

build on previous and current planning efforts in order to prepare for the possible timing differences between expenditures and tax revenues.

#### 3.17.3.7.6 Residual Adverse Impacts

The Slower, Longer Project Alternative would have the unavoidable indirect potential to adversely affect County services and facilities through substantial growth and concentration of population.

### 3.18 Environmental Justice

#### 3.18.1 Regulatory Framework

On February 11, 1994, President William Clinton issued EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations. This EO was designed to focus the attention of federal agencies on the human health and environmental conditions in minority communities and low-income communities. In an accompanying Presidential memorandum, the President emphasized that existing laws, including NEPA, provide opportunities for federal agencies to address environmental hazards in minority and low-income communities. In April of 1995, the EPA released the document titled Environmental Justice Strategy: EO 12898. The document established EPA-wide goals and defined the approaches by which the EPA would ensure that disproportionately high and adverse human health or environmental effects on minority communities and low-income communities are identified and addressed.

#### 3.18.2 Affected Environment

##### 3.18.2.1 Study Methods

The baseline data presented below are based upon information from the Socioeconomic Assessment (BCLLC/SDLLC 2008). The Socioeconomic Assessment is incorporated by reference. A complete copy of the report is available for review at the MLFO during normal business hours.

The Study Area for environmental justice effects of the proposed Project is southern Eureka County including the Town of Eureka, which is the only geographic area likely to experience substantial direct or indirect social or economic effects from the Project (Figure 3.17.1). This Study Area determination is based on the fact that employees may live up to 100 miles from the Project Area. Table 3.17-1 shows communities within a 100-mile commuting distance of the Project Area and the 2006 population of those communities.

EPA's Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses (EPA 1998) suggests a screening process to identify environmental justice concerns. This two-step process defines the significance criteria for this issue; if either criteria is unmet, there is little likelihood of environmental justice effects occurring. The two-step process is as follows:

- (1) Does the potentially affected community include minority or low-income populations?

- (2) Are the environmental impacts likely to fall disproportionately on minority or low-income members of the community or tribal resource?

If the two-step process indicates that a potential exists for environment justice effects to occur, analyses are conducted to consider the following:

- Whether there exists a potential for disproportionate risk of high and adverse human health or environmental effects;
- Whether communities have been sufficiently involved in the decision-making process; and
- Whether communities currently suffer, or have historically suffered, from environmental and health risks and hazards.

3.18.2.2 Existing Conditions

3.18.2.2.1 Minority Population

Table 3.18-1 summarizes the ethnic composition of the study area, the State of Nevada, and the U.S. as a percentage of the total population. Racial and ethnic minorities make up 14.4 percent of the population in the study area that includes the Project Area. This is nearly 60 percent lower than the state population portion of racial and ethnic minorities. The percentage of minorities in Eureka County overall is 19.7 percent lower than the state population portion of racial and ethnic minorities. The percentage of racial minorities in the census block and in all of Eureka County is substantially lower than both the State of Nevada and the nation as a whole. The Hispanic or Latino population is the largest minority group in the study area. The percentage of Native Americans living in the analysis area is slightly higher than the statewide average, but not meaningfully higher.

**Table 3.18-1: Minority Populations for Eureka Census Blocks, Nevada and the United States as a Percentage of Total Population**

Ethnic Groupings	United States	Nevada	Eureka County (Single Census Tract)	Eureka County Census Block Group 1-1 (Census Block Group Surrounding the Project Area)
White and Not Hispanic or Latino	69.1	65.2	84.9	85.6
American Indian and Alaska Native and Not Hispanic or Latino	0.7	1.1	1.5	1.2
Other Races, Two or More Races, and Not Hispanic or Latino	17.6	14.0	4.0	3.5
Hispanic or Latino Ethnicity	12.5	19.7	9.6	9.6
<b>Total Racial and Ethnic Minorities<sup>1</sup></b>	<b>30.9</b>	<b>34.8</b>	<b>15.1</b>	<b>14.4</b>
Difference in Percent Minority Population Above/Below the State Average	3.9	N/A	-19.7	-20.4

Source: BCLLC/SDLLC 2008.

<sup>1</sup> Racial minorities include all persons identifying themselves in the census as a non-white race, including "Black or African American", "American Indian and Alaska Native", "Asian", "Native Hawaiian and Other Pacific Islander", "Some other race alone", and "Two or more races". Ethnic minorities include persons who identify themselves as Hispanic or Latino.

In accordance with the EPA’s Environmental Justice Guidelines (EPA 1998), these minority populations should be identified when either:

- The minority population of the affected area exceeds 50 percent; or
- The minority population of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

For the purposes of screening for environmental justice concerns, a minority population, as defined in the EPA's guidance (EPA1998), does not exist within the study area.

### 3.18.2.2.2 Low-Income Populations

Table 3.18-2 presents the percentage of persons in poverty in the study area, the State of Nevada, the U.S., Eureka County, and the Project Area and surrounding areas. For this analysis, the census block is larger than the local area that includes the Project Area due to the geographic boundaries used by the U.S. Census Bureau.

Persons in poverty at the time of the 2000 census were 13.5 percent of the population in the census block area that includes the Project Area. This is not meaningfully higher than the overall rates for Eureka County and the State of Nevada. It is important to note that no persons live within or immediately adjacent to the Project Area.

County-wide poverty data for 2004 indicate that nine percent of Eureka County residents had income below the poverty level, 3.6 percent fewer than the 2000 level. Poverty data for census block groups are not available for years beyond the 2000 census.

**Table 3.18-2: Percentage of Population with Incomes Below Specific Poverty Thresholds in Areas Surrounding the Project Area and Geographic Comparison Areas**

	United States	Nevada	Eureka County (Single Census Track)	Eureka County Census Block Group 1-1 (Census Block Group Surrounding the Project Area)
Percentage of Total Population: Below Poverty Level	12.4	10.5	12.6	13.5
Percentage of Total Population: Below 150 Percent of Poverty Level	20.9	18.7	19.4	20.6
Percentage of Total Population: Below 200 Percent of Poverty Level	29.6	27.7	30.2	34.2
Percentage of Low Income (Below Poverty) Population Above/Below the State Average	1.9	N/A	2.1	3.1
Percentage of Low Income (Below 200 Percent of Poverty) Population Above/Below the State Average	2.0	N/A	2.6	6.5

The percentage of persons in poverty in Eureka County is slightly above the statewide average (12.6 percent for the County contrasted with 10.5 percent for the state as a whole) and the percentage of people in poverty in the census block that contains the Project Area is 13.5 percent, which is three percent higher than the statewide average. These rates of poverty are not meaningfully higher than the statewide or national averages. Consequently, there are no environmental justice populations in southern Eureka County who are likely to be disproportionately affected by development or operation of the Project.

### **3.18.3 Environmental Consequences and Mitigation Measures**

#### **3.18.3.1 Significance Criteria**

EPA's Guidance For Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses (EPA 1998) suggests a screening process to identify environmental justice concerns. This two-step process defines the significance criteria for this issue; if either criteria is unmet, there is little likelihood of environmental justice effects occurring. The two-step process is as follows:

- (1) Does the potentially affected community include minority or low-income populations?
- (2) Are the environmental impacts likely to fall disproportionately on minority or low-income members of the community or tribal resource?

If the two-step process indicates that there exists a potential for environment justice effects to occur, analyses are conducted to consider the following:

- Whether there exists a potential for disproportionate risk of high and adverse human health or environmental effects;
- Whether communities have been sufficiently involved in the decision-making process; and
- Whether communities currently suffer, or have historically suffered, from environmental and health risks and hazards.

#### **3.18.3.2 Assessment Methodology**

The socioeconomic characteristics of the study area, County, and communities are first analyzed for the presence of minority or low-income populations. Second, if minority or low-income populations are identified based on the EPA's Environmental Justice Guidelines (EPA 1998), the Project and alternatives are evaluated for potential effects which may be expected to disproportionately impact any such populations. If the two-step process above indicates that a potential for environmental justice effects exists, additional analyses under the significance criteria are then applied to determine if the adverse effects would be considered significant impacts if the Project or an alternative were implemented. As previously stated, there are no environmental justice populations in southern Eureka County who are likely to be disproportionately affected by development or operation of the Project.

#### **3.18.3.3 Proposed Action**

##### **3.18.3.3.1 Environmental Justice Effects**

Initial analyses concluded that the potential effects of the Proposed Action under any of the proposed stages of development would not be expected to disproportionately affect any particular population. The area in the immediate vicinity of the proposed Project is sparsely inhabited, with the nearest residences located approximately five miles to the east and west. The nearest residential areas are located in Diamond Valley and the Town of Eureka, approximately 20 and 23 miles southeast of the Project Area, respectively. Crescent Valley does not have an unusually high minority or low-income population, but does have a substantially greater

proportion of Whites compared to the rest of the State of Nevada (see Table 3.18-1). Environmental effects that may occur at a distance from the Project Area, such as auditory resource or air quality impacts, would affect the area's population equally, without regard to nationality or income level; however, a second provision of this criteria requires consideration of "impacts that may affect a cultural, historical, or protected resource of value to an Indian Tribe or a minority population, even when the population is not concentrated in the vicinity." According to Section 3.21, no traditional cultural properties or EO 13007 (EO on Indian Sacred Sites) sites have been identified within the Project Area that might be impacted by the Proposed Action; therefore, there are no impacts associated with the Proposed Action on traditional Native American concerns.

On the basis of the second part of the criteria, the Proposed Action would not result in a disproportionate effect on a minority population. No further environmental justice analyses are required because there is no disproportionate effect on an identified minority population as a result of the Proposed Action.

#### 3.18.3.3.2 Residual Effects

There are no residual adverse effects associated with the Proposed Action.

#### 3.18.3.4 No Action Alternative

##### 3.18.3.4.1 Environmental Justice Effects

Initial analyses concluded that the potential effects of the No Action Alternative would not be expected to disproportionately affect any particular population. The area in the immediate vicinity of the proposed Project is sparsely inhabited, with the nearest residences located approximately five miles to the east and west. The nearest residential areas are located in Diamond Valley and the Town of Eureka, approximately 20 and 23 miles southeast of the Project Area, respectively. Crescent Valley does not have an unusually high minority or low-income population, but does have a substantially greater proportion of Whites compared to the rest of the State of Nevada (see Table 3.18-1). Environmental effects that may occur at a distance from the Project Area, such as auditory or air quality impacts, would affect the area's population equally, without regard to nationality or income level; however, a second provision of this criteria requires consideration of "impacts that may affect a cultural, historical, or protected resource of value to an Indian Tribe or a minority population, even when the population is not concentrated in the vicinity." According to Section 3.21, no traditional cultural properties or EO 13007 (EO on Indian Sacred Sites) sites have been identified within the Project Area that might be impacted by the No Action Alternative; therefore, there are no impacts associated with the No Action Alternative on traditional Native American concerns.

On the basis of the second part of the criteria, the No Action Alternative would not result in a disproportionate effect on a minority population. No further environmental justice analyses are required because there is no disproportionate effect on an identified minority population as a result of the No Action Alternative.

### 3.18.3.4.2 Residual Effects

There are no residual adverse effects associated with the No Action Alternative.

### 3.18.3.5 Partial Backfill Alternative

#### 3.18.3.5.1 Environmental Justice Effects

Initial analyses concluded that the potential effects of the Partial Backfill Alternative would not be expected to disproportionately affect any particular population. The area in the immediate vicinity of the proposed Project is sparsely inhabited, with the nearest residences located approximately five miles to the east and west. The nearest residential areas are located in Diamond Valley and the Town of Eureka, approximately 20 and 23 miles southeast of the Project Area, respectively. Crescent Valley does not have an unusually high minority or low-income population, but does have a substantially greater proportion of Whites compared to the rest of the State of Nevada (see Table 3.18-1). Environmental effects that may occur at a distance from the Project Area, such as auditory or air quality impacts, would affect the area's population equally, without regard to nationality or income level; however, a second provision of this criteria requires consideration of "impacts that may affect a cultural, historical, or protected resource of value to an Indian Tribe or a minority population, even when the population is not concentrated in the vicinity." According to Section 3.21, no traditional cultural properties or EO 13007 (EO on Indian Sacred Sites) sites have been identified within the Project Area that might be impacted by the Partial Backfill Alternative; therefore, there are no impacts associated with the Partial Backfill Alternative on traditional Native American concerns.

On the basis of the second part of the criteria, the Partial Backfill Alternative would not result in a disproportionate effect on a minority population. No further environmental justice analyses are required because there is no disproportionate effect on an identified minority population as a result of the Partial Backfill Alternative.

#### 3.18.3.5.2 Residual Effects

There are no residual adverse effects associated with the Partial Backfill Alternative.

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

#### 3.18.3.6.1 Environmental Justice Effects

Initial analyses concluded that the potential effects of the Off-Site Transfer of Ore Concentrate for Processing Alternative would not be expected to disproportionately affect any particular population. The area in the immediate vicinity of the proposed Project is sparsely inhabited, with the nearest residences located approximately five miles to the east and west. The nearest residential areas are located in Diamond Valley and the Town of Eureka, approximately 20 and 23 miles southeast of the Project Area, respectively. Crescent Valley does not have an unusually high minority or low-income population, but does have a substantially greater proportion of Whites compared to the rest of the State of Nevada (see Table 3.18-1). Environmental effects that may occur at a distance from the Project Area, such as auditory or air quality impacts, would affect the area's population equally, without regard to nationality or income level; however, a second provision of this criteria requires consideration of "impacts that may affect a cultural,

historical, or protected resource of value to an Indian Tribe or a minority population, even when the population is not concentrated in the vicinity.” According to Section 3.21, no traditional cultural properties or EO 13007 (EO on the Indian Sacred Sites) sites have been identified within the Project Area that might be impacted by the Off-Site Transfer of Ore Concentrate for Processing Alternative; therefore, there are no impacts associated with this alternative on traditional Native American concerns.

On the basis of the second part of the criteria, the Off-Site Transfer of Ore Concentrate for Processing Alternative would not result in a disproportionate effect on a minority population. , No further environmental justice analyses are required because there is no disproportionate effect on an identified minority population as a result of the Off-Site Transfer of Ore Concentrate for Processing Alternative.

#### 3.18.3.6.2 Residual Effects

There are no residual adverse effects associated with the Off-Site Transfer of Ore Concentrate for Processing Alternative.

#### 3.18.3.7 Slower, Longer Project Alternative

##### 3.18.3.7.1 Environmental Justice Effects

Initial analyses concluded that the potential effects of the Slower, Longer Project Alternative under any of the proposed stages of development would not be expected to disproportionately affect any particular population. The area in the immediate vicinity of the proposed Project is sparsely inhabited, with the nearest residences located approximately five miles to the east and west. The nearest residential areas are located in Diamond Valley and the Town of Eureka, approximately 20 and 23 miles southeast of the Project Area, respectively. Crescent Valley does not have an unusually high minority or low-income population, but does have a substantially greater proportion of Whites compared to the rest of the State of Nevada (see Table 3.18-1). Environmental effects that may occur at a distance from the Project Area, such as auditory or air quality impacts, would affect the area’s population equally, without regard to nationality or income level; however, a second provision of this criteria requires consideration of “impacts that may affect a cultural, historical, or protected resource of value to an Indian Tribe or a minority population, even when the population is not concentrated in the vicinity.” According to Section 3.21, no traditional cultural properties or EO 13007 (EO on Indian Sacred Sites) sites have been identified within the Project Area that might be impacted by the Proposed Action; therefore, there are no impacts associated with the Proposed Action on traditional Native American concerns.

On the basis of the second part of the criteria, the Slower, Longer Project Alternative would not result in a disproportionate effect on a minority population.

##### 3.18.3.7.2 Residual Effects

There are no residual adverse effects associated with the Slower, Longer Project Alternative.

### **3.19 Hazardous Materials**

#### **3.19.1 Regulatory Framework**

Federal hazardous material and waste laws and regulations would be applicable to hazardous substances used, stored, or generated by the Project. Applicable federal laws would include the following: the RCRA; Hazardous and Solid Waste Amendments (HSWA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA; aka Superfund); and Superfund Amendments and Reauthorization Act (SARA). Pursuant to regulations promulgated under Section 102 of CERCLA, as amended, release of a reportable quantity of a hazardous substance to the environment in a 24-hour period must be reported to the National Response Center (40 CFR Part 302). A release of reportable quantity on public land must also be reported to the BLM.

Similarly, Nevada hazardous material and waste laws and regulations would be applicable to hazardous substances used, stored, and generated by the Project. NAC 445A.240 requires immediate reporting of a release of a reportable quantity of a hazardous substance to the Nevada Division of Emergency Management. Specific information on hazardous materials that would be associated with the Project are discussed in Section 2.1.11.

All hazardous substances would be transported by commercial carriers or vendors in accordance with the requirements of 49 CFR, which requires that all shipments of hazardous substances be properly identified and placarded. Shipping papers must be accessible and include information describing the substance, immediate health hazards, fire and explosion risks, immediate precautions, fire-fighting information, procedures for handling leaks or spills, first aid measures, and emergency response telephone numbers. Title 49 CFR also requires that the carrier notify local emergency response personnel, the National Response Center (for discharge of reportable quantities of hazardous substances to navigable waters), and the U.S. Department of Transportation (USDOT) in the event of an accident involving hazardous substances. Carriers would be licensed and inspected as required by the NDOT. Tanker trucks would be inspected and have a Certificate of Compliance issued by the Nevada Motor Vehicle Division. The permits, licenses, and certificates are the responsibility of the carrier.

In 1999, the metal mining industry began submitting reports on release of chemicals to the EPA and appropriate state agencies, under Section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986; commonly referred to as the Toxics Release Inventory (TRI) Program. Reports are due on July 1st for the previous reporting year. The EPCRA also requires industries to participate in emergency planning and to notify their communities of the existence of, and routine and accidental releases of, any chemical on the TRI chemical list. The goal is to help citizens, government officials, and community leaders to be better informed about the industrial use of chemicals in their communities. The TRI program was originally developed for manufacturing facilities that use man-made chemicals to produce other man-made chemicals (such as the synthetic organic chemical industry).

Data are submitted annually by covered facilities on TRI Form Rs. Data are reported by individual chemical or chemical group on a facility basis. On the federal level, the EPA checks these data on the Form Rs for reporting errors and then compiles them into a centrally managed database. Each year, over 80,000 reports, representing billions of pounds of released chemicals, are submitted to the EPA by more than 20,000 private facilities and 200 federal facilities.

### **3.19.2 Affected Environment**

#### **3.19.2.1 Study Methods**

The baseline data presented below are based upon information from the Plan (EML 2006). Additional information has been obtained from public agency maps and reports, and from telephone communications with federal, state, county, and community officials.

#### **3.19.2.2 Existing Conditions**

The study area includes highways and road facilities that could reasonably be assumed to be used or needed for the transportation of hazardous materials to the Project Area. The affected environment for hazardous materials include air, water, soil, and biological resources that could be potentially affected by an accidental release of hazardous materials during transportation to and from the Project Area, and during storage and use within the Project Area.

SR 278, which connects Carlin and Eureka passes through the eastern edge of the Project Area. NDOT traffic count data for 2006 indicates that the average daily trips on SR 278 are 601 and have varied between 490 and 740 since 2000 (NDOT 2010). Approximately 22 of these trips on SR 278 are trucks (Federal Motor Carrier Safety Administration [FMCSA] 2001). There appears to be between one and seven of these trucks per day, depending on the day of the week, would be transporting hazardous material shipments on SR 278 (Enviroscientists 2011b).

The Project Area is also currently subject to some drilling activities associated with mineral exploration. Hazardous materials currently used in conjunction with exploration activities to operate and maintain equipment include petroleum motor fuels and lubricants, antifreeze, and solvents. The hazardous materials are brought to the exploration site in small amounts for daily consumption.

### **3.19.3 Environmental Consequences and Mitigation Measures**

#### **3.19.3.1 Significance Criteria**

Impacts associated with hazardous materials would be considered significant if an action could result in any of the following:

- One or more accidents during transport, resulting in the release of a reportable quantity of a hazardous material; or
- Release of a hazardous material on the site exceeding the storage volume of the secondary containment structure.

#### **3.19.3.2 Assessment Methodology**

To evaluate impacts from hazardous materials, the Proposed Action and alternatives are reviewed against existing conditions and local transportation plans. Environmental consequences related to public safety are evaluated by reviewing relevant state and federal guidelines for public safety and the proposed Project processes and operations. It is assumed that the Proposed Action and alternatives would comply with all applicable county, state, and federal regulations with relevant public safety implications. The significance criteria are then applied to determine if the

adverse effects would be considered significant impacts if the Project or an alternative were implemented.

### 3.19.3.3 Proposed Action

The Proposed Action affects public safety primarily through the use of chemicals on site, some of which may be classified as hazardous, and the transport of those chemicals to and from the Project Area on public roads. The impacts of hazardous materials use and transport are discussed fully below.

As described in Section 2.1.11 and Table 2.1-6, the mining and ore processing operations under the Proposed Action would involve the transportation, use, and storage of the following materials that could be classified as hazardous: (a) diesel fuel, gasoline, oils, greases, anti-freeze, and solvents used for equipment operation and maintenance; (b) ferric chloride, sodium metasilicate, pine oil, diesel fuel, hydrochloric acid, flocculants, antiscalants, and other chemicals used in the molybdenum extraction processes; (c) ANFO and other explosive agents used for blasting in the open pit; and (d) TMO and FeMo, which would be the products of the Project.

Trucks would be used to transport hazardous materials to the Project Area, generally from the Elko area (located approximately 85 miles from the Project Area), but could also come through the Ely area and Eureka from Utah. It is assumed that the primary transportation route would be west from Elko on I-80 to the Carlin exit (approximately 20 miles), then south on SR 278 through the City of Carlin and Pine Valley to the Project Area (approximately 65 miles). The primary transportation route travels through the communities of Elko and Carlin. The secondary transportation route travels through the communities of Ely and Eureka.

The environmental effects of a release would depend on the substance, quantity, timing, and location of the release. The event could range from a minor oil spill at the Project Area where cleanup equipment would be readily available, to a severe spill during transport involving a large release of diesel fuel adjacent to the Humboldt River. Some of the chemicals could have immediate adverse effects on water quality and aquatic resources if spills were to enter streams. Spills of hazardous materials could seep into the ground and contaminate ground water resources. Depending on the proximity of people to such spills or the use of degraded water for human consumption, an accidental spill could affect human health.

#### 3.19.3.3.1 Transportation Impacts

Based on the quantity of material used and number of deliveries, the hazardous materials of greatest concern under the Proposed Action are diesel fuel, ammonium hydroxide, ANFO, TMO, and FeMo. Diesel fuel would be delivered to the Project Area in tanker trucks with a 12,000-gallon capacity. Ammonium hydroxide would also be shipped as a liquid in 5,000-gallon tanker trucks. ANFO in the form of solid ammonium nitrate would be shipped in 25-ton trucks and mixed with fuel oil on site. The TMO and FeMo would be shipped off site as a solid in 25-ton trucks. Based on the capacity of the delivery vehicles, the Project Area would receive approximately 2,488 tanker deliveries of diesel fuel annually, 204 tanker truck deliveries of ammonium hydroxide annually, and 312 trucks delivering ammonium nitrate annually. In addition, the Project would have approximately 1,800 trucks annually shipping product from the facility. On average this would total 16 trucks trips per day with the inclusion of the toll roasting.

The probability of an accident (i.e., release) occurring during transportation of the four substances was calculated using the FMCSA truck accident statistics (FMCSA 2001). According to these statistics, the average rate of truck accidents varies depending on the type of material being transported. For Class 2.1 flammable materials, the average rate is 0.36 accident per million miles traveled. The average rate of truck accidents for Class 9 miscellaneous dangerous goods is 1.09 accidents per million miles traveled.

The potential for a spill or release was based on accident statistics for liquid tankers carrying hazardous materials (FMCSA 2001). These statistics indicate that, on average, 17 percent of accidents involving Class 2.1 flammable materials resulted in a spill or release. Also, these statistics indicate that, on average, 33.6 percent of accidents involving Class 9 miscellaneous dangerous goods resulted in a spill or release. The probability of a spill resulting from a truck carrying hazardous materials is calculated in Table 3.19-1. The analysis indicates that the potential for an accidental hazardous materials release is very low. The calculated potential of a spill per year along the entire truck route for the life of the Project under the Proposed Action is approximately 0.01 for deliveries of diesel fuel, 0.01 for deliveries of ammonium hydroxide, 0.01 for deliveries of ANFO, and 0.06 for shipments of TMO. If there was a spill, the local emergency response jurisdiction where the spill occurred would respond.

**Table 3.19-1: Estimate of Annual Number of Spills Resulting from Truck Accidents Under the Proposed Action**

Substance	Total Truck Deliveries Per Year	One-Way Haul Distance (miles)	Accident Rate Per Million Miles Traveled <sup>a</sup>	Calculated Number of Accidents Per Year	Probability of Release Given an Accident <sup>b</sup>	Calculated Number of Spills Per Year <sup>c</sup>
Diesel Fuel	1,488	85	0.36	0.09	17.0%	0.01
Ammonium Hydroxide	204	85	1.09	0.04	33.6%	0.01
ANFO	312	85	1.09	0.06	33.6%	0.01
TMO (FeMo)	1,800	85	1.09	0.33	33.6%	0.06
Toll Roasting	1,200	Nk	1.09	0.33	33.6%	0.18 <sup>d</sup>

a Accident rates are based on the average number of truck accidents occurring per million road miles traveled by road types.

b Spill probabilities are based on statistics from accident reports that indicate the percentage of truck accidents involving liquid tankers that resulted in spills.

c Spills are based on a one-way loaded haul distance and the return trip is empty.

d For the calculation, an assumed travel distance of 250 miles was used.

Source: FMCSA 2001.

### 3.19.3.3.2 Storage and Use Impacts

Over the life of the Project, the probability of minor spills of materials such as oils and lubricants would be relatively high. These releases could occur as a result of a bad connection on an oil supply line, an equipment failure, or human error. Spills of this nature would be localized, contained, and appropriately cleaned up and disposed of at an authorized facility. EML would have the necessary spill containment and cleanup equipment available on site, and personnel would be able to respond quickly. The design of the processing operations and hazardous materials storage facilities would minimize the potential for an upset that results in a major spill.

Process systems are designed so that any spilled solution drains to a collection area where spillage can return to the system and are also designed to prevent spills during extreme storm events. Stored chemicals are protected from the elements. Petroleum fuels are stored in aboveground tanks or tanks in series and surrounded with a containment structure to accommodate at least 110 percent of the volume of the largest tank within the containment area.

All hazardous materials would be handled in accordance with applicable MSHA regulations. The hazardous substances to be used for the Proposed Action would be handled as recommended in the manufacturer's Material Safety Data Sheet (MSDS). With the proposed design features and operational practices in place, the probability of a release occurring at the mill or processing sites, or chemical storage areas, would not be significant.

#### 3.19.3.3.3 Effects of a Release

The environmental effects of a release would depend on the material released, the quantity released, and the location. Potential effects of the four chemicals of concern, diesel fuel, ammonium hydroxide, ANFO, and TMO, are described below.

A direct release of diesel fuel would kill vegetation if direct contact occurred. Although extremely unlikely, a diesel fuel spill could ignite a rangeland fire. A direct release into a water body could contaminate water and sediments, possibly impacting local aquatic populations; however, due to the anticipated rapid response and cleanup of a diesel fuel spill, long-term increases of hydrocarbons in soils, surface water, or ground water are not expected to result.

A direct release of ammonium hydroxide would kill vegetation if direct contact occurred due to the extremely high pH. A direct release into a water body could contaminate water and sediments, possibly impacting local aquatic populations; however, due to the anticipated rapid response and cleanup of an ammonium hydroxide spill, long-term increases of ammonium hydroxide in soils, surface water, or ground water are not expected to result.

The effects of an ammonium nitrate or a TMO spill would be limited because both materials are in a solid form. Any spilled materials could be picked up and controlled; however, minor amounts may mix with surface soils. Should a spill occur into surface water or during a precipitation event, then the spilled materials could migrate from the spill site either as a dissolved or suspended material. This potential impact could occur until the spilled materials are cleaned up.

A large-scale release of a hazardous material could have implications for public health and safety; however, the probability of a release anywhere along the transportation route was calculated to be low, and the probability of a release within a populated area or that would cause an injury or fatality would be lower still. A release involving severe effects to human health or safety is not expected to occur during the life of the Project. In addition, none of the process chemicals or fuels used in large quantities are carcinogenic; therefore, no increases in cancer risk as a result of a release or Project processing activities are expected.

In the event of an off-site release during transport, the transportation company would be responsible for first response and clean-up. Each transportation company would develop a spill plan, or equivalent, to address the materials they would be transporting. Local and regional law enforcement and fire protection agencies may also be involved initially to secure the site and

protect public safety. In addition, the Chemical Manufacturers' Association maintains the Chemical Transportation Emergency Center, which has a 24-hour "hotline" to provide information, advice, and assistance in identification and mitigation of chemical emergency scenes.

To prevent the escape of pollutants from on-site containment facilities and to ensure subsequent cleanup as necessary for petroleum products at existing facilities, EML has prepared a Spill Contingency Plan, which is consistent with State of Nevada Regulations (NAC 445A.242 and 445A.243). The plan establishes procedures and methods to be implemented to abate and cleanup an on-site hazardous material spill. If required, spills occurring at the Project Area would be reported to the appropriate federal and state agencies.

- **Impact 3.19.3.3-1:** A spill of hazardous materials could adversely affect public safety and the environment.

**Significance of the Impact:** This impact is considered less than significant; however, the following mitigation measure is provided to reduce the adverse effects of this potential impact.

- **Mitigation Measure 3.19.3.3-1:** 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.

#### 3.19.3.3.4 Residual Adverse Impacts

The Proposed Action 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 unavoidable potential impact is considered less than significant.

#### 3.19.3.4 No Action Alternative

##### 3.19.3.4.1 Effects of a Release

Under the No Action Alternative, EML is currently conducting mineral exploration and data acquisition within the Project Area; therefore the potential for impacts to public safety or the environment from the use and transportation of hazardous materials is substantially less than under the Proposed Action.

- **Impact 3.19.3.4-1:** A spill of hazardous materials could adversely affect public safety and the environment.

**Significance of the Impact:** This impact is considered less than significant, and no mitigation measures are proposed.

#### 3.19.3.4.2 Residual Adverse Impacts

The No Action 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 currently permitted activities within the Project Area; however, due to the very low probability of a significant accidental hazardous materials spill or release, the unavoidable potential impact is considered less than significant.

#### 3.19.3.5 Partial Backfill Alternative

##### 3.19.3.5.1 Effects of a Release

Impacts to public safety from the use and transport of hazardous materials would generally be similar as those described for the Proposed Action. The difference in impacts would be an increase in the amount of materials transported to the site after Year 32 because of the continued use of the mining fleet to complete the backfilling operations.

- **Impact 3.19.3.5-1:** A spill of hazardous materials could adversely affect public safety and the environment.

**Significance of the Impact:** This impact is considered less than significant; however, the following mitigation measure is provided to reduce the adverse effects of this potential impact.

- **Mitigation Measure 3.19.3.5-1:** 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.

##### 3.19.3.5.2 Residual Adverse Impacts

The Partial Backfill 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.

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

#### 3.19.3.6.1 Effects of a Release

Impacts to public safety from the use and transport of hazardous materials would generally be the same as those described for the Proposed Action. The difference in impacts would be a slight reduction in the amount of materials transported to the site because there would not be the TMO production facilities. There would be a similar amount of product transported off site; however, the material would be molybdenum sulfide rather than TMO.

- **Impact 3.19.3.6-1:** A spill of hazardous materials could adversely affect public safety and the environment.

**Significance of the Impact:** This impact is considered less than significant; however, the following mitigation measure is provided to reduce the adverse effects of this potential impact.

- **Mitigation Measure 3.19.3.6-1:** 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.

#### 3.19.3.6.2 Residual Adverse Impacts

The Off-Site Transfer of Ore Concentrate for Processing 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.

### 3.19.3.7 Slower, Longer Project Alternative

#### 3.19.3.7.1 Effects of a Release

Impacts to public safety from the use and transport of hazardous materials would generally be proportionally less than those described for the Proposed Action. The difference in impacts would be a slight decrease in the amount of materials transported annually.

- **Impact 3.19.3.7-1:** A spill of hazardous materials could adversely affect public safety and the environment.

**Significance of the Impact:** This impact is considered less than significant and no mitigation measures are proposed; however, the following mitigation measure is provided to reduce the adverse effects of this potential impact.

- **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.