there would be an area of indirect visual impacts, viewshed APE, for eligible historic properties or unevaluated historic resources where the Project would be visible within a 20-mile radius of the top of Mount Hope, in which the indirect impacts would adversely affect the integrity of setting for these sites. A file search was conducted of the known sites within this viewshed on December 24, 2008. Historic properties and unevaluated historic resources that are present within the viewshed APE were determined by using a DEM to create a three-dimensional representation of the terrain surrounding Mount Hope. Using the DEM in conjunction with the file search results, the sites (i.e., a total of 436) that could be seen from the highest point of Mount Hope within a 20-mile radius were identified. The Project APE (area of direct and indirect effects) lies within this viewshed APE and is defined as the Project Area. The Project APE was completely surveyed to a Class III (considered 100 percent inventory) level. In preparation for the survey of the Project Area, a file search was conducted of the Project APE and a one-mile buffer surrounding it (Malinky et al. 2008). The APE for Native American Traditional Values is defined separately from the Project APE and viewshed APEs for historic properties and can be found in Section 3.22.

In addition, a PA was completed between the BLM and the Nevada SHPO to address potential adverse effects to eligible or unevaluated cultural sites and specifies the following: measures to be taken with regard to the identification and evaluation of historic properties; Native American consultation; resolutions of eligibility; development of treatment plans; measures to cover discovery situations; report and monitoring requirements; Notices to Proceed; time frames for inventory, consultation, report completion; curation; measures for posting surety bonds; protocols for dispute resolution; and procedures for amending, terminating, and execution of the PA. A copy of the PA is available for review at the MLFO during normal business hours. The following Native American tribes were invited to be concurring parties for the PA: the Te-Moak Tribe of the Western Shoshone, the Yomba Shoshone Tribe, the Duckwater Shoshone Tribe, the Ely Shoshone Tribe, and the Timbisha Shoshone Tribe. Although these tribes have indicated that

they would not participate as concurring parties to the PA, ongoing consultation between the BLM and the Tribes is in progress (see Section 3.22).

### 3.21.2.2 Data Sources

Archival research of the Project APE and a one-mile buffer surrounding the APE was conducted at the Special Collections Library at the UNR, the Mackay School of Mines at the UNR, the Nevada Bureau of Mines and Geology, the BLM BMDO, and the Nevada Census Records to determine the presence of previously recorded or documented cultural resources. File searches were also conducted through the Nevada Cultural Resources Information System, the Nevada State Register, and the NRHP. Native American consultation efforts by the BLM for the Project are discussed under Native American Traditional Values (see Section 3.22).

Potential historic properties may include districts, sites, buildings, structures, and objects that possess historical integrity and are greater than 50 years old. Cultural resource types found within the Project APE for all mining study areas include prehistoric and historic archaeological sites. Examples of prehistoric sites include camps, lithic scatters, ceramic scatters, stone circles, quarries, hunting sites and blinds, among others. Examples of historic sites include roads, trails, railroads, mining sites, ranches, quarries, charcoal manufacturing camps, charcoal piles, buildings, structures, and features, among others.

The current NRHP status of previously recorded resources within the Project APE was noted, and resources recorded as a result of the Class III survey were fully documented and NRHP significance evaluated (Bengston 2007; Malinky 2006; 2008a-b; 2009a-e; 2010; Malinky et al. 2008). Evaluation of cultural resources is codified under 36 CFR 60.4 and summarized below (NRHP, National Register Bulletin, revised 1998):

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

- a) that are associated with events that have made a significant contribution to the broad patterns of our history; or
- b) that are associated with the lives of persons significant in the past; or
- c) that embody the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possess high artistic value, or that represent a significant or distinguishable entity whose components may lack individual distinction; or
- d) that have yielded, or are likely to yield, information important in prehistory or history.

Properties listed in or eligible for listing in the NRHP must be important in American history, architecture, archaeology, engineering, or culture. In addition, to be significant, a property must also have physical integrity to be listed in or be eligible for listing in the NRHP. In some cases, additional information must be gathered to evaluate a cultural resource with regard to the NRHP criteria. This information may be gathered by means of limited excavation or testing to determine the presence and extent of significant buried cultural material or, in the case of historic sites, archival research to better evaluate these sites under criteria a-c, as summarized above. Cultural resource sites recommended not eligible for the NRHP either do not meet any of the

criteria outlined under 36 CFR 60.4 or lack physical integrity (i.e., have been significantly altered or destroyed by previous human activity or natural processes). Sites with field evaluations (i.e., field eligible, field not eligible, field needs data), those that have not been assessed with regard to NRHP eligibility, or those that cannot be relocated by means of file search data alone are considered unevaluated for inclusion in the NRHP.

### 3.21.2.3 Cultural History Overview

Consideration must be given to the human uses and occupation of the Project Area for the past 10,000 years to adequately summarize the cultural history of the Project APE. A concise summary of the history is provided in the following paragraphs. The information is presented in chronological stages, defined by anthropologists as changes in subsistence strategies (i.e., the techniques that societies use to transform natural resources into food, clothing, and shelter) and material cultural (i.e., the items manufactured by societies and the meanings cultures give to those items). The cultural history overview is summarized from the studies prepared for the Project (Bengston 2007; Malinky 2008a-e; 2010; Malinky et al. 2008).

Archaeologists working in the Great Basin have found evidence of human use of the region for more than 10,000 years. While they generally agree on the earlier dates, the experts often use different labels for the stages and there is some debate over end dates for the stages. This overview is based on the work of Malinky and others, and their chronological scheme has been adopted here. These experts note that the earliest human occupations occurred during the Pre-Archaic stage, the period prior to approximately 8,000 years before present (B.P.). These people hunted now extinct large animals and some smaller animals as well as gathered and processed plants found near lakes and marshes. The hunters used large projectile points, including some distinctive concave-base and stemmed points. Diffuse lithic scatters, some with tools, dominate the sites attributed to the Pre-Archaic. A small number of quarries and workshops also have been recorded. The Pre-Archaic sites are usually found in association with the shores of extinct lakes or near important permanent water resources.

The Archaic Stage lasted from approximately 8,000 years B.P. to the historic period 150 to 200 years B.P. in the Great Basin. Archaeologists further divide the Archaic into three periods beginning with the Early Archaic period (8,000 years B.P. to 4,000 years B.P.). Evidence from these sites indicates that people lived in small groups, occupied shelters, and hunted a range of animals with atlatl and dart points instead of the larger stemmed and Clovis points of earlier times. Sites associated with the Early Archaic tend to be camps, hunting sites, and limited-activity lithic scatters. Within the Great Basin, the second period of the Archaic Stage, the Middle Archaic, dates from 4,000 years B.P. to 1,500 years B.P. Archaeologists have investigated numerous sites across the central Great Basin that date to this period. People of this period continued use of the atlatl and dart for hunting but came to rely more on seed processing for food. Evidence of regional trade networks for obsidian and marine shell beads has been found at various sites. Sites commonly associated with the Middle Archaic period include hunting sites, camp sites, quarries, and lithic scatters. The Late Archaic (1,500 years B.P. to 150 to 200 years B.P.), also known as the Fremont Culture (1,500 years B.P. to 700 years B.P.), ends soon after the initial Euro-American intrusions into the region. The bow and arrow replaced the atlatl and dart technology for hunting. This indicates a likelihood that the hunters sought a variety of smaller game like cottontail rabbits, woodchucks, and chipmunks instead of the big horn sheep, deer, and antelope that had been the dominate species hunted earlier.

Migrations also took place, most notably the arrival of the Western Shoshone in the central Great Basin by 700 years B.P. following the disappearance of the Fremont Culture. The Western Shoshone lived in small extended family groups, made and used brownware ceramics, and gathered pine nuts. They were also highly mobile and held large seasonal gatherings for pine nut harvests and antelope drives. The end of the Late Archaic is also marked by the arrival of Euro-Americans, first as explorers during the 1820s, then as settlers and colonizers of the land by the 1860s. Bengston (2007) identified three periods of contact between the Western Shoshone and Euro-Americans: 1) Contact and Exploration (1826 to 1862); 2) Euro-American Settlement (1862 to 1930); and 3) Contemporary Times (1930 to the present). Native American culture experienced tremendous change during the era, and by the 1930s little remained of their original lifeways. Sites tended to be of similar types into the later years when Euro-American influences began to manifest themselves in the archaeological record.

Five themes related to the Euro-American history of the Mount Hope region have been identified (Malinky et al. 2008) and include: 1) exploration and emigration; 2) transportation and communication; 3) mining and industry; 4) ranching and agriculture; and 5) the role of ethnic populations in the region's development. The exploration period begins during the 1820s when parties of trappers from the Hudson's Bay Company visited Nevada, trapping the Humboldt River and its tributaries between 1826 and 1828. These explorers established the Humboldt River as a primary route through central Nevada that remained popular into the late 19th century. The river route proved to be a satisfactory route to California after the Mexican War and the discovery of gold in California (1848). Typically the resources associated with the explorers are small campsites, often not discernable from others or initials and other engravings on rocks and similar small sites.

The Mount Hope area served as part of an important transportation and communication area from the early 1850s into the 1930s. Malinky et al. (2008) identified three significant historic transportation routes that passed through the Project Area: 1) the Pony Express/Overland Stage and Mail Route; 2) the Garden Pass Road; and 3) the Eureka and Palisades Railroad. Transportation-related sites typically are linear or remnants of linear sites or facilities such as stage station ruins.

The third theme, mining and industry, perhaps had the greatest nineteenth century influences on the Project Area and region. Mining on Mount Hope began in 1886 and has continued sporadically into modern times. The mines have produced Au, Ag, Cu, Pb, and Zn as well as other minerals. Some evidence indicates that a pioneer mining district, the McGearry (aka McGarry) mining district, may have been located within the Project Area but this has not been confirmed. Evidence of mining resources includes small campsites and prospect pits to the ruins of larger, industrial scale mines and mills. Charcoal production evolved as a support industry for the smelters that developed charcoal to refine the ores of Eureka's mines during the 1870s. Italian and Swiss charcoal makers, often referred to as Carbonari, built charcoal ovens and harvested wood throughout the Project Area during the late nineteenth century leaving behind a distinctive archaeological record.

Ranching and agriculture developed to support first the Pony Express and Overland Stage operations and later the miners in Eureka as well as other districts. Evidence of ranching and agricultural activities are generally present in the form of active ranches, line shacks, or the campsites associated with roundups as well as other site types.

The final theme, ethnicity, is an underlying theme that encompasses mining, the charcoal industry, agriculture, and the many other, lesser historic period activities of the region. Often the sites do have unique ethnic markers in the artifact assemblages such as Asian ceramics or opium tins.

### 3.21.2.4 Existing Conditions

Cultural resource investigations of the Project APE resulted in the documentation of 594 sites of which one previously recorded site has not been assessed (26EU4556). In some cases, the location of previously recorded sites is unclear. It is presumed that these resources may have been destroyed (Malinky 2008a). The BLM submitted nine reports (Malinky 2008a-e; 2010; Malinky et al. 2008) that provided NRHP determinations of eligibility for 594 sites to the Nevada SHPO for concurrence.

Of the 594 sites documented within the Project APE, a total of 242 sites are located within the area of direct impacts (i.e., the Project footprint). Of this number, 83 sites have been officially determined eligible and 159 have been officially determined not eligible. Site types include 80 prehistoric, 142 historic, and 20 multi-component. A total of 352 sites are located outside of the area of direct effects but still within the Project APE. Of these sites, 180 have been officially determined eligible, 171 have been officially determined not eligible, and one is unevaluated. Site types include 111 prehistoric, 37 multi-component, and two with unknown affiliation. Site types within the Project APE are enumerated in Table 3.21-1.

### 3.21.3 Environmental Consequences and Mitigation Measures

#### 3.21.3.1 Significance Criteria

The significance criterion used to evaluate the impacts of the Proposed Action and proposed alternatives on cultural resources is whether or not any action would adversely affect historic properties eligible for inclusion in the NRHP.

**Table 3.21-1: Cultural Resource Sites within the Project Area of Potential Effect**

Site Type	Officially Determined Eligible	Officially Determined Not Eligible	Not Assessed	Site Type Totals
<b><i>Sites within Area of Direct Impacts</i></b>				
Prehistoric	24	56	0	80
Historic*	45	97	0	142
Multi-Component*	14	6	0	20
Totals	83	159	0	242
<b><i>Sites within Area of Indirect Impacts</i></b>				
Prehistoric	48	62	1	111
Historic*	107	95	0	202
Multi-Component*	25	12	0	37
Unknown	0	2	0	2
Totals	180	171	1	352

\*The historic sites and multi-component sites with a historic element within the Project APE are also within the viewshed APE; prehistoric sites are not considered in the viewshed APE.

NRHP eligibility of cultural resources is determined by applying the criteria specified in 36 CFR 60.4 (see Data Sources Section above). In addition to having eligibility related to one of the four criteria, a cultural resource must also retain sufficient physical integrity to convey their importance to present observers. The National Register has defined seven elements of integrity that are: 1) location; 2) design; 3) setting; 4) materials; 5) workmanship; 6) feeling; and 7) association.

For the Project, these general criteria were further refined into research themes for prehistoric and historic period sites. Five research themes (Malinky et al. 2008) were defined for the prehistoric period including: 1) chronology; 2) settlement and subsistence; 3) trade and exchange; 4) lithic technology; and 5) Native Americans in the “Ethnographic Present”. For the historic period, an additional five themes were developed and include: 1) exploration and emigration; 2) transportation and communication; 3) mining and industry; 4) ranching and agriculture; and 5) ethnicity. Research questions and associated resource types relevant to each of the themes were also applied to the data. For a resource to be considered eligible for inclusion in the NRHP it had to be related to one of the themes and offer data to address the questions associated with the research themes.

#### 3.21.3.2 Assessment Methodology

Impacts to cultural resources were assessed in light of the degree the Project may adversely affect cultural resources listed in the NRHP, eligible for listing in the NRHP, or unevaluated for the NRHP and, therefore, potentially eligible for listing in it. As per 36 CFR 800.16(i), a property would be affected if the Project would alter its NRHP qualifying characteristics. For this reason, it is necessary to know why the property is significant and what elements of the property contribute to that significance. Significant impacts to historic properties are irreversible. There would be direct impacts to resources located in the Project footprint and indirect impacts to those resources located outside of this area but within the Project APE.

#### 3.21.3.3 Proposed Action

Construction of the mine and associated facilities have the potential to adversely affect cultural resources and would result in direct, indirect, and cumulative effects. As stated previously, there are 594 known sites within the Project APE. A total of 264 NRHP eligible or unevaluated sites (73 prehistoric, 152 historic, 39 multi-component) were identified within the Project APE (Bengston 2007; Malinky 2008a-b, 2009a-e, 2010; Malinky et al. 2008). The prehistoric sites (191) and multi-component sites with prehistoric elements (57) (see Table 3.21-1) within the Project APE range from large complex surface and subsurface assemblages, including: debitage; ground stone; lithic tools; diagnostic projectile points; stone features; prehistoric Shoshone Brownware ceramics; an extensive lithic scatter with a quarry; smaller campsites; lithic scatters with ground stone; and simple lithic scatters. The historic sites (344) and the multi-component sites with historic elements (57) (see Table 3.21-1) within the Project APE range from large and small mining sites, sites related to major transportation routes (Overland Road/Pony Express Trail and the Eureka & Palisades Railroad), a Chinese railroad construction site, Carbonari charcoal manufacturing areas including a charcoal ranch, a ranching complex, lesser transportation routes (roads), and historic refuse scatters. Two sites consist of stone features of unknown age. A total of 242 sites were located within the area of direct impacts (i.e., the Project footprint), and 83 sites have officially been determined eligible.

- **Impact 3.21.3.3-1:** Implementation of the Proposed Action would result in adverse effects to 83 officially eligible sites within the area of direct impacts. Outside of this area but within the Project APE, this action would also have indirect impacts on 180 officially eligible and one unevaluated site.

**Significance of the Impact:** These direct impacts are considered to be significant. However, indirect impacts to eligible and unevaluated cultural resources within the Project APE are not considered to be significant at this time.

- **Mitigation Measure 3.21.3.3-1:** EML would develop, and submit to the BLM for approval, a treatment plan to address the potential direct impacts to the 83 officially eligible sites within the Project APE. EML would implement the treatment plan prior to any surface disturbance of eligible sites within the area of direct impacts. All adverse effects under the NHPA and direct and indirect impacts under the NEPA to known-eligible properties identified within the Project APE would be mitigated in accordance with the PA and the treatment plan prepared for the Project. Any previously unknown-eligible properties that may be discovered during construction activities would be mitigated in accordance with the PA. Therefore, no additional mitigation or monitoring is proposed. No residual adverse effects are anticipated, as all known-eligible sites would be mitigated in accordance with the PA and the treatment plan prepared for the Project. Any previously unknown-eligible properties that may be discovered during construction activities would be mitigated in accordance with the PA.

**Effectiveness of Mitigation and Residual Effects:** The implementation of the treatment plan under the mitigation measure would be very effective at lessening the impact.

- **Impact 3.21.3.3-2:** Within the viewshed APE, 436 eligible and unevaluated historic and multi-component sites with a historic component would be indirectly impacted by reducing each site's integrity of setting as a result of the Proposed Action.

**Significance of the Impact:** Within the viewshed APE, eligible and unevaluated cultural resources would be indirectly affected by the Project and have also been previously impacted by past and present actions. The indirect impacts to eligible and unevaluated cultural resources within the viewshed APE are not considered to be significant at this time.

Due to the area's extensive historic mining, ranching, and prehistoric/historic Native American habitation, there is a possibility for any surface disturbing activity to expose both nonnative and native gravesites.

- **Impact 3.21.3.3-3:** As a result of the Proposed Action, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.21.3.3-3:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-

2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.21.3.3-3 would prevent any impacts to these discoveries.

#### 3.21.3.3.1 Residual Adverse Impacts

The Proposed Action would result in a potential impact that would be significant. The implementation of the mitigation measures would allow for the scientific collection of data these sites may yield; however, the potential impact would remain an irreversible and irretrievable commitment of cultural resources.

#### 3.21.3.4 No Action Alternative

The No Action Alternative would allow the proponent to continue exploration activities under the existing Notices (NVN-080914, NVN-081485, NVN-081811, NVN-083120, NVN-083245, and NVN-083246). The activities include mineral exploration, condemnation drilling, water quality monitoring well construction, hydrogeochemical, geotechnical data collection regarding areas under possible WRDFs and TSFs, and exploration for water supplies outside the currently proposed Project boundaries. These activities would be located within the footprint of the Proposed Action; however, all activities under the Notices would be required to avoid cultural resources. Therefore, the No Action Alternative would have no impacts to cultural resources.

#### 3.21.3.4.1 Residual Adverse Impacts

The No Action Alternative would not result in any irreversible or irretrievable commitment of cultural resources.

#### 3.21.3.5 Partial Backfill Alternative

The Partial Backfill Alternative would have the same surface disturbance footprint as the Proposed Action Alternative; therefore, the same number of NRHP eligible and unevaluated sites would be impacted as noted above for the Proposed Action Alternative.

- **Impact 3.21.3.5-1:** Implementation of the Partial Backfill Alternative would result in adverse effects to 83 officially eligible sites within the area of direct impacts. Outside of this area but within the Project APE, this action would also have indirect impacts to 180 officially eligible and one unevaluated site.

**Significance of the Impact:** These direct impacts are considered to be significant. However, indirect impacts to eligible and unevaluated cultural resources within the Project APE are not considered to be significant at this time.

- **Mitigation Measure 3.21.3.5-1:** EML would develop, and submit to the BLM for approval, a treatment plan to address the potential impacts to the 83 officially eligible sites within the Project APE. EML would implement the treatment plan prior to any surface disturbance of eligible sites within the area of direct impacts. All adverse effects under the NHPA and direct and indirect impacts under NEPA to known-eligible properties identified within the Project APE would be mitigated in accordance with the PA and the treatment plan prepared for the Project. Any previously unknown-eligible properties that may be discovered during construction activities would be mitigated in accordance with the PA. Therefore, no additional mitigation or monitoring is proposed. No residual adverse effects are anticipated, as all known-eligible sites would be mitigated in accordance with the PA and the treatment plan prepared for the Project.
- **Effectiveness of Mitigation and Residual Effects:** The implementation of the treatment plan under the mitigation measure would be very effective at lessening the impact.
- **Impact 3.21.3.5-2:** Within the viewshed APE, 436 eligible and unevaluated historic and multi-component sites with a historic component would be indirectly impacted by reducing each site's integrity of setting as a result of the Proposed Action.

**Significance of the Impact:** Within the viewshed APE, eligible and unevaluated cultural resources would be indirectly affected by the Project and have been previously impacted by past and present actions. The indirect impacts to eligible and unevaluated cultural resources within the viewshed APE are not considered to be significant at this time.

Due to the area's extensive historic mining, ranching, and prehistoric/historic Native American habitation, there is a possibility for any surface disturbing activity to expose both nonnative and native gravesites.

- **Impact 3.21.3.5-3:** As a result of the Proposed Action, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.21.3.5-3:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.21.3.5-3 would prevent any impacts to these discoveries.

### 3.21.3.5.1 Residual Adverse Impacts

The Partial Backfill Alternative would result in a potential impact that would be significant. The implementation of the mitigation measures would allow for the scientific collection of data these sites may yield; however, the potential impact would remain an irreversible and irretrievable commitment of cultural resources.

### 3.21.3.6 Off-Site Transfer of Ore Concentrate for Processing Alternative

The surface disturbance footprint for the Off-Site Transfer of Ore Concentrate for Processing Alternative is approximately 20 acres less than under the Proposed Action Alternative due to the placement of a processing facility elsewhere; however, the same number of NRHP eligible and unevaluated sites would be impacted as noted above for the Proposed Action Alternative.

- **Impact 3.21.3.6-1:** Implementation of the Off-Site Transfer of Ore Concentrate for Processing Alternative would result in adverse effects to 83 officially eligible sites within the area of direct impacts. Outside of this area but within the Project APE, this action would also have indirect impacts on 180 officially eligible and one unevaluated site.

**Significance of the Impact:** These impacts are considered to be significant. However, indirect impacts to eligible and unevaluated cultural resources within the Project APE are not considered to be significant at this time.

- **Mitigation Measure 3.21.3.6-1:** EML would develop, and submit to the BLM for approval, a treatment plan to address the potential impacts to the 83 officially eligible sites within the Project APE. EML would implement the treatment plan prior to any surface disturbance of eligible sites within the area of direct impacts. This mitigation would be very effective at reducing the impacts to cultural resources. All adverse effects under the NHPA and direct and indirect impacts under NEPA to known-eligible properties identified within the Project APE would be mitigated in accordance with the PA and the treatment plan prepared for the Project. Any previously unknown-eligible properties that may be discovered during construction activities would be mitigated in accordance with the PA. Therefore, no additional mitigation or monitoring is proposed. No residual adverse effects are anticipated, as all known-eligible sites would be mitigated in accordance with the PA and the treatment plan prepared for the Project.
- **Effectiveness of Mitigation and Residual Effects:** The implementation of the treatment plan under the mitigation measure would be very effective at lessening the impact.
- **Impact 3.21.3.6-2:** Within the viewshed APE, 436 eligible and unevaluated historic and multi-component sites with a historic component would be indirectly impacted by reducing each site's integrity of setting as a result of the Proposed Action.

**Significance of the Impact:** Within the viewshed APE, eligible and unevaluated cultural resources would be indirectly affected by the Project and have been previously impacted

by past and present actions. The indirect impacts to eligible and unevaluated cultural resources within the viewshed APE are not considered to be significant at this time.

Due to the area's extensive historic mining, ranching, and prehistoric/historic Native American habitation, there is a possibility for any surface disturbing activity to expose both nonnative and native gravesites.

- **Impact 3.21.3.6-3:** As a result of the Proposed Action, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.21.3.6-3:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.21.3.6-3 would prevent any impacts to these discoveries.

#### 3.21.3.6.1 Residual Adverse Impacts

The Off-Site Transfer of Ore Concentrate for Processing Alternative would result in a potential impact that would be significant. The implementation of the mitigation measures would allow for the scientific collection of data these sites may yield; however, the potential impact would remain an irreversible and irretrievable commitment of cultural resources.

#### 3.21.3.7 Slower, Longer Project Alternative

Impacts to cultural resources from the Slower, Longer Project Alternative are expected to be similar to impacts from the Proposed Action.

- **Impact 3.21.3.7-1:** Implementation of the Slower, Longer Project Alternative would result in adverse effects to 83 officially eligible sites within the area of direct impacts. Outside of this area but within the Project APE, this action would also have indirect impacts on 180 officially eligible and one unevaluated site.

**Significance of the Impact:** These impacts are considered to be significant. However, indirect impacts to eligible and unevaluated cultural resources within the Project APE are not considered to be significant at this time.

- **Mitigation Measure 3.21.3.7-1:** EML would develop, and submit to the BLM for approval, a treatment plan to address the potential impacts to the 83 officially eligible sites within the Project APE. EML would implement the treatment plan prior to any surface disturbance of eligible sites within the area of direct impacts. This mitigation would be very effective at reducing the impacts to cultural resources. All adverse effects under the NHPA and direct and indirect impacts under NEPA to known-eligible properties identified within the Project APE would be mitigated in accordance with the PA and the treatment plan prepared for the Project. Any previously unknown-eligible properties that may be discovered during construction activities would be mitigated in accordance with the PA. Therefore, no additional mitigation or monitoring is proposed. No residual adverse effects are anticipated, as all known-eligible sites would be mitigated in accordance with the PA and the treatment plan prepared for the Project.
- **Effectiveness of Mitigation and Residual Effects:** The implementation of the treatment plan under the mitigation measure would be very effective at lessening the impact.
- **Impact 3.21.3.7-2:** Within the viewshed APE, 436 eligible and unevaluated historic and multi-component sites with a historic component would be indirectly impacted by reducing each site's integrity of setting as a result of the Proposed Action.

**Significance of the Impact:** Within the viewshed APE, eligible and unevaluated cultural resources would be indirectly affected by the Project and have been previously impacted by past and present actions. The indirect impacts to eligible and unevaluated cultural resources within the viewshed APE are not considered to be significant at this time.

Due to the area's extensive historic mining, ranching, and prehistoric/historic Native American habitation, there is a possibility for any surface disturbing activity to expose both nonnative and native gravesites.

- **Impact 3.21.3.7-3:** As a result of the Proposed Action, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.21.3.7-3:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.21.3.7-3 would prevent any impacts to these discoveries.

#### 3.21.3.7.1 Residual Adverse Impacts

The Slower, Longer Project Alternative would result in a potential impact that would be significant. The implementation of the mitigation measures would allow for the scientific collection of data these sites may yield; however, the potential impact would remain an irreversible and irretrievable commitment of cultural resources.

### 3.22 Native American Traditional Values

#### 3.22.1 Regulatory Framework

In accordance with the NHPA (P.L. 89-665), the NEPA (P.L. 91-190), the FLPMA (P. L.94-579), the AIRFA (P.L. 95-341), the NAGPRA (P.L. 101-601), ARPA (P.L. 96-95), Executive Order 13007 (Indian Sacred Sites, 1996), and Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments, 2000), the BLM must provide affected Tribes, organizations, and/or individuals an opportunity to participate in, comment, and consult on proposed actions that might impact resources, sites, or activities of concern. Through consultation initiation with area tribes, BLM must attempt to identify specific traditional/cultural/spiritual sites, activities, and resources and limit, reduce, or possibly eliminate any negative impacts. BLM also utilizes H-8120-1 General Procedural Guidance for Native American Consultation and National Register Bulletin 38, Guidelines for Evaluating and Documenting Traditional Cultural Properties (TCPs).

The NEPA requires the preparation of applicable environmental analysis (EA, EIS) for major federal land management actions that may significantly impact the quality of the human environment. CEQ regulations and guidance, specific to NEPA, require agencies to contact Indian Tribes and provide participation/comment opportunities for planning and decision making purposes. Section 40 CFR 1501.2(d)(2) states that Federal agencies must consult with tribes early in the NEPA process.

Consultation efforts with tribes under the auspices of NHPA seek to identify and evaluate these types of historic properties that contain traditional religious and cultural importance to their communities. In 1990, the NPS commissioned a publication to assist federal agencies in evaluating these types of historic properties for inclusion in the National Register. The ensuing National Register Bulletin 15 described these types of properties as TCPs, terms that are commonly used to categorize these historic properties.

By definition, a TCP is “one that is eligible for inclusion in the NRHP because of its association with cultural practices or beliefs of a living community that are (a) rooted in that community’s history, and are (b) important in maintaining the continuing cultural identity of the community” (Parker and King 1998). TCP types can be, but are not limited to, ceremonial sites, habitation sites, traditional origin locations, resource collection areas for subsistence or ceremonial use (includes mineral, plant, and water sources), burial sites, trails, and ethnohistorical locations. To qualify for nomination to the National Register as a Historic Property, a TCP must be more than 50 years old, must be a place with definable boundaries, must retain integrity (condition,

relationship to culture group), and must meet certain criteria as outlined in National Register Bulletin 15 (NPS 1990). Consultation with tribes should be conducted by federal agencies when identification, evaluation, and management of TCPs are being considered.

Under the FLPMA, tribal governments are provided the opportunity to comment on BLM land use plans to ensure consistency between the BLM's and the tribe's land use plans. FLPMA requires the BLM to consult with interested publics, including Indian Tribes, when writing land use plans. When tribal land/resource management plans/policies exist, the BLM would coordinate planning with these existing plans/policies. FLPMA sets policy to protect historic and archaeological sites. Federal land managers may have sufficient authority under FLPMA to issue a tribe a Special Use Permit to accommodate undisturbed ceremonial use for a certain amount of time.

AIRFA was passed in 1978 to establish a policy of federal protection for traditional Native American religious freedoms and required a review of agency programs in consultation with Native American religious leaders. Consultation efforts have been directed at identifying the concerns of Native American religious practitioners when considering agency actions. This is the only law that specifically requires consultation with the practitioner of the native religion, not political leaders or academicians.

NAGPRA requires consultation between federal agencies and tribal governments, traditional leaders, and lineal descendants to determine affiliation and disposition of the specific kinds of "cultural items" defined in the Act, which include Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony. NAGPRA also provides provisions for inadvertent discoveries. The agency must consult with any affected tribe before issuing a permit to excavate or remove remains and associated funerary objects from public land.

ARPA established a permitting process prior to the intentional disturbance of traditional/cultural resource sites (testing and data recovery) on federal lands and requires notification of the appropriate tribes prior to approving a cultural resource use permit for excavation. Notification is contingent on a determination by the responsible federal land manager that a location of cultural or religious importance to the tribe may be harmed or destroyed as a result of excavation procedures.

EO 13007 (Indian Sacred Sites) obligates federal land managing agencies to work with Indian Tribes to help protect their basic rights to practice their religions at specific sites. If an agency is made aware of specific sites and associated activities well before the implementation of land uses, the BLM generally has the ability to accommodate tribal access to sacred sites and prevent physical damage. The major purpose of the EO is to improve communication between land managing agencies and tribes. The EO requires that sacred sites, any specific, discrete, narrowly delineated location on federal land, must be identified as such either by an Indian Tribe or by an Indian individual whom the tribe has named as the appropriately authorized representative of its religion. As stated in the EO, effects to the physical integrity of sacred sites are to be avoided "to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions."

EO 13175 was issued to "establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, to strengthen the United States government-to-government relationships with tribes, and to reduce the

imposition of unfunded mandates upon Indian Tribes...” EO 13175 directs federal agencies to coordinate and consult with Indian tribal governments whose interests might be directly and substantially affected by activities on federally administered lands.

Although not regulation or law, the BLM also utilizes H-8120-1 (General Procedural Guidance for Native American Consultation) and National Register Bulletin 38 (Guidelines for Evaluating and Documenting Traditional Cultural Properties) in their consultation and evaluation of Native American issues.

### **3.22.2 Affected Environment**

#### **3.22.2.1 Study Methods**

The study area for Native American Traditional Values is based on supporting documentation from an ethnographic assessment produced for the Project (Bengston 2007). The area includes Mount Hope in the northern portion of the study area and several springs including Garden Spring, McBrides Spring, Mount Hope Springs, and other unnamed springs. The southwestern corner of the study area includes a portion of Kobeh Valley. Information presented in the following sections is based on the results of the ethnographic assessment and the ongoing consultation process with participating tribes, organizations, and individuals for the Project. BLM coordination/communication to date has included postal, phone, fax, and electronic correspondence, meetings, and various site visits. Some documents generated during the consultation process are included in Appendix E of this EIS. Certain sensitive information is on file at the MLFO and considered confidential.

#### **3.22.2.2 Existing Conditions**

##### **3.22.2.2.1 Native American Consultation**

In addition to the ongoing consultation process, MLFO utilized the services of an ethnographer to provide an additional vehicle for tribal participants to identify issues/concerns and be active in the Project.

Current topics of discussion with the Duckwater Shoshone Tribe include, but are not limited to the following: Cultural Inventory; training/education opportunities; inadvertent discovery of human remains notification procedures (cautionary); use of tribal monitors/observers; Project-specific long-term monitoring, including CESA boundary; sensitive records confidentiality; identification of affected cultural sites/resources and development of impact lessening alternatives.

MLFO consultation initiation/notification with federally recognized tribes and tribal organizations for the Project began in early 2007 and is currently ongoing with three of ten tribes that were initially contacted for the Project.

On February 6, 2007, the MLFO mailed certified consultation initiation letters (Appendix E) to ten recognized tribal governments: Te-Moak Tribal Council, Elko Band Council, Wells Band Council, Battle Mountain Band Council, South Fork Band Council, Ely Shoshone Tribe, Duckwater Shoshone Tribe, Yomba Shoshone Tribe, Duck Valley Shoshone-Paiute Tribes, and the Timbisha Shoshone Tribe. Letters were also mailed to the Bureau of Indian Affairs, Eastern

Nevada Agency, Western Shoshone Defense Project, and the Western Shoshone Committee of Duck Valley. The MLFO also provided the services of an ethnographer to assist the BLM and tribal participants in identifying any specific traditional/cultural site, activity, and resource concerns. A list of the number of follow-up contacts with each recognized tribal government and organizations is presented in Table 3.22-1. The Table in Appendix E provides the dates for these contacts.

On August 15, 2007, a tribe issued a resolution in opposition of the Project citing the destruction of pine nut gathering areas, springs for the wildlife and bird life, and medicinal plants if the Project is implemented. One additional tribe, the Bridgeport Indian Colony of California, mailed written comments on July 16, 2007, stating strong opposition to the Project. Site-specific information was not included in either letter, nor were there any request for further consultation or participation.

**Table 3.22-1: Follow-up Contacts with Recognized Tribal Governments and Organizations**

<b>Recognized Tribal Government / Organizations</b>	<b>Number of Contacts</b>
Battle Mountain Band Council	3
Duckwater Shoshone Tribe	56
Elko Band Council	4
Ely Shoshone Tribe	4
South Fork Band Council	5
Te-Moak Tribal Council	2
Wells Band Council	5
Yomba Shoshone Tribe	4

Of the initial tribal entities contacted, representatives and/or members of the Wells Band, South Fork Band, Timbisha Shoshone Tribe, Duckwater Shoshone Tribe, Ely Shoshone Tribe, and various other Western Shoshone individuals have participated throughout the process, with the Duckwater Shoshone Tribe being the most active. To date, the MLFO has conducted four field visits to the Project Area at the request of various tribal representatives, community members, and in particular the Duckwater Shoshone Tribe. Based on requests from the Duckwater Shoshone Tribe to review the cultural resource report for the Project, the MLFO has prepared a Project-specific MOU for information sharing and tribal monitoring with the Duckwater Shoshone Tribe.

On March 21, 2008, the MLFO mailed a draft PA for cultural resources on to the Te-Moak Tribal Council, Ely Shoshone Tribe, Duckwater Shoshone Tribe, and Yomba Shoshone Tribe. All tribes declined to be signatories on the PA; however, the Duckwater Shoshone Tribe has opted to use the above mentioned MOU in lieu of the PA. Of all the contacted, interested, and participating tribal entities, the Duckwater Shoshone Tribe has remained the most active.

#### 3.22.2.2.2 Mount Hope Ethnographic Assessment

In 2007, MLFO also produced an ethnographic assessment of the Project Area and surrounding areas to determine the presence of previously recorded traditional cultural places, document contemporary tribal concerns, and provide recommendations for mitigation of culturally significant places identified by tribal representatives. Contact was made by telephone, mail, e-mail, faxes, and field visits (two) to the Project Area. Results of the assessment showed that the study area is culturally significant to the Western Shoshone; however, no specific places of

cultural or religious importance were identified within the study area during the field tours. Three culturally significant places (Kobeh Valley, Sulphur Springs Range, and Roberts Mountains) were identified during the ethnographic literature review, but tribal representatives did not provide specific information concerning any of these areas during the field visits. The following concerns were voiced:

- Potential destruction of the existing piñon trees (no other species of concern were identified);
- Potential effects on the water, including potential destruction of springs;
- Potential effects on the wildlife in the area;
- Potential ecological effects of the removal of Mount Hope if mining is allowed to occur; and
- Air quality, particularly with respect to dust.

#### 3.22.2.2.3 EML Communication with Native Americans

EML, between 2007 and 2010, has had a number of contacts and communications with the Duckwater Shoshone Tribe. The following is a listing of those contacts. This list includes coordination between EML and the Tribe and does not constitute consultation, which is a formal government to government process.

- EML representatives (Brian Musser) at Mount Hope with Duckwater July 2007.
- EML representatives (Zach Spencer and Brian Musser) at Duckwater Halloween October 31, 2007.
- EML representatives (Zach Spencer and George Blankenship) at Duckwater December 2007.
- EML representatives (Zach Spencer and Elaine Barkdull-Spencer) at Duckwater Annual Festival 2008.
- EML representatives (Zach and Pat Rogers) tour of Mount Hope July 15, 2008.
- EML representatives (Zach Spencer) at Duckwater Health Fair September 18, 2008.
- EML representatives (Zach Spencer and Pat Rogers) tour of Mount. Hope August 18, 2009.
- EML representatives (Zach Spencer, Pat Rogers, and Tim Arnold) at Duckwater October 2009.
- EML representatives (Zach Spencer and Kevin Kinsella) at Duckwater Halloween October 30, 2009.
- EML representatives (Zach Spencer, Lee Shumway, and Bill Albert) lunch with Gonnie Mendez in Elko April 2010.
- EML representatives (Zach Spencer, Tim Arnold, and Carrie Dubray) at Duckwater May 2010.
- EML representatives (Zach Spencer, Pat Rogers, Kevin Kinsella) et al. at Duckwater Annual Festival June 2010.
- EML representatives (Zach Spencer, Pat Rogers, Tim Arnold) September 2010.
- EML representatives (Zach Spencer and Lee Shumway) breakfast meeting with Gonnie Mendez in Elko October 2010.

### 3.22.3 Environmental Consequences and Mitigation Measures

#### 3.22.3.1 Significance Criteria

The AIRFA and EO 13007 apply to sites used for religious ceremonies or sacred sites. However, consultation is ongoing and the BLM acknowledges that locations of nut producing pine tree stands may vary from year to year. These statutes do not specify criteria for determining whether a project would affect such places; however, for purposes of the analysis in the EIS, with respect to sites used for religious ceremonies as referred to in the AIRFA and to sacred sites as referred to in EO 13007, a project effect is considered significant if it restricts access to such sites, in some way impedes the exercise of ceremonies at such sites, or affects the physical integrity of such sites.

A site within an avoidance area (a Native American identified area of concern) would be considered susceptible to a significant effect under one (or more) of the following Project-related situations:

- Access is reduced or lost (EO 13007);
- Physical destruction or disturbance (EO 13007, NHPA);
- Alteration of setting (NHPA);
- Introduction of visual, noise, or atmospheric elements that are out of character (NHPA); or
- Area is somehow rendered unsuitable for traditional or religious use (EO 13007).

Effects on National Register eligible properties including properties that are eligible because of traditional religious or cultural values, are assessed in terms of criteria of adverse effects, listed in regulations implementing Section 106 of the NHPA, at 36 CFR 800.9. The effects include the following that are most applicable to TCPs:

- Destruction or alteration of all or part of a property;
- Isolation from or alteration of surrounding environment; or
- Introduction of visual, audible, or atmospheric elements that are out of character with a property or alter its setting.

#### 3.22.3.2 Assessment Methodology

The Proposed Action and the alternatives were compared with the information developed in the ethnographic assessment and Native American Consultation process. The effects are determined to be significant or not significant based on the applicable significance criteria listed in Section 3.22.3.1.

#### 3.22.3.3 Proposed Action

Although tribal participants have not made any formal TCPs designations or identified specific locations of religious or spiritual activity within or in close proximity to the Project Area, general concerns have been raised throughout the consultation process, such as: impacts to and loss of pine tree stands; impacts to water sources; disturbance of archaeological sites (prehistoric and ethno-historic); potential to encounter gravesites; loss of edible/medicinal plant species; impacts to wildlife; and participation in reclamation or “healing the Earth.” Often, spiritual and/or

religious beliefs/practices and certain resource impacts can be difficult if not impossible to mitigate. Therefore, at this time, the BLM is currently coordinating with those participating tribes and EML to identify impact lessening procedures/techniques, possible avoidance measures, and potential off and on site mitigation measures.

Mitigation of cultural resources sites, specific to archaeology, via data recovery (surface collecting and excavation), is often considered an adverse impact to tribes since they consider “artifact” removal to be erasing the evidence of the existence of their ancestors. Discussions to date have focused on tribal monitoring and observation during any data recovery and new surface disturbance; cultural resources and archaeological processes training and education; and identifying opportunities for youth and elder participation.

Impacts to pine trees and other plant species within the Project Area would occur. However, the BLM and the participating tribes are currently identifying possible species to be used for future reclamation purposes. Also, opportunities for off-site mitigation are also being made available, such as enhancing, preserving, and/or introducing traditional/cultural use plant species in other areas within the CESA boundary. Wood product use discussions are also occurring, such as tribal member and elder heating assistance program fire wood use.

#### 3.22.3.3.1 Inadvertent Discoveries

Due to the area’s extensive historic mining, ranching, and prehistoric/historic Native American habitation, there is a possibility for any surface disturbing activity to expose both nonnative and native gravesites.

- **Impact 3.22.3.3-1:** As a result of the Proposed Action, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.22.3.3-1:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.22.3.3-1 would prevent any impacts to these discoveries.

### 3.22.3.3.2 Impacts to Pine Nut Gathering Locations

To date, the MLFO consultation effort has not produced specific locational information concerning pine nut gathering locations within the Project Area. During field tours for the ethnographic assessment, Te-Moak Tribe representatives stated that the area north of Mount Hope was one of the last pine nut gathering areas still accessible to their families. If replanting of piñon trees occurs as a mitigation measure for the Project, representatives stated that it would be many years before the trees would bear pine nuts. The ethnographic assessment literature review conducted as part of the Mount Hope ethnographic assessment documented the Sulphur Springs Range and Roberts Mountains as being two locations that were historically accessed by Western Shoshone people for pine nut gathering and other resource utilization. Historic Shoshone camps were documented in these ranges but exact locations are unknown.

Development of the Proposed Action would result in the removal of approximately 3,303 acres of piñon-juniper habitat. The return of piñon-juniper habitat to these areas would likely not occur for at least 75 to 100 years, if at all. Within the Project Area, approximately 37 percent of the piñon-juniper habitat would be directly impacted. In addition, 4,600 acres of piñon-juniper habitat not directly affected would not be available for pine nut gathering for the duration of the Project because that habitat would be within the Project fence boundary. To the south and north of the Project Area there is extensive piñon-juniper habitat, and within the BMDO planning area there are approximately 2,124,063 acres of piñon-juniper habitat.

- **Impact 3.22.3.3-2:** The Proposed Action would remove 3,303 acres of piñon-juniper habitat, which includes piñon trees that would then not be available for pine nut gathering.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. No mitigation is proposed.

- **Impact 3.22.3.3-3:** The Proposed Action would restrict 4,600 acres of piñon-juniper habitat within the Project boundary fence, which would then not be available for pine nut gathering for the duration of the Project.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. However, the following mitigation measure is proposed.

- **Mitigation Measure 3.22.3.3-3:** In years of greater than average cone production, as determined by the BLM, EML would make areas within the Project Area fence available for Native American pine nut gathering, subject to all applicable MSHA requirements.

### 3.22.3.3.3 Impacts to Water Resources

The Mount Hope ethnographic assessment documented environmental concerns including impacts to water resources; however, specific locations of environmental concerns have not been identified during the course of consultation for the Project. Western Shoshone people consider water resources to be sacred (Bengston 2007). Impacts to the water sources impact all other resources as well as the animals that utilize the water and plant foods for survival. Once the water is gone, then life would be gone, according to Shoshone representatives. Water sources,

such as hot springs are also used for ceremonial purposes, although these types of sites have not yet been identified during the course of consultation.

As outlined in Section 3.2.3.3, the Proposed Action could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek). This effect would principally occur in the Roberts Mountains. As outlined in Section 3.11.3.3, the potential decline in the water table and potential decrease in flows in the springs and perennial drainages, may result in a change in the riparian and wetland vegetation. This potential indirect effect would cover approximately four acres of riparian vegetation associated with springs and an undetermined number of acres associated with the 7.7 miles of perennial streams.

- **Impact 3.22.3.3-4:** The Proposed Action could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek), which are, in a general nature, considered sacred by Native Americans.

**Significance of the Impact:** Even though water has been identified through Native American Consultation by the BLM as an important issue to the Western Shoshone, none of the springs or perennial streams that could potentially be impacted by the Proposed Action have been specifically identified as traditional or religious use areas. Therefore, the Proposed Action impact does not meet the significance criteria listed in Section 3.22.3.1, and no resource specific mitigation measures were determined necessary. Mitigation for impacts to water resources have been identified in Section 3.2.3.3, which would have the potential of reducing some of the impacts.

#### 3.22.3.3.4 Impacts to Cultural Sites

As outlined in Table 3.21-1, there are 100 prehistoric sites within the area of direct effect for the Proposed Action. Thirty-eight of the 100 sites are considered as eligible for the NRHP. Even though EML has identified that eligible sites would be treated prior to their removal and the initiation of Project construction, all 100 sites would be removed from the landscape as part of the Proposed Action. Since Native Americans view the removal of sites from the landscape as a method of “wiping their cultural footprint from the land,” the removal of any sites is of concern to the Native Americans.

- **Impact 3.22.3.3-5:** The Proposed Action could impact 100 prehistoric cultural sites by removing them from the landscape.

**Significance of the Impact:** The removal of any sites from the landscape is considered significant by the Native Americans. Therefore this impact is significant. As outlined in Section 3.21, those sites that are eligible for the NRHP would be treated prior to Project activities; however, this does not reduce the impact to Native Americans. Although prehistoric and ethnohistoric sites and associated artifacts exist within the general area of the proposed expansion, no Native American traditional use sites, activities, or associated resources are known to exist in proposed disturbance areas. Therefore, no mitigation measures specific to contemporary tribal uses are proposed.

However, for those archaeological sites (prehistoric and historic) scheduled or proposed for treatment (i.e., data recovery/excavation), tribal participants would be given the opportunity to monitor the data recovery efforts, and provide interpretation of any

artifacts or features discovered during the process. In addition, the BLM or a contracted Cultural Resources Specialist/Archaeologist, accompanied by designated tribal representatives and/or descendants, may conduct periodical or stipulated monitoring of sites scheduled for avoidance before, during, and after Project construction. Monitoring of identified archaeological sites within and in close proximity to proposed disturbance areas could occur throughout the life of the Project to ensure agreed upon avoidance.

#### 3.22.3.3.5 Residual Adverse Impacts

The Proposed Action would have an unavoidable impact to pine nut gathering and potentially to springs and perennial streams in the vicinity of the Project. The Proposed Action would have an unavoidable and adverse impact to cultural sites within the footprint of the Project facilities.

#### 3.22.3.4 No Action Alternative

##### 3.22.3.4.1 Inadvertent Discoveries

The No Action Alternative is not expected to affect Native American remains or artifacts.

##### 3.22.3.4.2 Impacts to Pine Nut Gathering Locations

The No Action Alternative would have a very limited impact on pine nut gathering, due to the removal of a small and undetermined number of acres of piñon-juniper habitat within the Project Area for road building.

- **Impact 3.22.3.4-1:** The No Action Alternative Action would remove a small and undetermined number of acres of piñon-juniper habitat, which would then not be available for pine nut gathering.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1; therefore, no mitigation measures are proposed.

##### 3.22.3.4.3 Impacts to Water Resources

The No Action Alternative would not affect springs or perennial streams.

##### 3.22.3.4.4 Impacts to Cultural Sites

The No Action Alternative would not affect cultural sites.

##### 3.22.3.4.5 Residual Adverse Impacts

The No Action Alternative would have an unavoidable impact to pine nut gathering.

### 3.22.3.5 Partial Backfill Alternative

#### 3.22.3.5.1 Inadvertent Discoveries

- **Impact 3.22.3.5-1:** As a result of the Partial Backfill Alternative, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.22.3.5-1:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.22.3.5-1 would prevent any impacts to these discoveries.

#### 3.22.3.5.2 Impacts to Pine Nut Gathering Locations

To date, the MLFO consultation effort has not produced specific locational information concerning pine nut gathering locations within the Project Area. Impacts to pine nut gathering locations from the Partial Backfill Alternative would be the same as under the Proposed Action. If replanting of piñon trees occurs as a mitigation measure for the Project, representatives stated that it would be many years before the trees would bear pine nuts. The ethnographic assessment literature review conducted as part of the Mount Hope ethnographic assessment documented the Sulphur Springs Range and Roberts Mountains as being two locations that were historically accessed by Western Shoshone people for pine nut gathering and other resource exploitation. Historic Shoshone camps were documented in these ranges but exact locations are unknown.

Development of the Partial Backfill Alternative would result in the removal of approximately 3,303 acres of piñon-juniper habitat. The return of piñon-juniper habitat to these acres would likely not occur for at least 75 to 100 years, if at all. Within the Project Area, approximately 37 percent of the piñon-juniper habitat would be directly impacted. In addition, 4,600 acres of piñon-juniper habitat not directly affected would not be available for pine nut gathering for the duration of the Project because that habitat would be within the Project fence boundary. To the south and north of the Project Area there is extensive piñon-juniper habitat.

- **Impact 3.22.3.5-2:** The Partial Backfill Alternative would remove 3,303 acres of piñon-juniper habitat, which would then not be available for pine nut gathering.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. No mitigation is proposed.

- **Impact 3.22.3.5-3:** The Partial Backfill Project Alternative would restrict 4,600 acres of piñon-juniper habitat within the Project boundary fence, which would then not be available for pine nut gathering for the duration of the Project.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. However, the following mitigation measure is proposed.

- **Mitigation Measure 3.22.3.5-3:** In years of greater than average cone production, as determined by the BLM, EML would make areas within the Project Area fence available for Native American pine nut gathering, subject to all applicable MSHA requirements.

### 3.22.3.5.3 Impacts to Water Resources

The Mount Hope ethnographic assessment documented environmental concerns including impacts to water resources, but specific locations have not been identified during the course of consultation for the Project. Western Shoshone people consider water resources to be the sacred (Bengston 2007). Impacts to water resources from the Partial Backfill Alternative would be the same as under the Proposed Action. Once the water is gone, then life would be gone, according to Shoshone representatives. Water sources, such as hot springs are also used for ceremonial purposes, although these types of sites have not yet been identified during the course of consultation.

As outlined in Section 3.2.3.3, the Proposed Action could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek). This effect would principally occur on Roberts Mountain. As outlined in Section 3.11.3.3, the potential decline in the water table and potential decrease in flows in the springs and perennial drainages, may result in a change in the riparian and wetland vegetation. This potential indirect effect would cover approximately four acres of riparian vegetation associated with springs and an undetermined number of acres associated with the 7.7 miles of perennial streams.

- **Impact 3.22.3.5-4:** The Partial Backfill Alternative could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek), which are, in a general nature, considered sacred by Native Americans.

**Significance of the Impact:** Even though water has been identified through Native American Consultation by the BLM as an important issue to the Western Shoshone, none of the springs or perennial streams that could potentially be impacted by the Proposed Action have been specifically identified as traditional or religious use areas. Therefore, the Partial Backfill Alternative impact does not meet the significance criteria listed in Section 3.22.3.1, and no resource specific mitigation measures were proposed. Mitigation for impacts to water resources have been identified in Section 3.2.3.5, which would have the potential of reducing some of the impacts.

#### 3.22.3.5.4 Impacts to Cultural Sites

As outlined in Table 3.21-1, there are 100 prehistoric sites within the area of direct effect for the Partial Backfill Alternative. Thirty-eight of the 100 sites are considered as eligible for the NRHP. Even though EML has identified that eligible sites would be treated prior to their removal and the initiation of Project construction, all 100 sites would be removed from the landscape as part of the Partial Backfill Alternative. Since Native Americans view the removal of sites from the landscape as a method of “wiping their cultural footprint from the land”, the removal of any sites is of concern to the Native Americans.

- **Impact 3.22.3.5-5:** The Partial Backfill Alternative could impact 100 prehistoric cultural sites by removing them from the landscape.

**Significance of the Impact:** The removal of any sites from the landscape is considered significant by the Native Americans. Therefore this impact is significant. As outlined in Section 3.21, those sites that are eligible for the NRHP would be treated prior to Project activities; however, this does not reduce the impact to Native Americans. Although prehistoric and ethnohistoric sites and associated artifacts exist within the general area of the proposed expansion, no Native American traditional use sites, activities, or associated resources are known to exist in proposed disturbance areas. Therefore, no mitigation measures specific to contemporary tribal uses are proposed.

However, for those archaeological sites (prehistoric and historic) scheduled or proposed for treatment (i.e., data recovery/excavation), tribal participants would be given the opportunity to monitor the data recovery efforts, and provide interpretation of any artifacts or features discovered during the process. In addition, the BLM or a contracted Cultural Resources Specialist/Archaeologist, accompanied by designated tribal representatives and/or descendants, may conduct periodical or stipulated monitoring of sites scheduled for avoidance before, during, and after Project construction. Monitoring of identified archaeological sites within and in close proximity to proposed disturbance areas could occur throughout the life of the Project to ensure agreed upon avoidance.

#### 3.22.3.5.5 Residual Adverse Impacts

The Partial Backfill Alternative would have an unavoidable impact to pine nut gathering and potentially to springs and perennial streams in the vicinity of the Project. The Partial Backfill Alternative would have an unavoidable and adverse impact to cultural sites within the footprint of the Project facilities.

#### 3.22.3.6 Off-Site Transfer of Ore Concentrate for Processing Alternative

##### 3.22.3.6.1 Inadvertent Discoveries

- **Impact 3.22.3.6-1:** As a result of the Off-Site Transfer of Ore Concentrate for Processing Alternative, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.22.3.6-1:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.22.3.6-1 would prevent any impacts to these discoveries.

#### 3.22.3.6.2 Impacts to Pine Nut Gathering Locations

To date, the MLFO consultation effort has not produced specific locational information concerning pine nut gathering locations within the Project Area. During field tours for the ethnographic assessment, Te-Moak Tribe representatives stated that the area north of Mount Hope was one of the last pine nut gathering areas still accessible to their families. If replanting of piñon trees occurs as a mitigation measure for the Project, representatives stated that it would be many years before the trees would bear pine nuts. The ethnographic assessment literature review conducted as part of the Mount Hope ethnographic assessment documented the Sulphur Springs Range and Roberts Mountains as being two locations that were historically accessed by Western Shoshone people for pine nut gathering and other resource exploitation. Historic Shoshone camps were documented in these ranges but exact locations are unknown.

Development of the Off-Site Transfer of Ore Concentrate for Processing Alternative would result in the removal of approximately 3,303 acres of piñon-juniper or piñon habitat. The return of piñon-juniper habitat to these acres would likely not occur for at least 75 to 100 years, if at all. Within the Project Area, approximately 37 percent of the piñon-juniper habitat would be directly impacted. In addition, 4,600 acres of piñon-juniper habitat not directly affected would not be available for pine nut gathering for the duration of the Project because that habitat would be within the Project fence boundary. To the south and north of the Project Area there is extensive piñon-juniper habitat.

- **Impact 3.22.3.6-2:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would remove 3,303 acres of piñon-juniper habitat, which would then not be available for pine nut gathering.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. No mitigation is proposed.

- **Impact 3.22.3.6-3:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would restrict 4,600 acres of piñon-juniper habitat within the Project boundary fence, which would then not be available for pine nut gathering for the duration of the Project.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. However, the following mitigation measure is proposed.

- **Mitigation Measure 3.22.3.6-3:** In years of greater than average cone production, as determined by the BLM, EML would make areas within the Project Area fence available for Native American pine nut gathering, subject to all applicable MSHA requirements.

#### 3.22.3.6.3 Impacts to Water Resources

The Mount Hope ethnographic assessment documented environmental concerns including impacts to water resources, but specific locations have not been identified during the course of consultation for the Project. Western Shoshone people consider water resources to be sacred (Bengston 2007). Impacts to the water sources impact all other resources as well as the animals that utilize the water and plant foods for survival. Once the water is gone, then life would be gone, according to Shoshone representatives. Water sources, such as hot springs are also used for ceremonial purposes, although these types of sites have not yet been identified during the course of consultation.

As outlined in Section 3.2.3.3, the Proposed Action could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek). This effect would principally occur in the Roberts Mountains. As outlined in Section 3.11.3.3, the potential decline in the water table and potential decrease in flows in the springs and perennial drainages, may result in a change in the riparian and wetland vegetation. This potential indirect effect would cover approximately four acres of riparian vegetation associated with springs and an undetermined number of acres associated with the 7.7 miles of perennial streams.

- **Impact 3.22.3.6-4:** The Off-Site Transfer of Ore Concentrate for Processing Alternative could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek), which are, in a general nature, considered sacred by Native Americans.

**Significance of the Impact:** Even though water has been identified through Native American Consultation by the BLM as an important issue to the Western Shoshone, none of the springs or perennial streams that could potentially be impacted by the Proposed Action have been specifically identified as traditional or religious use areas. Therefore, the Off-Site Transfer of Ore Concentrate for Processing Alternative impact does not meet the significance criteria listed in Section 3.22.3.1, and no resource specific mitigation measures were determined necessary. Mitigation for impacts to water resources have been identified in Section 3.2.3.6, which would have the potential of reducing some of the impacts.

#### 3.22.3.6.4 Impacts to Cultural Sites

As outlined in Table 3.21-1, there are 100 prehistoric sites within the area of direct effect for the Off-Site Transfer of Ore Concentrate for Processing Alternative. 38 of the 100 sites are considered as eligible for the NRHP. Even though EML has identified that eligible sites would be treated prior to their removal and the initiation of Project construction, all 100 sites would be removed from the landscape as part of the Off-Site Transfer of Ore Concentrate for Processing

Alternative. Since Native Americans view the removal of sites from the landscape as a method of “wiping their cultural footprint from the land”, the removal of any sites is of concern to the Native Americans.

- **Impact 3.22.3.6-5:** The Off-Site Transfer of Ore Concentrate for Processing Alternative could impact 100 prehistoric cultural sites by removing them from the landscape.

**Significance of the Impact:** The removal of any sites from the landscape is considered significant by the Native Americans. Therefore this impact is significant. As outlined in Section 3.21, those sites that are eligible for the NRHP would be treated prior to Project activities; however, this does not reduce the impact to Native Americans. Although prehistoric and ethnohistoric sites and associated artifacts exist within the general area of the proposed expansion, no Native American traditional use sites, activities, or associated resources are known to exist in proposed disturbance areas. Therefore, no mitigation measures specific to contemporary tribal uses is proposed.

However, for those archaeological sites (prehistoric and historic) scheduled or proposed for treatment (i.e., data recovery/excavation), tribal participants would be given the opportunity to monitor the data recovery efforts, and provide interpretation of any artifacts or features discovered during the process. In addition, the BLM or a contracted Cultural Resources Specialist/Archaeologist, accompanied by designated tribal representatives and/or descendants, may conduct periodical or stipulated monitoring of sites scheduled for avoidance before, during, and after project construction. Monitoring of identified archaeological sites within and in close proximity to proposed disturbance areas could occur throughout the life of the project to ensure agreed upon avoidance.

#### 3.22.3.6.5 Residual Adverse Impacts

The Off-Site Transfer of Concentrate for Processing Alternative would have an unavoidable, but not adverse impact to pine nut gathering and potentially to springs and perennial streams in the vicinity of the Project. The Off-Site Transfer of Ore Concentrate for Processing Alternative would have an unavoidable and adverse impact to cultural sites within the footprint of the Project facilities.

#### 3.22.3.7 Slower, Longer Project Alternative

##### 3.22.3.7.1 Inadvertent Discoveries

- **Impact 3.22.3.7-1:** As a result of the Slower, Longer Project Alternative, there could be an impact to Native American remains or artifacts.

**Significance of the Impact:** This impact would be considered potentially significant; however, the impact would become less than significant after implementation of the mitigation measure described below.

- **Mitigation Measure 3.22.3.7-1:** In the case of inadvertent discovery of human remains, the BMDO Policy for the Discovery of Human Remains (Instruction Memorandum NV-2010-001) – notification procedures - would be followed. If the remains are determined to be native, NAGPRA inadvertent discovery procedures would be adhered to. Under the

NAGPRA, section (3)(d)(1), it states that the discovering individual must notify the land manager in writing of such a discovery. If the discovery occurs in connection with an authorized use, the activity, which caused the discovery, is to cease and the materials are to be protected until the land manager can respond to the situation. Tribes, tribal organizations, possible lineal descendants, and individuals would then be contacted to determine cultural affiliation and subsequent transfer of custody procedures would begin.

**Effectiveness of Mitigation and Residual Effects:** The Project could result in the exposure of Native American remains or artifacts. Implementation of Mitigation Measure 3.22.3.7-1 would prevent any impacts to these discoveries.

### 3.22.3.7.2 Impacts to Pine Nut Gathering Locations

To date, the MLFO consultation effort has not produced specific locational information concerning pine nut gathering locations within the Project Area. Impacts to pine nut gathering locations from the Slower, Longer Project Alternative would be the same as under the Proposed Action. If replanting of piñon trees occurs as a mitigation measure for the Project, representatives stated that it would be many years before the trees would bear pine nuts. The ethnographic assessment literature review conducted as part of the Mount Hope ethnographic assessment documented the Sulphur Springs Range and Roberts Mountains as being two locations that were historically accessed by Western Shoshone people for pine nut gathering and other resource exploitation. Historic Shoshone camps were documented in these ranges but exact locations are unknown.

Development of the Slower, Longer Project Alternative would result in the removal of approximately 3,303 acres of piñon-juniper habitat. The return of piñon-juniper habitat to these acres would likely not occur for at least 75 to 100 years, if at all. Within the Project Area, approximately 37 percent of the piñon-juniper habitat would be directly impacted. In addition, 4,600 acres of piñon-juniper habitat not directly affected would not be available for pine nut gathering for the duration of the Project because that habitat would be within the Project fence boundary. To the south and north of the Project Area there is extensive piñon-juniper habitat.

- **Impact 3.22.3.7-2:** The Slower, Longer Project Alternative would remove 3,303 acres of piñon-juniper habitat, which would then not be available for pine nut gathering.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. No mitigation is proposed.

- **Impact 3.22.3.7-3:** The Slower, Longer Project Alternative would restrict 4,600 acres of piñon-juniper habitat within the Project boundary fence, which would then not be available for pine nut gathering for the duration of the Project.

**Significance of the Impact:** The impact does not meet the significance criteria listed in Section 3.22.3.1 since there are no identified avoidance areas. However, the following mitigation measure is proposed.

- **Mitigation Measure 3.22.3.7-3:** In years of greater than average cone production, as determined by the BLM, EML would make areas within the Project Area fence available for Native American pine nut gathering, subject to all applicable MSHA requirements.

### 3.22.3.7.3 Impacts to Water Resources

The Mount Hope ethnographic assessment documented environmental concerns including impacts to water resources, but specific locations have not been identified during the course of consultation for the Project. Western Shoshone people consider water resources to be the sacred (Bengston 2007). Impacts to water resources from the Slower, Longer Project Alternative would be the same as under the Proposed Action. Once the water is gone, then life would be gone, according to Shoshone representatives. Water sources, such as hot springs are also used for ceremonial purposes, although these types of sites have not yet been identified during the course of consultation.

As outlined in Section 3.2.3.3, the Proposed Action could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek). This effect would principally occur in the Roberts Mountains. As outlined in Section 3.11.3.3, the potential decline in the water table and potential decrease in flows in the springs and perennial drainages, may result in a change in the riparian and wetland vegetation. This potential indirect effect would cover approximately four acres of riparian vegetation associated with springs and an undetermined number of acres associated with the 7.7 miles of perennial streams.

- **Impact 3.22.3.7-4:** The Slower, Longer Project Alternative could impact 22 springs and 7.7 miles of perennial streams (Roberts Creek and Henderson Creek), which are, in a general nature, considered sacred by Native Americans.

**Significance of the Impact:** Even though water has been identified through Native American Consultation by the BLM as an important issue to the Western Shoshone, none of the springs or perennial streams that could potentially be impacted by the Proposed Action have been specifically identified as traditional or religious use areas. Therefore, the Slower, Longer Project Alternative impact does not meet the significance criteria listed in Section 3.22.3.1, and no resource specific mitigation measures were determined necessary. Mitigation for impacts to water resources have been identified in Section 3.2.3.5, which would have the potential of reducing some of the impacts.

### 3.22.3.7.4 Impacts to Cultural Sites

As outlined in Table 3.21-1, there are 100 prehistoric sites within the area of direct effect for the Slower, Longer Project Alternative. Thirty-eight of the 100 sites are considered as eligible for the NRHP. Even though EML has identified that eligible sites would be treated prior to their removal and the initiation of Project construction, all 100 sites would be removed from the landscape as part of the Slower, Longer Project Alternative. Since Native Americans view the removal of sites from the landscape as a method of “wiping their cultural footprint from the land”, the removal of any sites is of concern to the Native Americans.

- **Impact 3.22.3.7-5:** The Slower, Longer Project Alternative could impact 100 prehistoric cultural sites by removing them from the landscape.

**Significance of the Impact:** The removal of any sites from the landscape is considered significant by the Native Americans. Therefore this impact is significant. As outlined in Section 3.21, those sites that are eligible for the NRHP would be treated prior to Project activities; however, this does not reduce the impact to Native Americans. Although

prehistoric and ethnohistoric sites and associated artifacts exist within the general area of the proposed expansion, no Native American traditional use sites, activities, or associated resources are known to exist in proposed disturbance areas. Therefore, no mitigation measures specific to contemporary tribal uses is proposed.

However, for those archaeological sites (prehistoric and historic) scheduled or proposed for treatment (i.e., data recovery/excavation), tribal participants would be given the opportunity to monitor the data recovery efforts, and provide interpretation of any artifacts or features discovered during the process. In addition, the BLM or a contracted Cultural Resources Specialist/Archaeologist, accompanied by designated tribal representatives and/or descendants, may conduct periodical or stipulated monitoring of sites scheduled for avoidance before, during, and after Project construction. Monitoring of identified archaeological sites within and in close proximity to proposed disturbance areas could occur throughout the life of the Project to ensure agreed upon avoidance.

#### 3.22.3.7.5 Residual Adverse Impacts

The Slower, Longer Project Alternative would have an unavoidable impact to pine nut gathering and potentially to springs and perennial streams in the vicinity of the Project. The Slower, Longer Project Alternative would have an unavoidable and adverse impact to cultural sites within the footprint of the Project facilities.

### **3.23 Wildlife and Fisheries Resources**

#### **3.23.1 Regulatory Framework**

This section discusses the laws, regulations, guidelines, and procedures that apply to management of wildlife resources potentially affected by the Project.

##### 3.23.1.1.1 BLM/NDOW Memorandum of Understanding

Wildlife and fish resources and their habitat on public lands are managed cooperatively by the BLM and NDOW under a MOU as established in 1971. The MOU describes the BLM's commitment to manage wildlife and fisheries resource habitat, and the NDOW's role in managing populations. The ecological definition of population is a group of organisms of one species that interbreed and live in the same place at the same time. The BLM meets its obligations by managing public lands to protect and enhance food, shelter, and breeding areas for wild animals. The NDOW assures healthy wildlife numbers through a variety of management tools including wildlife and fisheries stocking programs, hunting and fishing regulations, land purchases for wildlife management, cooperative enhancement projects, and other activities.

##### 3.23.1.1.2 Nevada Department of Wildlife Programs

The NDOW is the state agency responsible for the restoration and management of fish and wildlife resources within the state. The NDOW administers state wildlife management and protection programs as set forth in NRS Chapter 501, Wildlife Administration and Enforcement, and NAC Chapter 503, Hunting, Fishing and Trapping; Miscellaneous Protective Measures. NRS 501.110 defines the various categories of wildlife in Nevada, including protected categories.