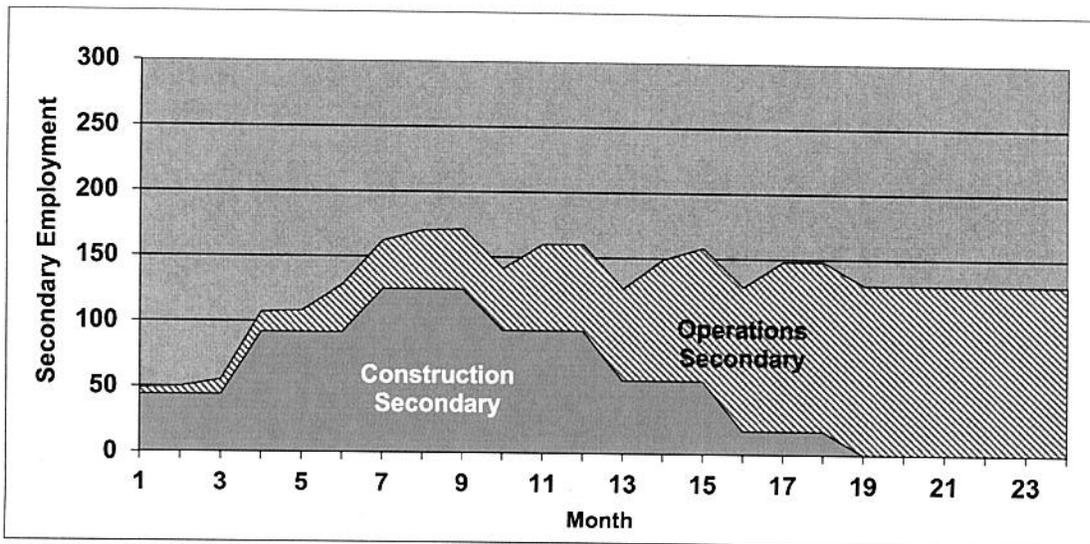


- Induced employment includes jobs supported by employee spending of Project-related income and by business, local government, and school district spending in response to increased demand. Induced employment would occur across many economic sectors.

A large share of the induced demand associated with the Project would be satisfied by businesses in Elko, Reno, and elsewhere due to the limited availability of goods and services in the Town of Eureka, purchases made via mail order and the internet, and outflows associated with single status workers who would make retail and service purchases in their home town (BCLLC/SDLLC 2008). Over time, the Town of Eureka's local retail and service sector would likely expand in response to the increased demand associated with the Project. However, even with the economic infusions from these two mines, Eureka's commercial sector would be unable to support the range of retail and service establishments offered in Elko and Reno. Considering the above, the local secondary economic multipliers used for this assessment is 0.22 job per direct job during construction and 0.35 job during production (BCLLC/SDLLC 2008).

Project-related local secondary employment estimates from the beginning of construction through initial operations indicate that secondary employment would peak at approximately 170 workers in conjunction with construction and stabilize at an estimated 130 workers for the first nine years of operations (see Figure 3.17.4).⁶ Although secondary employment responds to increases and decreases in construction, the response is typically more gradual than portrayed in Figure 3.17.4. It is also possible that operations-related secondary employment would increase beyond these estimated levels as existing businesses expand and new businesses open in the Town of Eureka to take advantage of Project-related spending. The creation of additional housing could also support expansion of local businesses in the Town of Eureka.

Figure 3.17.4: Estimated Secondary Employment: Construction and Initial Operations



Source: BCLLC/SDLLC assumptions based on IMPLAN derivations

⁶ These jobs are soon to be filled by: 1) individuals currently living in southern Eureka County; 2) individuals relocating to southern Eureka County specifically for these jobs; and 3) household members of Project employees that move to southern Eureka County. These secondary employment impacts are discussed in Section 3.17.3.3.2 and Appendix E.

Labor Competition and Job Shift

Once operational, the Project is likely to be an attractive employer for local residents. Jobs in the mining industry typically pay well with substantial benefits, and the anticipated 44-year mine life would offer opportunities for long-term employment. Operations job categories include management, administrative, maintenance, and security, as well as skilled and unskilled labor, providing a variety of job opportunities. Given the Project's proximity to the Town of Eureka, some currently employed local residents may seek employment at the Project. Consequently, Eureka County, the ECSD, and local businesses may lose some employees to the mine and may have difficulty recruiting new employees given the lower wage scale of local businesses and government. Competition for housing and high housing costs could compound the difficulties that the County, ECSD, and local businesses could face in attracting new employees during construction and initial operations. Current housing shortages may be eased over time by ongoing efforts to develop new housing, both in conjunction with and independent of the Project.

Personal Income

Construction and operation of the Project would result in a substantial increase in personal income in Eureka County. An estimated \$101 million in wages and salaries would be paid to employees by EML and its construction contractors during Project development and pre-production mining. Much of that total would leave the local economy as most construction jobs would be filled by temporary residents; however, local purchases by the mine and employees would support additional personal income for local residents. Assuming the secondary jobs described above, supported by local construction and mine purchases and local spending by workers during construction and pre-production, results in an estimated \$10.8 million in secondary income for Eureka County households during Project construction and pre-production development (BCLLC/SDLLC 2008).

The Project's long-term mining and production phases would also generate substantial secondary effects on personal income. Based on EML labor cost estimates, direct annual payroll of the mine is projected to average approximately \$33.4 million at full production, varying over time in response to changes in the size of the work force, wage rate, and salary pressures in response to competition for labor. Local spending by workers, combined with an allowance of \$7 million in local purchases by the mine (approximately five percent of the annual non-labor operating costs, excluding royalties and taxes), would generate approximately \$3.6 million in local income annually. It is estimated that just over half of the \$37 million in annual combined direct and secondary income would accrue to Eureka County residents, which is 28 percent of the \$65 million realized by local residents in 2008. Moreover, the strong job market would likely translate into higher labor earnings and per capita incomes for other local households as well.

Effects on Other Sectors of the Local Economy

The economic activity associated with construction and operation of the Project would provide additional earnings for businesses in other sectors of the Eureka County economy; however, competition for labor could initially constrain the capacity of some businesses to take advantage of the increased economic activity during Project construction and the initial years of Project operations.

Businesses providing goods and services to tourists and recreation visitors could be affected by the Project, particularly during the construction phase. Many retail and service establishments geared toward tourists (i.e., lodging, dining, entertainment, automotive services, and groceries) would likely to be patronized by employees and vendors associated with the Project during construction and experience increased sales associated with the year-round demand. Businesses catering specifically to tourists and recreation visitors (gift shops, tourist attractions, etc.) may be indirectly affected during the short term if competition for motel and RV park spaces impacts tourism visitation, although it is likely that visitors that pass through Eureka County but do not stay in the town would be likely to continue to patronize these businesses. After the construction phase of the Project is completed and competition for motel rooms and RV spaces eases, any detrimental effects on tourist-related businesses should substantially decrease. Although recreation users would be displaced from a portion of the Project Area (Section 3.15), there are ample similar lands within the County. Consequently these users are likely to shift their use to other areas of Eureka County, resulting in no net change to Eureka County recreation businesses.

Section 3.12 describes effects on the levels of livestock grazing supported on public lands **and potential impacts to forage on private lands**. The effects on grazing, expressed in terms of a reduction in AUMs, would result from Proposed Action-related disturbance, exclusion and ground water drawdown. Reductions in the number of AUMs would reflect an economic loss for affected grazing operators, which **may** be mitigated. **Specifically, total economic impacts could be an annual reduction of \$41,705 (1999 dollars) (\$57,597 in 2012 dollars) as documented in Section 3.12.3.3.** Mitigation would also be available for Project-related effects on **reductions of forage for livestock grazing resulting from the ground water drawdown as discussed in Sections 3.2.3 and 3.9.3. Anticipated impacts from the implementation from these mitigation measures are discussed in their respective sections.** Reductions in AUMs of livestock grazing would also represent a loss for the agricultural service sector of the Eureka County economy, which would not be mitigated. Section 3.12.3.3 of this EIS outlines the specifics of the economic effects of the loss of AUMs. However, the projected reductions of grazing AUMs would represent a small portion of the overall AUMs in the County and would, therefore, not represent a substantial adverse economic effect. **A large body of research has shown that public land grazing permits increase the property value of the ranch holding the permit, in most cases. Various factors have been explored to explain this effect. Significantly, the research has found that the added forage and relatively low permit fees for grazing on public lands do not entirely explain the increase in property value associated with the permit itself. Research has found that the added acreage associated with a public land permit is perceived as adding semi-private open space to the property and thus increases the value of the ranch. Examples of this research include Rimbey et al. (2007) and Torrell et al. (2005). This perceived value cannot be quantified. The permanent displacement of 32 AUMs associated with the open pit would unlikely affect any premium to the property value of the current permittee's ranch associated with the permit.**

During public scoping and in subsequent meetings and interviews, Diamond Valley farmers expressed concern about potential adverse impacts on agricultural production resulting from the proposed Project's impact on ground water resources. Based on the findings discussed in Section 3.2, there should be no affect to ground water levels in Diamond Valley and, consequently, no correlative economic effects to the farming industry from increased costs or diminished production. The proposed Project could impact ground water levels in the Kobeh Valley, which, if unmitigated, would likely adversely impact future **crop (i.e., alfalfa)** production of ranching and grazing operators that depend on these ground water resources. Mitigation has been

developed (as outlined in Section 3.2.3.3 and Appendix D) that would minimize impacts to ground water and surface water users in Kobeh Valley. Assuming these mitigation measures are fully implemented, no economic effects to the farming industry from increased costs or diminished production would be anticipated in the Kobeh Valley.

In all, the direct, indirect and induced economic and employment opportunities associated with the Project would provide a substantial local and regional economic stimulus and contribute to a favorable labor market for local workers and the unemployed. The Proposed Action would create substantial demand for labor, which would be considered beneficial on a regional level. On a local level, the Project would result in labor competition among employers. From a worker's perspective, competition may be viewed as beneficial, resulting in upward pressure on wages, and providing job advancement and job mobility opportunities. From an employer's perspective, competition could result in employee turnover and additional wage expenses. Based on the findings of the environmental analyses and the suggested mitigation measures developed for this EIS, the Proposed Action would likely have minimal adverse effects on other sectors of the economy.

- **Impact 3.17.3.3-1:** The Proposed Action would result in substantial long-term expansion of most sectors of the southern Eureka County economy, especially the mining, retail and service sectors. The construction sector would also undergo substantial expansion during Project construction and the initial years of operations as local housing, commercial and community infrastructure is built to accommodate the Project workforce. The Project-related economic and employment opportunities would be seen as beneficial by many at the regional and local levels. Locally, the substantially increased labor demand during construction and the initial period of operations could result in competition for workers and upward pressure on wages, primarily during Project construction and early operations, which could be seen as adverse for some public and private sector employers, particularly those that would not benefit economically from development of the Project. For local and regional residents, the increased opportunity for high-paying employment would be considered beneficial.

There is potential that competition for motel rooms and RV parks could affect businesses that depend specifically on tourism and recreation visitors (e.g., gift shops and tourist attractions) but those effects would likely be temporary during the construction phase of the Project.

There has been concern among Diamond Valley agricultural interests that the Project could affect the quantity of water available for irrigation, which would in turn result in adverse effects on the agricultural sector of the local economy. The monitoring and mitigation measures outlined in Sections 2.1.16 and Section 3.2 of this EIS are intended to avoid or reduce potential adverse effects on ground water in Diamond Valley.

The Project would diversify the local mining sector by adding a new commodity.

Significance of the Impact: The degree of this impact is considered significant. Impacts would be both beneficial and adverse. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.3.2 Population Effects

Construction and operations of the proposed Project would substantially affect population in southern Eureka County. As detailed above, the Project's direct employment requirements exceed the capacity of the local (southern Eureka County) labor force, which would trigger substantial relocation to the area to fill temporary construction jobs, most of the permanent mine operations, and many of the secondary jobs created by the Project and employee spending.

Table 3.17-22 displays the residency assumptions for the three categories of Project-related workers. These assumptions reflect professional judgment based on the size of the southern Eureka County labor force, the distance from the Project to other communities, the number of active mines in northern Nevada and associated mine support industry, the experience of other Nevada mines in rural areas, and housing availability in southern Eureka County⁷.

Table 3.17-22: Mount Hope Project Workforce Residency Assumptions, Percent of Workers

Residency Status	Construction	Operations	Secondary
Local	5%	10%	5%
Daily commuters	15%	15%	0%
Single status weekly commuters	75%	40%	0%
Relocating w/ households	5%	35%	45%
Household members of relocating workers	0%	0%	50%
Totals	100%	100%	100%

Source: BCLLC/SDLLC 2008

The residency status of the construction, operations, and secondary workforces and the household characteristics of those workforces would be the primary drivers of Project-related population change in southern Eureka County. Housing effects are assessed in the following section (3.17.3.3.3). The availability of housing, or lack thereof, would be a major, but not the sole, determinant for workforce residency decisions during both the construction and operations phases of the Project. Some workers at other mines in remote locations of rural Nevada choose to commute to those mines from larger, more distant communities on either a daily or weekly basis (Personal Communication, Randy Buffington, Homestake Mining Company 2007; Vogt Santer Insights 2011). These daily commuters may choose to commute from these communities because they have existing residences there, or more distant communities offer a broader range of housing options, offer expanded shopping and health care alternatives, a wider range of employment opportunities for spouses, or other important social or lifestyle features.

The following population forecasts are generally based on recent experiences in southern Eureka County, adjusted for the location and size of the Project (BCLLC/SDLLC 2008). However, there is considerable uncertainty regarding the number of workers who would relocate to southern Eureka County. Consequently, the population assessment and subsequent parts of this section discuss the potential effects of different workforce residency and commuting patterns than those assumed for the forecasts.

⁷ Note that unemployment levels were substantially higher at the time this EIS was prepared than during the preparation of the 2008 Socioeconomic Assessment. One possible implication of the change is that more local workers may be available for employment at the Project or in the secondary workforce and more workers would be willing to commute to the Project from their home communities on either a weekly or monthly basis. Conversely, higher levels of unemployment might mean that more workers are willing to relocate to the Study Area for work.

Construction Phase Population Effects on Southern Eureka County

Population gains associated with the construction phase of the Project would be comprised of the following categories:

- single status construction workers, who by definition, would have a household size of one;
- a small number of construction workers who relocate to the area with households and who are assumed to have an average household size of 2.64⁸;
- single-status operations workers who choose to commute to the area on a weekly basis, who by definition would have a household size of one;
- operations workers who relocate to the area with households, who are assumed to have an average household size of 2.64⁹; and
- secondary workers who relocate to the area with households, who are assumed to have an average household size of 1.9, to reflect the anticipated higher level of single persons and younger households due to the lower salaries associated with secondary employment and lack of housing, particularly during the construction phase¹⁰.

Figure 3.17.5 displays the estimated incremental mine-related population gains in southern Eureka County during the construction phase of the Project, by worker residency and household status. These combined non-local construction, operations, and secondary worker populations yield an average incremental weekday population gain of nearly 700 persons over the 18-month construction phase, with a peak population of approximately 900 residents during the third quarter and again in month 15 of construction.

As stated in Section 3.17.2.2.1, the 2010 Census population for southern Eureka County was 1,351. Thus, the average increase in population during Project construction represents about 50 percent of 2010 southern Eureka County population, with increases of nearly 67 percent during the peak quarter.

Operations Phase Population

The 2008 Socioeconomic Assessment assumed that 55 percent of the operations workforce would commute from outside Eureka County (15 percent on a daily basis and 40 percent on a weekly basis), which is similar to current mine operations in southern Eureka County (BCLLC/SDLLC 2008). Given the tight housing market conditions expected during early operations, weekly commuters are unlikely to be accompanied by other household members. The number of commuters may diminish over time, depending on the availability of housing, the

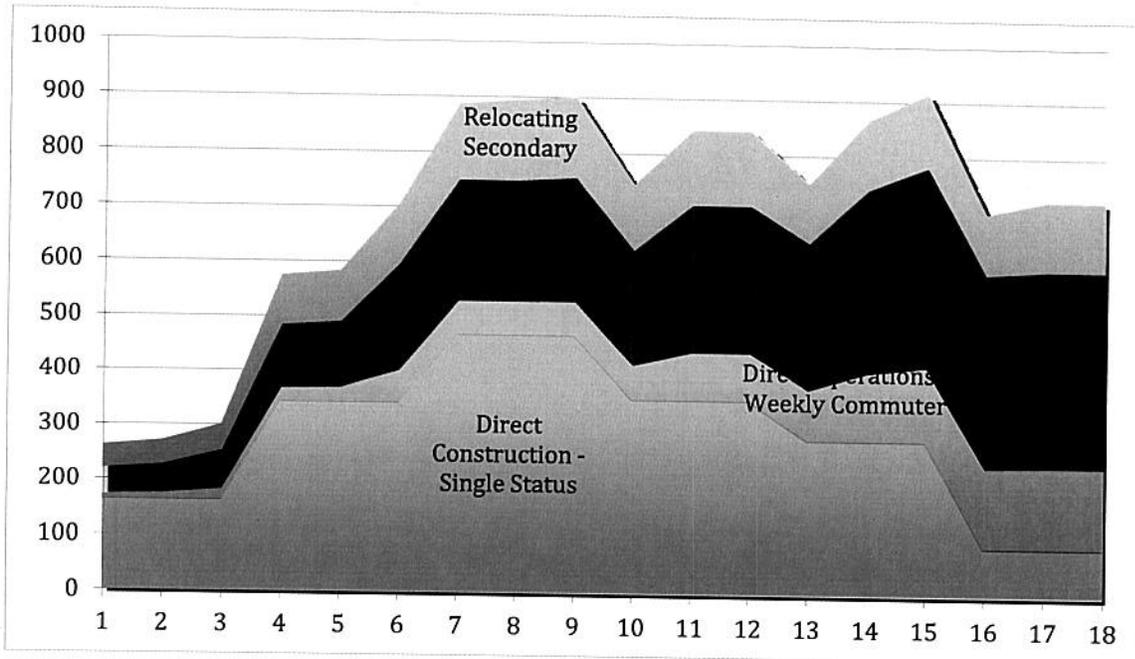
⁸ The 2000 Census average household size for Nevada was 2.62 persons per household. The 2010 average was 2.65. Experience has shown that few construction workers relocate their families with children for short-term (one- to two-year) projects (Personal Communication, Gamble, Lander County School District 2006; Personal Communication, Ben Zunino, ECSD 2006). Therefore a household size factor approximating the statewide Nevada average is a conservative assumption.

⁹ Relocating operations workers will likely include many single and two person households, particularly during the early years. Consequently a household size factor approximating the statewide average is a conservative assumption.

¹⁰ Retail and service sector jobs and many non-professional government and school district jobs pay substantially less than many mining jobs. Given the anticipated shortage of housing during construction and early years of Project operations, many in-migrating workers are likely to be single status or households comprised of two working adults (BCLLC/SDLLC 2008). Therefore a secondary worker average household size of 1.9 is a reasonable assumption.

commercial sector response to population growth in southern Eureka County and evolving regional and national economic conditions.

Figure 3.17.5: Mount Hope Construction Population Impact by Worker Residency and Household Status



Source: Source: BCLLC/SDLLC based on EML workforce estimates

Note: The "Direct Operations - Weekly Commuter" category includes operations workers who are assumed to commute to the Town of Eureka without other household members on a weekly basis and live in southern Eureka County during the workweek. The "Direct Relocating" category includes construction and operations employees who relocate to southern Eureka County with households.

The operations workforce for the Project that does relocate to Eureka County would be expected to have different household characteristics than the construction workforce. Some would be single or married but with few or no children. However, the prospect of long-term employment would likely attract a larger share of married workers who choose to relocate their spouses and children to the area.

As noted above, the operations workforce and associated population would begin to arrive in southern Eureka County during Project construction. The operations-related population would be low during the first month of construction and would include EML employees already living in the Town of Eureka. This incremental population would build to an estimated 634 persons during the final two months of construction.

During the first nine years of operations, the Project workforce would decline when compared to the construction phase. Correspondingly, mine-related population gains, including both direct and secondary effects, in southern Eureka County would be approximately 600 persons, approximately 16 percent lower than the average construction population of 695 and 33 percent less than the peak construction population. The reductions in population would stem largely from the relocation of single status construction workers after the completion of construction.

Future cutbacks in direct employment (in approximately Year 35 of operations) would occur in response to reductions in the tonnages of waste and ore moved, possibly triggering population out-migration. The level of out-migration would depend on the specific demographics of the affected households, but it is estimated that the out-migration would result in a remaining Project-related population of between 351 and 472 residents, decreasing further to between 168 as the Project enters final production and reclamation at approximately Year 40 of operations.

Operations Population Sensitivity Analysis

In its role of a cooperating agency, Eureka County expressed concerns regarding the demographic factors underlying the projected incremental population in the 2008 Socioeconomic Assessment. Subsequently, those factors were reviewed in consultation with the County, the results of which were incorporated into a SA to assess the potential effects of alternative economic, demographic factors and residency assumptions on the estimates of total resident population and school age children. Specifically, the SA was comprised of three alternative sets of assumptions; labeled SA 1, SA 2, and SA 3.¹¹ The SA also addressed Eureka County's concern regarding the potential for jobs in the local economy vacated by workers who chose to work at the mine to be filled by higher local labor force participation and the resulting expansion of the local labor force. Results of the SA were submitted to the BLM in a 2009 memorandum included as Appendix E of the EIS.¹²

Table 3.17-23 summarizes the results of the SA during the first ten years of operations, a period when the mine would achieve and maintain full production, creating long-term job opportunities conducive to household relocation, and to the creation of indirect and induced jobs in the community. As shown, the range of long-term projected population effects range from 584 to 795 residents, including weekly commuters, with a corresponding increase of between 83 and 161 school age children. The population and school enrollment projections contained in the 2008 Socioeconomic Assessment (BCLLC/SDLLC 2008) are presented as the Base Case, to provide a point of comparison for the SA.

The SA demonstrates that the population estimates are moderately sensitive to the changes in assumed labor force participation, workers per household and in-migrating workers. Differences in incremental population projections associated with SA 1, SA 2 and the 2008 Socioeconomic Assessment (the Base Case) are relatively minor plus 12 and minus three percent respectively.

¹¹ SA 1 assumes the share of secondary jobs filled by relocating households would be 50 percent and the share filled by spouses/partners would be 45 percent compared to 45 percent and 50 percent respectively in the 2008 Socioeconomic Assessment. This analysis also assumes that existing local jobs vacated by workers who accept jobs at the mine would be filled by additional relocating worker households. The Base Case scenario did not assume that vacated jobs would be filled by non-local workers.

SA 2 assumes 30 percent of Mount Hope operations workers relocate to southern Eureka County compared to 35 percent in the 2008 Socioeconomic Assessment. All other assumptions and multipliers are the same.

SA 3 assumes 50 percent of Mount Hope operations workers relocate to southern Eureka County compared to 35 percent in the Base Case. It also assumes that: the average persons per household for operations workers would be 2.85 compared to 2.64 in the Base Case; the share of secondary jobs filled by relocation households would be 35 percent compared to 45 percent in the Base Case to reflect the substantial increase in second workers associated with the increase in direct worker relocation in this scenario; and, the average household relocating to fill secondary jobs would be 2.01 persons compared to 1.90 Base Case to reflect more households relocating with families.

¹² Blankenship Consulting LLC and Sammons/Dutton LLC, Marh 20, 2009, *Supplemental information to address Eureka County concerns with the June 2, 2008, Mount Hope Project Socioeconomic Assessment.*

When all of the sensitivity factors are combined with larger changes in each factor, larger differences in the population estimates emerge. The incremental population associated with SA 3 is 32 percent (192 persons) higher than the population associated with the Base Case. (BCLLC/SDLLC 2009; Appendix E). Implications of the higher population projections associated with SA 3 are discussed in the Housing and Public Utilities and Services sections that follow.

Table 3.17-23: Mount Hope Relocating Operations Worker Sensitivity Analysis Summary

	2008 Socioeconomic Assessment (Base Case)	SA 1	SA 2	SA 3
Estimated relocating population and weekly commuters: 1 st 9 years of production operations	603	678	584	795
Estimated incremental school enrollment ¹³	96	106 – 122	83 – 96	140 – 161

Source: BCLLC/SDLLC 2009; Appendix E

Differences in population and school enrollment projections associated with the respective SAs continue through subsequent phases of operations (see Table 1 of Appendix E). Changing economic conditions, employee turnover at the mine, potential closures of other area mines and other factors could also play an important role in mine-related population in future years.

Effects of Higher Levels of Workforce Commuting

As discussed in Section 3.17.3.1, a shortage of housing in southern Eureka County during Project construction and the initial months of Project operations could result in higher levels of commuting from other communities than was anticipated in the 2008 Socioeconomic Assessment. Such an occurrence would result in lower incremental population growth in southern Eureka County than projected in the foregoing discussion under either the Base Case or the SAs. The reductions in population would of course be dependent on the actual number of commuting workers.

- **Impact 3.17.3.3-2:** The Proposed Action would result in substantial growth and concentration of population. Population growth would present new economic opportunities for southern Eureka County businesses and support additional commercial development. These effects would be seen as positive for some. The changes from the current relatively stable and smaller population would be seen as adverse by others.

Significance of the Impact: This impact is considered a significant effect on social and economic values. The impact has both positive and potentially adverse, short term and long term, attributes. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM’s jurisdiction.**

¹³ The number of students enrolled in Eureka County schools is presented as a range of 20 percent to 23 percent of the permanent resident population (i.e., **relocating population**).

3.17.3.3.3 Housing

This section discusses housing demand associated with the combined construction, operations and secondary workforces during construction and the initial nine years of production operations. Housing demand generated by the Project would substantially exceed the currently available temporary and conventional housing resources in southern Eureka County.

Housing Demand during Construction

Single status construction workers would require temporary housing while working on the Project. Temporary housing accommodations to satisfy this demand might include hotel and motel rooms, RV and mobile home park pads, and temporary construction worker (TCW) housing facilities. While some construction workers might prefer rental housing, apartment, and mobile home accommodations, there is currently limited availability of such resources in southern Eureka County.

Figure 3.17.6 displays the projected combined housing demand associated with Project construction, operations and secondary workforces during the construction phase of the Project. Given the size of the anticipated workforce, there would be limited availability of temporary housing in southern Eureka County and commuting distances to other communities. EML is planning to house up to 300 construction workers in TCW housing facilities (Personal Communication, Pat Rogers, EML 2011). As noted above, Eureka County has identified land in the Eureka Canyon Subdivision for temporary housing for up to 300 construction workers and EML has expressed its intention to house workers on this site (Branstetter 2010). At their May 20, 2011, meeting, the Eureka County Board of Commissioners voted to have the County Public Works Department begin working with EML on timelines, acceptable design, and other pertinent details of the TCW housing facilities at the Eureka Canyon Subdivision (Eureka County Board of Commissioners 2011). EML also intends to house some supervisory personnel and construction management personnel in mobile homes in EML's 36-space mobile home park in the Town of Eureka.

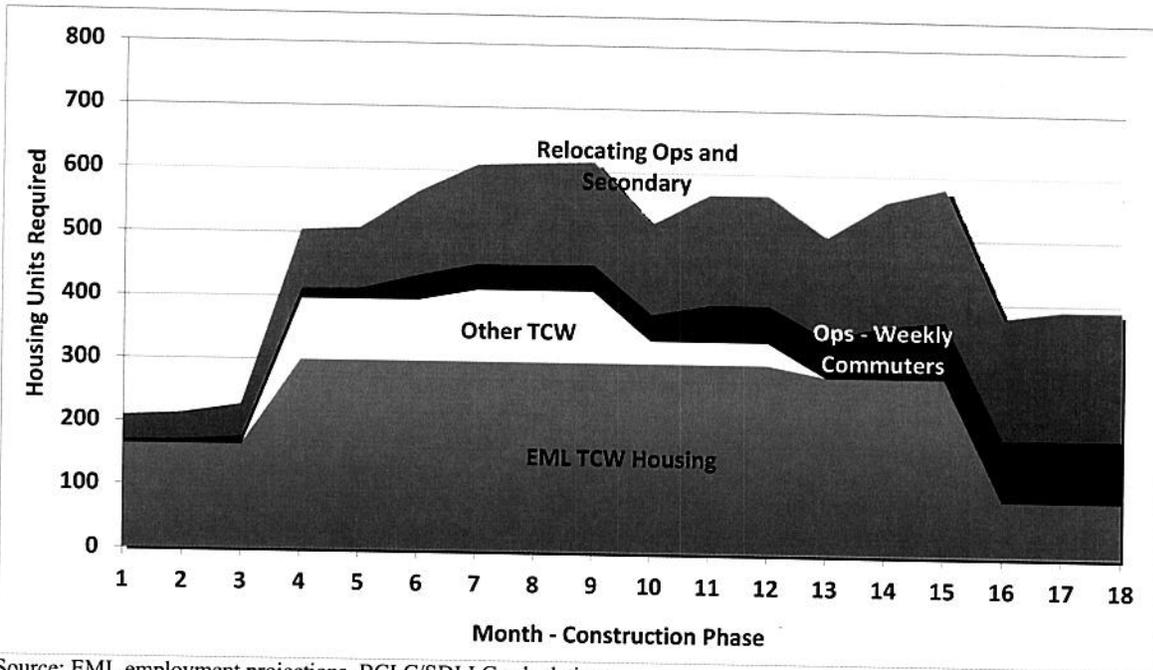
Assuming the TCW housing facility is operational as construction begins, with capacity to accommodate up to 300 workers, un-met Project-related southern Eureka County housing demand from construction and operations workers and relocating secondary workers would increase from approximately 50 units during the beginning of construction to approximately 310 units during the construction peak. After the construction peak, housing demand (excluding the TCW) would decrease slightly, increasing thereafter to approximately 350 units during the final two months of construction.

Construction Worker Housing Options

According to the construction workforce estimates and residency assumptions, EML would need to accommodate an average of 284 single status construction workers over the 18-month construction phase and a short-term peak of 470 single status construction workers in the third quarter of construction. Assuming construction of TCW housing facilities adequate to accommodate 300 workers, housing accommodations for an estimated 170 single status construction workers would still be required during the peak construction period. Single status construction workers are assumed to share non-TCW housing accommodations at an average rate

of 1.5 workers per unit, so a total of about 113 units would be needed to accommodate these workers.

Figure 3.17.6: Mount Hope Housing Demand During Construction



Source: EML employment projections, BCLC/SDLLC calculations

Based on the housing information discussed in Section 3.17.2.2.2, possible options for housing additional TCW include the following:

- Use of pads and rooms in the existing 100 RV spaces and 88 motel rooms in Eureka if available;
- Using some or all of the 30 additional RV spaces under refurbishment and construction as of summer of 2011.
- Construction of new commercial RV or mobile home parks in southern Eureka County, although none have been announced as of summer of 2011; and
- Construction of some or all of the remaining 60 multi-family units planned for the Eureka Canyon Subdivision (assuming two single status construction workers per unit, the construction of these units could accommodate approximately 120 workers). However, weekly commuting operations workers and relocating construction, operations and secondary workers may also compete for these units.

Some of the above options may not materialize or would not be adequate to accommodate the combined construction and operations workforce during peak construction periods. A shortage of adequate construction worker housing options could result in more workers seeking temporary housing in more distant communities or seeking unconventional housing options such as locating RV's on lots in the Town of Eureka or the 3rd Street Area of Diamond Valley or camping on public lands. Effects of higher levels of commuting are discussed in Section 3.17.3.3.4 (Public

Utilities and Services Effects) and Section 3.17.3.3.6 (Effects on Social Conditions and Affected Publics).

Production Operations Housing Demand

Given the estimated 44-year life of production operations, Project operations workers and secondary workers are likely to prefer conventional housing resources. Such resources include single-family homes (both “stick-built” and manufactured), multi-family homes, and apartments, and mobile homes. Some weekly commuting operations workers may also reside in RVs during their work week, particularly during the initial years of construction when conventional housing resources are likely to be limited. Based on EML employment forecasts and the labor force participation, commuting and occupancy assumptions used for this assessment, total operations-related housing demand would be 288 units during the first nine years of full production operations. This includes demand for an estimated 99 units to accommodate weekly commuters who are assumed to share units at a rate of 1.5 workers per unit and 189 units to accommodate relocating operations and secondary workers and their households. Some operations worker households would also have second workers filling local jobs and some secondary worker households will also have two working members.

Total housing demand would increase to a projected 328 units after Year 10 of operations and peak at 368 units during the five-year period coinciding with the maximum direct operating employment, which would be over 20 years after initiation of Project operations, according to current plans. Total demand would then diminish to 180 units by Year 30 of operations and drop to 97 units by Year 44.

Sensitivity Analysis Housing Demand

As discussed above (Table 3.17-23), the incremental population in southern Eureka County during the initial nine years of operations under the economic demographic assumptions in SA 3 would be approximately 32 percent higher than under the 2008 Socioeconomic Assessment or Base Case. Net housing demand under SA 3 would be 13 percent higher due to the shifts in work force composition; fewer weekly commuters and more relocating households with multiple workers. The shifts would translate into a need for fewer apartments and RV parking spaces, offset by demand for more conventional housing. Total housing demand associated with SA 3 would include demand for 62 units to accommodate weekly commuters and 266 units to accommodate relocating operations and secondary workers and their households.

Housing Resources Available to Accommodate Operations-Related Demand

Potential resources to meet some or all of the Project-related housing demand include the following:

- The County and EML had a lease agreement for the Eureka Canyon Subdivision site. Eureka County and EML formally terminated the lease in July 2010, but agreed that the site “will accommodate and include an area for TCW housing sites and permanent housing sites to satisfy the projected needs of the community including the projected needs of the mining Project contemplated by EMLLC” (Fiorenzi and Personal Communication, Steve Hansen, Nevada Rural Health Centers Inc. 2010).

- In July 2010 the Eureka County Commission entered into a contract for services with the Nevada Rural Housing Authority to develop housing in the Eureka Canyon Subdivision. The County's preliminary subdivision map for the site provides for 110 multifamily and 122 single-family residential units. The initial phase of development by the Nevada Rural Housing Authority includes 50 rental multifamily units and 16 single-family homes to address estimated housing needs of southern Eureka County unrelated to the Project (Johnson 2010).
- There are 47 residential lots in the Prospect Subdivision and 85 potential lots in infill areas of the Town of Eureka. A total of 112 lots could be developed in the Devil's Gate GID #2 area in Diamond Valley and an additional 122 lots in the Ruby Hill North and South subdivisions could be developed. Some of these lots are currently unserved with water, wastewater services or streets (Damele 2010).

Based on these resources, an estimated total of 598 units could be developed on potential lots in the Eureka Canyon, Prospect and Ruby Hill North and South subdivisions, in the Devils Gate GID # 2 area and in infill lots in the Town of Eureka, although not all of the latter are readily developable or on the market (see Section 3.17.2.2.2). Nevertheless, there are adequate developable lots in southern Eureka County to accommodate production operations-related demand from all sources under both the Base Case and SA 3.

Approximately 50 housing units would be needed to accommodate operations and secondary workers as construction began. The number of units needed would increase over the ensuing 18 months to a peak of about 300 units by the end of construction and initiation of production operations. While a portion of these units would likely be single or multi-family "stick-built" housing in the long run, initially, many of these units are likely to be manufactured homes. It is unlikely that the existing residential construction sector in southern Eureka County, which has recently added less than ten homes and mobile home placements per year, would be able to respond to this volume of demand in a timely manner. Complicating the rapid development of conventional housing is the fact that utilities and streets would need to be extended to some lots in order to accommodate development, and additional utility infrastructure would be required (see Section 3.17.3.3.4).

The Nevada Rural Housing Authority's development plan acknowledges potential demand from Project operations workers (Vogt Santer Insights 2011). As demand increases over the construction phase and in the early stages of Project operations, it is likely that residential contractors and developers from larger housing markets would respond. However, absent EML intervention, such response is likely to occur over an extended period of time. In the interim, a shortage of conventional housing in southern Eureka County would be likely. As noted, possible implications of a housing shortage include a higher level of daily and weekly commuting from communities outside southern Eureka County, full occupancy of southern Eureka County temporary accommodations (motels, RV parks and rental mobile homes) during the work week, higher level of single status employees during the work week, and escalating housing costs, which could create hardships on renters with fixed incomes.

The decrease in housing demand over a 20-year period during the reduction in mining activities and eventual closure could place a large number of housing units on the market, potentially depressing housing values in the area. Retiring Project workers who remain in their homes and

successful community economic development strategies could reduce the number of houses coming on the market during this period.

In summary, accommodation of the Project would require construction of substantial temporary and conventional housing resources in southern Eureka County. This effort would provide a substantial additional economic infusion for the community and ultimately increase property tax revenues. The volume of residential construction required in a relatively short period of time would affect County government resources, which has recently accommodated approximately ten homes and mobile home placements per year in the southern part of the County.

Effects of Higher Levels of Workforce Commuting

As discussed in Section 3.17.3.1, a shortage of housing in southern Eureka County during Project construction and the initial months of Project operations would result in higher levels of commuting from other communities than was anticipated in the 2008 Socioeconomic Assessment.

As shown in Section 3.17.2.2.2, Tables 3.17-5 and 3.17-6, there are substantial temporary housing resources in some communities outside of southern Eureka County, particularly Carlin, Elko, and Ely. There is also a substantially larger conventional housing base in these communities, which could provide housing opportunities for Project operations employees, depending on economic activities and housing availability at the time that Project operations workers are seeking housing. The numbers of Project construction and operations workers that chose to relocate to these communities rather than to southern Eureka County would depend on housing availability in southern Eureka County and individual worker and family preferences.

- **Impact 3.17.3.3-3:** The Proposed Action would result in substantial demand for housing in southern Eureka County. Absent a housing plan and development program, adequate housing is unlikely to be available during Project construction and the early years of Project operations. A housing shortage would likely result in additional daily and weekly commuting during construction and early Project operations and could inflate housing costs and rents, adversely affecting renters with fixed incomes. The substantial investment and associated economic opportunities generated in response to housing demand would be seen as beneficial by some in the community as would the expansion of the housing stock. Landlords would likely view increased housing costs as beneficial, renters and prospective buyers would view increased costs as adverse.

Significance of the Impact: This impact is considered significant and has both beneficial and potentially adverse aspects. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to develop housing resources to accommodate the needs of the construction and operations-related population. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.3.4 Public Utilities and Services Effects

Although most County functions would experience increased demand for services during construction, demand is likely to be focused on certain key services including law

enforcement/criminal justice, emergency response (first responder medical, transport and fire suppression) and the medical clinic (Freudenburg and Jones 1991; Halstead et al. 1984) in part because TCWs would have less demand for general government services. This demand would be related to the large Project-related increases in population, vehicular traffic and commercial and industrial activity. The public works department would also experience increased activity as it oversees construction of the street and utility infrastructure associated with new housing and commercial development.

All Eureka County infrastructure and service systems would experience increasing demand as the more long-term Project operations workforce increased during the later months of construction and the early period of Project operations, stabilizing as the full operations were achieved. Infrastructure and housing development would likely begin during Project construction and continue into the initial years of Project operations. Once substantial housing and infrastructure development is in place, Project-related demand for Eureka County facilities and services would evolve from a community expansion/construction mode to that of a relatively steady state population-related demand.

In 2008 Eureka County commissioned preparation of a fiscal analysis of the Mount Hope Project, titled *Fiscal Impact Review and Analysis of the Mount Hope Project: Understanding the Population Impacts and Costs to Provide Support Services and Facilities for the Mining Related Population* (Research and Consulting Services, Inc. 2008). The findings of this report are discussed in Section 3.17.3.2.5, Public Fiscal Effects.

Utilities

The population associated with the Project would create substantial incremental demand on community infrastructure in the Town of Eureka and in the Devil's Gate GID. Current plans would be to house a majority of the workforce in TCW housing in the Eureka Canyon Subdivision, which would be served by municipal water and wastewater systems. It is anticipated that a majority of the conventional housing needed to accommodate the Project operations-related population would also be located in the Eureka Canyon Subdivision, although some housing may be developed in the Prospect Subdivision, on infill lots in the Town of Eureka and in the two Ruby Hill subdivisions.

The Eureka County Public Works Department oversees water, wastewater, solid waste and street and road functions throughout the County. The Eureka County Public Works Department would see a substantial increase in workload to deal with the development permitting process and with overseeing the construction of water, wastewater, street, storm drainage and other improvements necessary to accommodate the housing development needed for the Project. New commercial development would also require staff time and resources. Once substantial housing and infrastructure development is in place, the incremental Eureka County Public Works Department demand would be associated with ongoing maintenance and operations of expanded water and wastewater systems and new streets, as well as the effects of higher demand on existing streets and other infrastructure. The 2008 fiscal analysis prepared for the County projected the Public Works Department would require additional staff and incur infrastructure expansion and improvement costs to accommodate the Project-related demand for services (Research and Consulting Services 2008). Project-related utility system improvements are discussed under the following system discussions.

Water Supply, Treatment, Storage and Distribution

Information for this section was obtained from the Overview of the Summary Report of Existing Municipal Water Conditions in Southern Eureka County (Damele 2010).

In the fall of 2010, Eureka County extended water lines from Ridgetop Road and Hogpen Canyon to the western boundary of the Eureka Canyon Subdivision, which is adjacent to U.S. 50 ROW. In 2011, the County secured permits from the NDOT to extend the water line under the highway and supply water service to the site prior to housing construction (Johnson 2010). Water mains underlying the main street were also replaced during 2010.

Current water use and well production capacity data indicate that the Town of Eureka's municipal water system has adequate water supply to accommodate residential development on the additional 409 lots that potentially could be developed in town, assuming per capita water consumption would be comparable to current users. As discussed in the subsection on Water Supply, Treatment, Storage, and Distribution in Section 3.17.2.2.5, Eureka County is concerned that the ground water levels in the system's two wells are declining and considers the effects of additional users and potential pumping on the system in Kobeh Valley to be uncertain (Personal Communication, Ron Damele, Eureka County Public Works 2011). The County is concerned that the County's current sources may be unable to provide an adequate water supply to meet new demands on the system from growth, resulting in a continued decline in water levels. To accommodate population growth, the County believes that it would be prudent to accelerate development of Town-owned springs and drill a third well, although it is uncertain whether water quality in the new well would be able to meet Safe DWSs for As concentrations.

Little growth in demand for water service is anticipated in Devil's Gate GID #1 due to the limited size of the district.

Currently the 60-gpm well that serves as the primary source for Devil's Gate GID #2 cannot accommodate the potential build out of an additional 234 lots. The district has an additional 200 gpm well but the water from that well requires treatment to meet Safe DWS. Eureka County completed an additional 400,000 gallon storage tank and associated water transmission line during 2010 and early 2011 (Personal Communication, Ron Damele, Eureka County Public Works 2011).

Eureka County may be required to develop a new water source to ensure availability of adequate water for the Town of Eureka, given falling water levels in Diamond Valley where the town's wells are located. Improvement of the water quality in an existing well in GID #2 would also be needed.

Wastewater Collection and Treatment

Construction and operation of the Proposed Action would generate demand for additional wastewater collection and treatment services exceeding the capacity of the existing system. To accommodate that demand, capacity of the Town of Eureka's wastewater treatment facility would need to be expanded to 200,000 gpd and the wastewater outfall enlarged, at an estimated total cost of \$1.6 million for both improvements. A majority of the collector main system within the town has recently been replaced but service would need to be extended to some areas to accommodate new growth.

Solid Waste Disposal

Solid waste generated by growth associated with the Project, including waste generated during construction of new housing, would shorten the remaining life of the Class II-rated (less than 20 tpd) Whiskey Flat Landfill; however, the landfill capacity should be adequate through the Project's construction and initial operations periods. Assuming rates of solid waste generation similar to the current community, the Project would decrease the expected 30-year life of the existing landfill to between ten and 20 years, accelerating the need for efforts to obtain the necessary permits for an expansion **by obtaining control of existing mining claims** or to secure a new location. Additional operating staff or equipment may be necessary to accommodate the increased volumes of solid waste.

EML plans to develop an on-site Class III-waivered solid waste disposal facility for non-hazardous, non-liquid, mine site industrial wastes; therefore, demands on the county landfill would be limited to population-related waste and Project wastes that could not be disposed in the Class III-waivered landfill and that meet the disposal requirements of the Class II-rated landfill.

Administrative Services

The Project would increase demand for County administrative services including those provided by the Board of County Commissioners, and the offices of the Assessor, Clerk and Treasurer, and Recorder/Auditor. Although the population would increase substantially, the increases are unlikely to proportionally increase staff and equipment; however, there may be unique needs associated with the Project that require a higher level of staffing than currently exists. For example, the addition of new homes and businesses to the tax roll, along with the increase in the number of motor vehicle titles and licenses processed for the Nevada Department of Motor Vehicles (DMV) by the Assessor's office would likely require additional staff and office space. The Assessor recognizes the DMV service as being vital to the community and, along with the Board of County Commissioners, would strive to ensure that the service remained available (BCLLC/SDLLC 2008). Other administrative offices may also need to increase staffing to accommodate incremental growth in the County. In its 2008 Fiscal Assessment, Eureka County indicated that the Assessor, Clerk/Treasurer and Auditor's offices would each require additional staff, along with modest additional outlays for equipment to accommodate Project-related population growth (Research and Consulting Services 2008).

Eureka County Department of Natural Resources

Implementation of the Proposed Action could result in increased demand for Department of Natural Resources water use monitoring, rangeland and vegetation monitoring, weed control and liaison between the Board of County Commissioners and EML. The Department's current water monitoring program could also require expansion.

Law Enforcement and Criminal Justice

Sheriff's Office

In addition to a general need for law enforcement services associated with population growth, workforce commuting and material, equipment and supply transport to the Project Area would increase demand for traffic control, enforcement and accident response in the southern portion of

the County and north along SR 278 to I-80. The influx of TCWs would result in increased demand for law enforcement and criminal justice services.

The level of increase in crime associated with the construction phase of the Project would be dependent in part on the communication and coordination between EML, the engineering, procurement and construction management (EPCM) contractor, and the Eureka County Sheriff's Office and District Attorney. **Communication between EML and Eureka County to provide Project updates is outlined in Section 2.1.14.1.** If the EPCM contractor establishes clear expectations about employee conduct in the community and follows up with appropriate personnel procedures for employees that violate those guidelines, the potential for increases in crime and disruption could be reduced (BCLLC/SDLLC 2008).

After operations begin and the workforce stabilizes, law enforcement and criminal justice demands would likely be similar to current demand with increases related to the general increase in population. The increased traffic on SR 278 would require increased traffic enforcement and accident response over the long term. Project-related demand during both construction and operations would include the need for additional officer's equipment and administrative staff. Project-related needs for the Sheriff's Office outlined in the Eureka County's 2008 fiscal analysis included additional staff, equipment and expansion and improvement of administrative and jail facilities (Research and Consulting Services 2008).

District Attorney

The Eureka County District Attorney's office would experience an increase in prosecutions as a result of the population increase associated with the Project. In general, the experience with other larger-scale construction projects throughout the west over the past 20 to 30 years is that there is likely to be an increase in prosecutions (BCLLC/SDLLC 2008). Given the housing, infrastructure and commercial development that would be occurring in the County during the Project, it is likely that an increase in administrative duties would also be required. Eureka County's fiscal analysis estimated need for additional legal and administrative staff and equipment in the District Attorney's office to accommodate Project-related growth (Research and Consulting Services 2008).

Eureka Justice Court

The Eureka Justice Court could potentially experience increases in small claims, civil cases, traffic offenses, and preliminary disposition of felonies associated with the Project-related population growth. These increases would likely require the addition of either a full time or on-call administrative staff and related equipment, which is consistent with Eureka County's 2008 fiscal assessment (Research and Consulting Services 2008).

Eureka County Juvenile Probation Office

The SA yielded a range of 25 to 80 additional high school/middle school aged youth in southern Eureka County once the Project is operational. The increased youth population could potentially result in increase in demand for Juvenile Probation services. The probation office could require additional staff and would incur additional costs to provide services to Project-related target youth and to provide athletic services to all Project-related youth, which is consistent with Eureka County's fiscal assessment (Research and Consulting Services 2008).

Emergency Response

Calls for emergency response, including emergency medical, transport and fire suppression, would increase due to population growth and increases in the number of traffic accidents associated with industrial construction and mining activity. Response time to the Mount Hope area, where the mine would be located, is 45 minutes including the time required to assemble volunteers.

EML would provide fire suppression and emergency response resources at the Project Area. These resources would be in compliance with MSHA and insurance carrier requirements and would be based on the experience of EML's management team. EML would provide contingency planning for the Project and would not rely on the Diamond Valley or Eureka fire suppression or emergency response teams to provide primary response to the mine site (BCLLC/SDLLC 2008).

Fire Protection

The Eureka VFS and the Diamond Valley VFS are staffed by volunteers. Recruiting volunteers to meet the increased demand may be a challenge during the construction phase of the Project. Equipment costs for each new volunteer is approximately \$1,800 and training costs are approximately \$1,000 (Personal Communication, Mike Sullivan, Eureka County EMS 2006).

As the closest fire station to the Project Area, the Diamond Valley VFS may be called to respond to fire incidents and accidents at the mine site, although EML would have primary fire suppression and accident response personnel and equipment on site. Identified needs to serve the envisioned increases in traffic and industrial activity in the southern part of the county, including that associated with the Project, include a heavy rescue truck and related equipment. Estimated costs for the truck and equipment range between \$200,000 and \$400,000 (BCLLC/SDLLC 2008; Massey 2010).

Emergency Medical/Ambulance Services

The Eureka County EMS is staffed largely by volunteers. Although mine operations workers **may** join these volunteer agencies, few construction workers are likely to do so; consequently, EMS services may be **especially** strained during the construction phase of the Project. On the other hand, EML or the EPCM contractor would have EMT personnel and equipment on site during construction **and operations as outlined in Section 2.1.10**, which may reduce the number of calls to the construction site. Eureka County's 2008 Fiscal Assessment estimated that the EMS Department would need additional staff and equipment to accommodate the Project-related increase in population (Research and Consulting Services 2008).

An older-model ambulance stationed at the Diamond Valley fire station would likely need to be replaced sooner if the Project is implemented in order to maintain adequate service for the increased population, traffic, and industrial activity associated with the Project. In addition, the EMS would incur training and equipment costs for each new volunteer.

Health Care

Both the direct and secondary workforce associated with Project construction could use the Eureka Medical Clinic. Construction workers are likely to use the clinic for minor emergencies

and urgent care, preferring to seek service in their home communities for elective and routine care. Relocating operations and secondary workers are more likely to have families present and use the medical clinic for routine care. EML may contract with the clinic or Nevada Health Centers, Inc. for industrial medicine needs including physicals and drug testing.

The Eureka Medical Clinic currently has one physician and one physician's assistant. The rural health care standard is one physician per 1,500 people (BCLLC/SDLLC 2008) and there were approximately 1,350 people in southern Eureka County at the time of the 2010 Census. During the initial years of production, the Project would result in incremental population growth of approximately 600. Although the additional population would increase demand for health care services, the incremental growth **may** warrant the addition of another full-time physician at the clinic, **and** may require an increase in support staff. Fees for service would at least partially offset the cost of additional staff because Project operations employees would have health insurance. The Project would generate revenue for indigent health care, although the receipt of such revenue may lag demand during the early months of construction.

Given the difficulty in attracting and retaining health care providers in rural areas, there may be periods in which the Eureka Medical Clinic is without long-term medical staff, including a physician or physician's assistant. During these periods, Nevada Health Centers, Inc. would attempt to staff the Eureka Clinic with temporary medical professionals or cover the clinic with staff from other clinics in its network, although there would be additional costs associated with temporary staffing. The Eureka Clinic has less difficulty than some rural clinics in recruiting medical professionals because of the compensation level, the relatively low patient load, and the attractiveness of the community. Although the 24/7 nature of the on-call requirement can be a detriment for some medical professionals and contribute to burn-out, the compensation package is based on this requirement, which helps attract and retain medical staff (Personal Communication, Carl Heard, Nevada Health Centers Inc. 2008).

If Nevada Health Centers, Inc. were unable to cover the clinic with either long-term or temporary staff, EML employees and their households as well as other southern Eureka County residents would be without local medical care, and they would be required to travel to clinics and physicians in more distant communities for health care.

Social and Senior Services

The availability of a large number of construction jobs would attract job seekers to southern Eureka County, some of whom may arrive with few resources. It is anticipated that the Eureka County Social Services Coordinator would see an increase in indigent individuals and families seeking assistance during the construction phase of the Project, some of whom may not have the resources to travel to Ely to apply for help from the Nevada Department of Human Resources. Eureka County may incur additional emergency aid costs during the construction period.

Given the relatively high wages anticipated for Project operations workers and the fact that operations workers would have health insurance, the operations workers are not anticipated to substantially increase the caseload of the Eureka County Social Services Coordinator.

During the operations phase, some relocating workers may be accompanied by older household members, but these working age households are unlikely to contain a large number of seniors.

The substantial Project-related housing demand would likely increase area housing costs, which could affect seniors who are renting housing in the Town of Eureka.

Additional part-time or temporary Social Services staff may be needed during construction. A need for additional emergency assistance funding would also be likely. These demands would likely diminish soon after Project operations begins.

Library and Recreational Facilities

Library and community recreation facilities in the Town of Eureka would experience a substantial increase in demand as a result of the Proposed Action. The two ballparks and the swimming pool would likely to see an increase in use and events held at the County fairgrounds such as horse shows, rodeos, the County fair, bicycle races and softball, archery and shooting tournaments are likely to see increases in participants and spectators associated with the mine population. These increases may result in the need for expansion of recreation facilities, particularly ballparks and possibly the spectator facilities at the fairgrounds.

Public Utilities and Services Sensitivity Analysis

As shown in Table 3.17-23, the operations-related population during the first nine years of production operations would be approximately 32 percent or 190 persons higher under SA 3 than under the 2008 Socioeconomic Assessment or Base Case. The higher incremental population associated with SA 3 would translate into slightly higher demands on public facilities and services during the period of initial response to Project construction and operations.

Public Education

The 2008 Socioeconomic Assessment projected an increase of 17 students for the ECSD by the end of the first year of Project construction and 68 new students by the end of the second year of construction and initial operations. During the initial years of Project operations (up to ten years) it is estimated that there would be 96 new students under the Base Case, which would be approximately 37 percent of 2009/2010 fall enrollment.

Again, based on the assumptions in the 2008 Socioeconomic Assessment, the incremental ECSD enrollment during initial Project operations would include an estimated 67 elementary school students and 29 middle/senior high school students. When added to fall 2009-2010 enrollment (135), the Project initial operations-related elementary school enrollment of 67 students would increase total enrollment at the elementary school to 202 students. This would be below the elementary school's maximum capacity of 280 and optimum capacity of 240.

The 29 middle/senior high school students anticipated during full operations, when added to fall 2009-2010 enrollment (125), would total 154 students. This would be below the school's maximum capacity of 232 and optimum capacity of 190.

Based on the enrollment projections above, the ECSD could need to hire as many as three to four additional teachers for the second year of construction and one or two more teachers to accommodate the students associated with initial operations. These numbers could be increased or reduced depending on the actual distribution of Project-related enrollment and the needs of incoming students. Additional support and administrative staff could also be required during

each of these periods. The ECSD would also see increases in other instructional costs, administrative costs, and transportation costs to accommodate this level of students without compromising the current level of educational services.

School Enrollment Sensitivity Analysis

The 2009 SA examined the effects of different assumptions about the Project-related resident population, labor force participation and school age children per household factors than were used in the 2008 Socioeconomic Assessment. SA 3, which provides the upper bound of population effects for the SA, contained an estimated increase in enrollment from 140 to 160 students, contrasted with 96 for the Base Case. Based on the assumptions used for SA 3, the incremental ECSD enrollment would be a maximum of 98 elementary school students and 80 middle/senior high school students. When added to Fall 2009-2010 enrollment (135), the initial operations-related elementary school maximum enrollment of 98 students under SA 3 would increase total enrollment at the elementary school to 233 students. This would be below the elementary school's maximum capacity of 280 and optimum capacity of 240. The maximum of 80 middle/senior high school students anticipated during the first nine years of full operations when added to Fall 2009-2010 enrollment (125) would total 205 students. This would be below the school's maximum capacity of 232 and 15 students above the optimum capacity of 190.

Under the enrollment estimates associated with SA 3, the ECSD would likely be required to hire additional instructional staff as compared to the Base Case and would also see higher levels of other instructional costs, administrative costs and transportation costs to accommodate the higher enrollment associated with SA 3.

Effects of Higher Levels of Workforce Commuting

As discussed in Section 3.17.3.1, a shortage of housing in southern Eureka County during Project construction and the initial months of Project operations would result in higher levels of commuting from other communities than was anticipated in the 2008 Socioeconomic Assessment. Higher levels of workforce commuting would result in a lower Project-related population in southern Eureka County and a correspondingly lower demand for public infrastructure and services. Conversely, the workers who relocated to communities outside of southern Eureka County and commuted to the Project would generate demand for public infrastructure and services in those communities. The commuting construction workforce would reside in temporary housing and generate demand for a limited range of public services, primarily law enforcement, emergency response and medical services (temporary housing is assumed to be already served by public infrastructure such as water, wastewater and solid waste collection). Non-local commuting operations workers would generate incremental demand for the full range of public infrastructure and services in their respective communities. Additional law enforcement and emergency response services could also be generated along transportation routes, **specifically along SR 278**, from host communities to the Project for both construction and operations workers.

Non-local commuting Project workers are likely to be dispersed among several communities and their numbers would likely be small in comparison to the population of the most likely host communities (Carlin, Elko, and Ely), therefore effects on public facilities and services would likely be minimal.

- **Impact 3.17.3.3-4:** The Proposed Action would result in a substantial demand for public infrastructure and services in southern Eureka County. Expansion and improvement of public infrastructure and services could in some cases provide a higher level of services for current residents and the associated expansion of infrastructure could support the County's long-term community and economic development plans. Conversely the substantial expansion of County services and infrastructure to support Project-related demand would be required over a relatively short period of time and likely strain the resources of County government.

Significance of the Impact: This impact is considered significant and has both beneficial and potentially adverse aspects. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.3.5 Public Fiscal Effects

Project-Related Revenues

The estimates contained in this section are based on Project investment and production estimates provided by EML. The estimates are subject to change as the Project proceeds and as materials, equipment and supply costs change and commodity prices fluctuate. However, the following assessment provides a reasonable assessment of the tax revenues that would flow from the Project, based on the foregoing inputs.

Increases in local sales tax receipts would begin accruing immediately in response to consumer expenditures by the construction labor force and taxable purchases of materials and supplies by the mine itself, some of which may occur in advance of construction. Such revenues would continue over the long term due to the ongoing stimulus associated with operations, processing, closure and reclamation. The sales tax increase could affect the distribution of the supplemental city-county relief tax (SCCRT), which is a statewide sales and use tax levy.

The Project's real and personal property and net proceeds from sales would be subject to taxation by the County and the ECSD, as well as the State of Nevada. The Project's taxable values in these categories would be subject to the tax at the same rates as other real property in the County. Over time, the Project would contribute substantial revenues to the county; however, there would be a delay in the accrual of substantial property and net proceeds tax revenues following the onset of development and production. The revenues generated by the Project could be used to defray some or all of the incremental costs of public services. In the event of net long-term surplus revenues generated from taxes on the proceeds of mining, such revenues could bolster the County's reserve accounts maintained to address the year-to-year fluctuations inherent in revenues associated with changing economic conditions, particularly in the mining industry (BCLLC/SDLLC 2008).

Property Taxes

Future general property taxes would primarily be a function of capital investments in plant and equipment, depreciated over time. Preliminary mine development costs initially subject to

property taxes are estimated at approximately \$490 million. Taxable value would decline over time due to depreciation, but may stabilize as major mining equipment is replaced and facility upgrades occur. Property taxes would continue to be generated over the life of the Project, but have not been quantified beyond Year 10 of operations.

General property tax revenues levied on the Project, based on current tax rates and anticipated investment, are projected at just over \$2.7 million for the first year of full operations, declining over time. Projected cumulative general property tax revenues projected through Year 10 of operations are \$15 million. Property taxes would continue to be generated over the life of the Project, but have not been quantified.

Estimated total general property taxes of \$7.4 million would accrue to Eureka County through the construction period and first ten years of production. Projected property tax revenues to the ECSD are approximately \$6.6 million. The Project would be assessed for any new obligations issued to cover future facility and other major capital needs of the ECSD.

New residential and commercial development built to accommodate growth and the effects of growth in raising the market values of existing development would also contribute to the tax base. Any such development located within the Town of Eureka would be subject to additional tax to fund services provided in the town. Projections of such revenues could not be quantified due to uncertainties regarding the value, timing, and location of such development and the indirect impacts on existing property values.

Taxable real and personal property in Eureka County is also subject to a statewide levy of \$0.17 and \$0.0085 for the countywide TV District. Tax revenues derived for those purposes from the Project itself are estimated at \$1.5 million and \$75,000, respectively, through the construction period and ten years of operations and continue accruing over the life of the Project.

Net Proceeds Taxes

Current reserve estimates for the Project support anticipated production of 1.1 billion pounds of recoverable Mo. Ad valorem taxes would be levied on the net proceeds of mining, which are in turn, a function of production, the costs of recovery and processing, market prices, and a variable tax rate of between two and five percent based upon the ratio of gross to net proceeds. A portion of any net proceeds taxes would be distributed to the County and ECSD. The remaining taxes would accrue to the state.

During the first ten years of operations, the period during which local facility infrastructure needs and staff expansion would most likely occur, EML has projected total net proceeds of \$186.4 million: \$30.6 million to Eureka County, \$31.6 million to the ECSD, and approximately \$124.2 million to the State of Nevada. Projected net proceeds of mining taxes over the life of the Project total nearly \$384 million: \$64.9 million to Eureka County; \$62 million to the ECSD; \$652,000 to the TV District; and, \$256 million to the State of Nevada (BCLLC/SDLLC 2008). Even if prices decline or fluctuate over time, substantial taxable net proceeds would be expected in conjunction with long-term operations.

Past experience for the mining industry in Nevada indicates that the net proceeds for individual mines can vary considerably year-to-year and over time, posing challenges for local government preparing their annual budgets. However, experience also indicates that the major mines pay

substantial net proceeds taxes over the life of the mine. Such taxes have historically been a substantial source of revenue for Eureka County and the ECSD, supporting current operations as well as contributing to reserve funds that both the County and the ECSD have accumulated over time. These reserves provide an important budgetary buffer that could be used to temper year-to-year variations in net proceeds revenues.

Sales and Use Taxes

Construction and operations of the Project would generate substantial sales and use tax receipts. Purchases of equipment, supplies, and construction materials by the Project would be subject to such taxes, along with consumer purchases by the contractor laborers and Project workforce, as well as such purchases by the secondary businesses and workers supported by the Project.

The present sales tax rate in Eureka County is 6.5 percent: 2.25 percent for local school support tax (LSST), 0.50 percent for basic city-county relief tax (BCCRT), 1.75 percent for SCCRT, and two percent for state sales tax. Revenues generated by BCCRT and SCCRT are generally distributed to the jurisdictions in which the sale occurs. Revenues derived from LSST generated by local sales accrue to the ECSD, while revenues from purchases levied on out-of-state purchases accrue to the State Distributive School Account to support statewide education funding. Use taxes are levied on purchases of commodities from out of state retailers intended for use and consumption in Nevada, with the accrual of tax revenues based on the location of the delivery or use.

Detailed estimates of the taxable purchases by the mine and workforce during construction could not be quantified; however, a series of preliminary projections were developed for the 2008 Socioeconomic Assessment based on a series of assumptions.

Total sales and use tax revenues during construction **and through year 10 of operations are projected at \$63.9 million. The total includes** \$22.1 million in LSST, \$4.9 million in BCCRT, \$17.2 million in SCCRT, and \$19.7 million in state sales tax. **Of the total, Eureka County is projected to realize \$22.1 million in BCCRT and SCCRT, and an estimated \$11.1 million in LSST revenue (50 percent of the total) would accrue to the ECSD. The State of Nevada would realize \$30.7 million in LSST and state sales and use tax revenue.** Some of these revenues would benefit other local governments and school districts via intergovernmental transfers, such as the statewide education funding. The Project would generate sales and use taxes over the life of the Project with the amounts fluctuating over time in response to changes in the level of payrolls, the range of goods and services available locally, and the volume of purchases by the mine as the rates of mining and production vary.

Total Project-Related Revenues

Cumulative revenues generated by the major taxes during construction and through Year 10 of operations are projected at \$60.2 million for Eureka County, \$50.6 million for the ECSD and \$113 million for the State of Nevada.

The estimated timing of revenue flows to Eureka County and ECSD Year 10 of operations show that there would be moderate revenues in Years 1 through 3 but revenues from the Project would peak in Year 4 with over \$8 million in revenues each to the ECSD and Eureka County.

Tax receipts by the State of Nevada would increase from the Proposed Action; sales and use taxes and net proceeds taxes described above being the two primary sources of such revenue. Approximately 66 percent of future net proceeds of mineral taxes would accrue to the State of Nevada. The state would also garner revenues from the modified business tax on employment supported by the Project.

Project-Related Expenditures

Development and operations of the Project would require increased public expenditures on the part of Eureka County and the ECSD for increased staff, equipment and in some cases expanded and improved infrastructure and facilities. Although Project-related staffing, equipment, infrastructure and facility impacts are discussed qualitatively in Section 3.17.3.2.4, Public Utility and Infrastructure effects, the expenditures associated with those effects were not estimated for this assessment, in part because County and ECSD plans for accommodating growth were not known.

The aforementioned fiscal analysis commissioned by Eureka County (Research and Consulting Services 2008) considered the potential service and facility costs associated with the Project. The fiscal study noted that the residential and commercial growth associated with the Project could not be accommodated without improvement and expansion of some systems but recognized that a portion of the capital improvements identified in the study would serve to correct existing deficiencies and to support Eureka's broader economic and community development plans. The County's study acknowledged that user fees and negotiated development fees/exactions/system improvement fees, including those associated with Project-related development could finance a substantial portion of the costs, but concluded that temporary shortfalls were possible.

The County's fiscal assessment suggested that the County's staffing could expand by as much as 25 percent at a cost of over \$2 million annually and one-time initial capital improvements would be required with an estimated cost of \$7.2 million, approximately 45 percent of which would be funded by utility users (Research and Consulting Services 2008). The anticipated capital improvements included the following:

- An expansion of the jail and administrative facilities for the Sheriff's department;
- Future expansion of the landfill;
- Purchases of new emergency and maintenance vehicles and other major equipment; and
- Water and wastewater system improvements.

Since the fiscal study was completed, the County has completed a number of improvements identified in the study to correct existing deficiencies, to prepare for growth and to extend service to the Eureka Canyon Subdivision as part of the housing initiative with the Nevada Rural Housing Authority to serve existing non-Project housing needs in the community.

There are some differences of opinion regarding the Project's effects on some facilities and staffing levels, such as the jail, which are noted in the 2009 supplemental information submitted to the BLM (BCLLC/SDLLC 2009; Appendix E). The memorandum further suggested that expansion of the landfill would not be required for several decades and suggested that Project generated revenues and user fees would be available to fund some or all of the costs of

infrastructure and services. For example, a total of \$3.25 million of the utility expansion and improvement costs would be associated with user-funded water and wastewater systems.

Based on the investment estimates provided by EML, Eureka County would receive almost \$9 million in Project-related revenue during the first two years of construction. These revenues could be used to offset the costs of additional staff, equipment and infrastructure improvements needed to accommodate the Project. However, the County would be required to fund some utility infrastructure improvements, purchase equipment and hire staff prior to the initiation of construction in order to accommodate the Project-related growth and development. If the Project is approved and the County expended funds in anticipation of Project-related growth and the Project subsequently did not proceed, was delayed, or was prematurely terminated, the County would not receive revenues or perhaps not receive adequate revenues to cover the cost of these improvements and could be required to lay off staff and maintain oversized facilities.

The County study focused on the costs of development and did not contrast these cost with the availability of revenues from the aforementioned fees or with tax revenues that have been estimated for this assessment. Based on the production-related revenues forecast in the preceding sections, annual revenues from operations would be adequate to cover the County's projected ongoing Project-related staffing costs outlined in the County's Fiscal Assessment, and, in years of high net proceeds revenues, could contribute funding for capital improvement or special projects or to the County's reserve accounts.

Regarding ECSD expenditures, Project-related school enrollment increases during initial production operations would require additional instructional and support staff, additional instructional materials and perhaps some facility configuration and additional maintenance costs. There would be a delay between the time that Project-related enrollment began to increase and when the ECSD would receive Project-related ad valorem tax revenues; however, the ECSD would receive proceeds from the LSST early in the construction phase.

As noted above, based on the investment estimates provided by EML, Eureka County would receive almost \$9 million in Project-related revenue during the first two years of construction, and the ECSD would receive approximately \$4.5 million; these entities could use this revenue to offset the cost of staff and equipment needed to accommodate Project-related demand.

- **Impact 3.17.3.3-5:** The Proposed Action would result in substantial short- and long-term increases in tax revenues as well as expenditures for Eureka County and ECSD.

Significance of the Impact: This impact is considered significant. While the long-term tax revenues would likely provide for increased infrastructure expenditures, it is suggested that EML and Eureka County build on previous and current planning efforts in order to prepare for the possible timing differences between expenditures and tax revenues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

Effects of Higher Levels of Workforce Commuting

As discussed in Section 3.17.3.1, a shortage of housing in southern Eureka County during Project construction and the initial months of Project operations would result in higher levels of

commuting from other communities than was anticipated in the 2008 Socioeconomic Assessment. Communities located outside of Eureka County would receive no direct revenues from the Project although they would receive a distribution of the certain state revenues generated by the Project. Project workers would generate sales taxes in their host communities. Project operations workers would generate utility fees and those workers who purchased homes would generate property taxes. It is not known whether these amounts would be adequate to offset the costs of Project worker public infrastructure and service demand, but this demand should be relatively minimal.

3.17.3.3.6 Effects on Social Conditions and Affected Publics

Although there are no significance criteria for effects on social conditions and affected publics, Appendix D (Social Science Considerations in Land Use Planning Decisions) of the BLM Land Use Planning Handbook H-160-1 lists social organization and condition social groups and networks, occupational and interest groups and the significance of proposed land management actions for various publics as topics for socioeconomic analysis and, for the latter topic, suggest that such information can provide information to help identify impacts and mitigation strategies (BLM 2005).

As noted in Section 3.17.2.2.6, the population in southern Eureka County would be affected by the development and operations of the Project, either directly or indirectly. Many individuals would benefit from the job opportunities and most local businesses would benefit from the increased economic activity and spending by EML and consumers, although some business owners may also experience loss of employees and difficulty in recruiting new employees during the early years of Project operations. County residents would also benefit indirectly from the increased tax revenues, which, during Project operations, could allow for either an increase in the level of County services or a reduction in the overall property tax rate or some combination thereof, depending on the performance of other sectors of the tax base. The increased economic activity is also likely to increase the number and diversity of shopping, dining and recreation businesses within the community.

The influx of newcomers, both temporary and long term, is likely to enhance the vitality of the community and create enthusiasm and opportunity for many residents. However, the magnitude and pace of growth may have adverse social effects for some individuals and groups. The occurrence and severity of potentially adverse effects would depend in part on the effectiveness of the impact avoidance, management and coordination strategies developed by EML and Eureka County.

Eureka County has a long history of mining although most of the recent mining has occurred in the northern part of the County. However, southern Eureka County residents are familiar with mining projects and some are either employed by mining companies or have family members or acquaintances employed in the mining industry. The Barrick Ruby Hill Mine, which currently has over 120 employees, is immediately adjacent to the Town of Eureka. Given this history of and familiarity with mining, the social effects of the Project would likely result **primarily** from the introduction of a large number of newcomers into a small, relatively stable rural community, **although** the fact that the Project involves mining **may also play a role**.

Under the inputs and assumptions used for this assessment, the Project (including construction worker housing facilities) would increase the population of southern Eureka County by

approximately 50 percent on average and 67 percent during the short-term construction peak, as compared to the 2010 Census population. Population increases during the first nine years of production would be approximately 45 percent of 2010 Census population. Given such growth, social change would be rapid and substantial during Project construction and the first several years of Project operations. Although the Town of Eureka is geographically remote from other major communities, residents are accustomed to influxes of construction workers, miners, tourists and travelers, the latter two particularly in summer months, but the sustained high numbers of newcomers in social settings including the post office, stores, restaurants, bars and recreation facilities and the pace and magnitude of residential development would likely be disconcerting for some, particularly those that value the current rural, small town character of the community.

During construction, large numbers of Project-related workers residing in southern Eureka County are likely to shop, dine, and recreate in the Town of Eureka. Many businesses and residents would likely welcome the economic benefits associated with this infusion. However, given the limited scale of the existing commercial and service base in the town, the potential exists for dissatisfaction among some current residents if increased patronage of cafes, restaurants, bars, casinos, stores, and other social and recreation settings results in crowding and congestion. Dissatisfaction could also arise as a result of growth-related increases in traffic, crime, and alcohol or drug-related social problems.

These effects could be reduced by the organization of recreational activities (e.g., softball and basketball teams), by developing policies to minimize disruptive behavior in bars and other recreational settings and by close coordination between EML, contractors, and Eureka County law enforcement officials. Conflict between Project workers and residents cannot be entirely avoided and some residents are likely to be dissatisfied with the change in the social setting.

Although many residents would benefit from the increased opportunity and economic activity associated with the Project, some are likely to suffer economic hardship, particularly those on fixed incomes. Increased housing demand would exert upward pressure on housing costs and people with fixed incomes that rent may see their housing costs increase. Increased demand may also exert upward pressure on other prices, although over time the larger population may attract competition and in fact may lower costs for some commodities such as groceries and gasoline.

A telephone survey of Eureka County residents was conducted in April 2010 to gauge residents' opinion on the Project. A total of 680 telephone numbers were called, which represents nearly all households in the greater Eureka, Crescent Valley, and Diamond Valley areas, and 219 responses to the survey were received. Of the 219 responses, 51 percent lived in Eureka, 24 percent lived in Crescent Valley, 20 percent lived in Diamond Valley, three percent lived in Beowawe, and two percent lived in Pine Valley. Nearly three-quarters of the area residents (74 percent) were supportive of the Project development, including 33 percent who were "very" supportive. Fifteen percent of the residents were opposed and 11 percent did not know or declined to respond. Of the 15 percent who opposed to Project, approximately half cited competition for water/bad for farms as their reason, while 21 percent mentioned population growth and 18 percent mentioned water pollution. Among the 74 percent who support the Project, the most important factor (42 percent) was the addition of new, high-paying jobs to the area, followed by increased revenues for local businesses (27 percent), providing minerals and

metals our country needs (12 percent), and more tax revenues for local government (11 percent) (McDowell Group 2010).

Agricultural operators in Diamond Valley are concerned about the Project's effect on the valley's ground water. It would be difficult to overstate the importance of water to these growers. Their concerns may be diminished somewhat with implementation of the monitoring program described in Section 2.1.16 of this EIS and by the mitigation measures described in Section 3.2; however, it is likely that some Diamond Valley agricultural operators would continue to be dissatisfied with implementation of the Proposed Action regardless of monitoring and mitigation measures. Diamond Valley agricultural operators may also experience difficulty in attracting and retaining labor during Project construction.

Section 3.12.3.3 of this EIS describes the loss of AUMs in affected grazing allotments and the potential effects on water sources in the ten-foot drawdown contour and the measures to mitigate these effects. **Mitigation for these potential impacts is discussed in Section 3.26.**

Section 3.15 of this EIS describes current recreation use of lands within and adjacent to the Project Area and potential Project-related impacts to recreation resources and use. Recreation users would be precluded from using lands within the Project Area for safety and security reasons; however, these lands are not unique, and withdrawal of these lands from recreation use would represent a relatively small reduction in lands available for recreation in southern Eureka County.

Recreation users of lands adjacent to and within sight and hearing distance of the Project would experience a change in the recreation setting. Given the vast area of public lands available for dispersed recreation use in Eureka County, recreation users who are disturbed by the visual/noise intrusion and industrial activity are likely to relocate while the mine is in operation. Consequently, no major change in outdoor recreation visitation or visitor spending would be anticipated with the opening of the mine. **Impacts related to recreational use on Roberts Creek are discussed in Section 3.15.3.3.5 and mitigation is outlined in Section 3.2.3.**

Some visitors, re-enactors and supporters of the Pony Express National Historic Trail, which traverses the Project Area, would likely be concerned about the change in the setting near the Project Area.

In summary, potential changes in social conditions associated with the Project would be perceived as positive by some Eureka County residents and adverse by others. Many residents likely have mixed feelings about the mine, welcoming the economic and fiscal effects and the prospect of eventual expansion and diversification of the commercial sector in the community, but with concern for the change in the stable, close-knit community. These attitudes and concerns have the potential to change or harden depending on how well the socioeconomic effects of the Project are managed and the mine's ultimate effect on ground water in the Diamond Valley, which is described in Section 3.2.3.3 of this EIS. No significance criteria have been established for overall social change, but continued coordination between EML and Eureka County and the groundwater monitoring and mitigation measures identified in this EIS hold the most promise for enhancing the beneficial effects and tempering the adverse effects of social change associated with the Project.

Effects of Higher Levels of Workforce Commuting

As discussed in Section 3.17.3.1, a shortage of housing in southern Eureka County during Project construction and the initial months of Project operations would result in higher levels of commuting from other communities than was anticipated in the 2008 Socioeconomic Assessment. All of the communities within 100 miles of the Project (with the possible exception of Austin, a historic mining community) have a substantial portion of their residents who work in the mining industry and have hosted mining construction workforces. The addition of a relatively small number of Project-related mine workers in these communities is unlikely to result in adverse social effects.

3.17.3.3.7 Residual Adverse Impacts

The Proposed Action would have the unavoidable indirect potential to adversely affect County services and facilities, **housing, population, economic conditions, and employment** in the short term through substantial growth and concentration of population.

3.17.3.4 No Action Alternative

Under the No Action Alternative, the proposed Project would not be developed and associated impacts to social and economic values would not occur; however, EML would likely continue to conduct mineral exploration and data acquisition within the Project Area. The area would remain available for future mineral development, recreational use, or for other purposes as approved by the BLM. There would be no beneficial impacts from the Project to employment, income or tax revenues, and there would be no adverse impacts to county services and facilities.

3.17.3.4.1 Residual Adverse Impacts

The No Action Alternative would have no effect on tax revenues, employment opportunities, or income.

3.17.3.5 Partial Backfill Alternative

Under the Partial Backfill Alternative, the Proposed Action would be developed as outlined previously and have the same surface disturbance footprint; however, at the end of the mining in the open pit, the open pit would be partially backfilled to eliminate the potential for a pit lake. Backfilling would commence in Year 32 and be completed in approximately 13 years (95 million tpy). The partial backfilling would be accomplished by the same fleet and personnel that performed mining, and as a result, employment would be approximately 370 workers through the end of ore processing (Year 44) and a reduced staffing from Year 44 through the completion of the partial backfilling (Year 45).

3.17.3.5.1 Economic and Employment Effects

The effects from this alternative would be similar to those of the Proposed Action. Substantial expansion would occur in selected sectors of the local economy. The employment demand and competition during construction would be the same. Project operations employment levels would be the same except that employment levels would remain at 370 employees through Year 44.

- **Impact 3.17.3.5-1:** The Partial Backfill Alternative would result in substantial economic expansion similar to the Proposed Action. Project employment levels would be somewhat higher in the later years of Project operations.

Significance of the Impact: This impact is considered significant; however, no mitigation measures are proposed. Continued employment of an existing workforce is likely to be viewed as beneficial. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.5.2 Population Effects

Effects of this alternative would be similar to those of the Proposed Action. The population resulting from Project operations would be the same; however, 370 employees would remain employed through Year 44 whereas activities and employment under the Proposed Action would decrease at Year 32 at the end of the mine life.

- **Impact 3.17.3.5-2:** The Partial Backfill Alternative would result in substantial growth and concentration of population.

Significance of the Impact: This impact is considered significant. This impact is likely to be viewed as beneficial as it would delay community population losses associated with mine closure. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.5.3 Housing

The effects from this alternative would be similar to those of the Proposed Action. The housing demand resulting from Project operations would be the same; however, 370 employees would remain until Year 44 and require housing for this extended period.

- **Impact 3.17.3.5-3:** The Partial Backfill Alternative would result in substantial demand for new housing.

Significance of the Impact: This impact is considered significant. This impact is likely to be viewed as beneficial as it would delay potential adverse effects on the southern Eureka County housing market. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.5.4 Public Utilities and Services Effects

The effects from this alternative would be similar to those of the Proposed Action. The demand for public services and facilities resulting from Project operations would be the same except that 370 employees would remain until Year 44 and would require services for this extended period.

- **Impact 3.17.3.5-4:** The Partial Backfill Alternative would result in a substantial demand for public services.

Significance of the Impact: This impact is considered significant and has both beneficial and potentially adverse aspects. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.5.5 Public Fiscal Effects

Effects of this alternative would be similar to the Proposed Action; however, the time frame for tax revenues to Eureka County would be extended slightly during the backfill operations. In addition, net proceeds would be reduced, as compared to the Proposed Action, due to the additional costs associated with the backfilling operation.

- **Impact 3.17.3.5-5:** The Partial Backfill Alternative would result in a substantial increase in revenues and expenditures for Eureka County and the ECSD.

Significance of the Impact: This impact is considered significant. While the long-term tax revenues would likely provide for increased infrastructure expenditures, it is suggested that EML and Eureka County build on previous and current planning efforts in order to prepare for the possible timing differences between expenditures and tax revenues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.5.6 Residual Adverse Impacts

Residual adverse impacts would be similar to those associated with the Proposed Action; however, potentially adverse impacts of Project closure would be delayed.

3.17.3.6 Off-Site Transfer of Ore Concentrate for Processing Alternative

The Off-Site Transfer of Ore Concentrate for Processing Alternative would include similar activities and time frames for the Project as the Proposed Action, but would eliminate the TMO production facilities. Elimination of the TMO production facilities would result in a reduction in tax revenues associated with the facility. Elimination of the TMO production facilities would also result in a slight reduction in EML employees during construction and operations of the Project (approximately 30 operations workers) and the correlative population and demands on services.

3.17.3.6.1 Economic and Employment Effects

The effects from this alternative would be similar to, but slightly less than those of the Proposed Action. The Project would generate substantial expansion of the local economy, particularly in selected sectors. The employment demand resulting from Project construction and operations

would be slightly lower than the Proposed Action, resulting in slightly lower levels of labor competition during construction and early operations.

- **Impact 3.17.3.6-1:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would result in substantial demand for employees and compete with regional employers for workers.

Significance of the Impact: This impact is considered significant. Continued employment of an existing workforce is likely to be viewed as beneficial. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.6.2 Population Effects

The effects from this alternative would be similar to, but less than those of the Proposed Action. The population resulting from Project construction and operations would be slightly lower than the Proposed Action.

- **Impact 3.17.3.6-2:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would result in substantial growth and concentration of population.

Significance of the Impact: This impact is considered significant. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.6.3 Housing

Effects of this alternative would be similar to, but less than those of the Proposed Action. The housing demand resulting from Project operations would be slightly lower due to the lower employment levels associated with this alternative.

- **Impact 3.17.3.6-3:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would result in substantial demand for new housing.

Significance of the Impact: This impact is considered significant. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.6.4 Public Utilities and Services Effects

Effects of this alternative would be similar to the Proposed Action, however, the demand for public services and utilities resulting from Project operations would be slightly lower than the Proposed Action.

- **Impact 3.17.3.6-4:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would result in a substantial demand for public services.

Significance of the Impact: This impact is considered significant and has both beneficial and potentially adverse aspects. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.6.5 Fiscal Effects

Effects of this alternative would be similar to the Proposed Action; however, there would be slightly lower demand for public infrastructure and services and there would be a reduction in tax revenues to Eureka County and the ECSO due to the elimination of the TMO production facilities.

- **Impact 3.17.3.6-5:** The Off-Site Transfer of Ore Concentrate for Processing Alternative would result in a decrease in revenues and expenditures for Eureka County and the ECSO, compared to the Proposed Action.

Significance of the Impact: This impact is considered significant. While the long-term tax revenues would likely provide for increased infrastructure expenditures, it is suggested that EML and Eureka County build on previous and current planning efforts in order to prepare for the possible timing differences between expenditures and tax revenues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.6.6 Residual Adverse Impacts

The Off-Site Transfer of Ore Concentrate for Processing Alternative would have similar residual socioeconomic effects as the Proposed Action.

3.17.3.7 Slower, Longer Project Alternative

Under the Slower, Longer Project Alternative, the Project would operate at approximately one-half the production rate as described in the Proposed Action, which would result in a Project that would last approximately twice as long as the Proposed Action.

As stated in Section 2.2.4, although the Slower, Longer Project Alternative may not meet the purpose and need as stated in Section 1.4, the BLM elected to analyze this alternative in detail at the request of a cooperating agency (Eureka County). A half-production Project has not been designed by EML because the company has stated that it would not be economically feasible and the Project would not be developed; however, for the sake of comparison, there are several facets of a half-production rate Project that could be anticipated. Mining and processing equipment would be smaller, as would ancillary facilities (e.g., powerline supply and well field). However, ultimate disturbance would be the same as the TSFs, open pit, and WRDFs would eventually grow to the same size as in the proposed Project, albeit at half the rate.

The smaller plant size would likely result in a smaller construction work force. The operating work force would also be **approximately 30 percent** smaller than that required for the proposed Project (regardless of the size of a piece of mine or mill equipment, the same number of employees are generally required to operate and maintain the equipment). **In order to determine the operations workforce throughout the Project for the Slower, Longer Project Alternative, the duration of each segment in Figure 3.17.3 is doubled, while decreasing the magnitude by 30 percent.** Figure 3.17.3 shows for the Proposed Action that approximately 370 workers would be employed for the first nine years of operation (first segment), after which the employee count would increase to about 400 from Years 10 through 19 (second segment). Therefore, for the Slower, Longer Project Alternative, approximately 260 workers would be employed for the first 18 years of operation (first segment) followed by approximately 280 employees for Years 19 through 37 (second segment).

Since these employment numbers are not supported by engineering designs, using these values would not result in a valid quantitative assessment of socioeconomic impacts of the Slower, Longer Project Alternative. The Proposed Action was designed and engineered to result in an economically viable project. The proposed mining rate for the Proposed Action is a result of mine engineering and optimization studies conducted by EML. Estimated social and economic impacts of the Project cannot be accurately scaled by adjusting the mining rate (either up or down). An example is the modeled tax revenues. Without a re-design of the Project, projected expenses and revenues cannot be accurately predicted. Net Proceeds of Mines taxes derive from a mine's gross revenue minus the cost of production. For the Proposed Action, these values are calculated based on the Project design, including capital costs and operating expenses. The Net Proceeds of Mines taxes for the Proposed Action were projected by EML. To determine Net Proceeds of Mines taxes for the Slower, Longer Project alternative would require a re-design and the re-design would necessarily start with the mine reserve model because at a lower mining rate a financially viable project might only be possible by mining a smaller resource. The lower mining rate in such a scenario would not necessarily lead to a doubled mine life. These complexities would extend to quantification of other impacts (indirect and induced employment, total population impacts, school age children, housing demand, sales and use tax and property tax revenues, etc.). Without realistic, engineering-based inputs, the models would not produce reliable estimates of socioeconomic impacts. In short, the available information does not allow a valid quantification of impacts for the Slower, Longer Project Alternative.

Qualitatively, under this alternative profitability would be substantially reduced, as would tax revenues. Effects from this alternative would be proportionally but not in a linear manner less than the Proposed Action. The population effects and associated effects on housing and public infrastructure and services resulting from Project operations would be less (approximately 30 percent less as outlined above); however the population would remain for approximately twice as long as the Proposed Action. Fiscal impacts, both tax revenues and expenditures, would also be lower on an annual basis, as well as over the entire length of the Project, but would also last longer when compared to the Proposed Action. The remainder for this section discusses the socioeconomic impacts qualitatively and in comparison to the Proposed Action.

3.17.3.7.1 Economic and Employment Effects

- **Impact 3.17.3.7-1:** The Slower, Longer Project Alternative would generate substantial expansion of the southern Eureka County economy similar to the Proposed Action, but at a somewhat lower rate and for a substantially longer period of time. This alternative would similarly result in substantial demand for employees but at a somewhat lower level (fewer employees) and longer period of time than the Proposed Action. Labor competition during construction and early operations would be slightly less than the Proposed Action.

Significance of the Impact: This impact is considered significant. Continued employment of an existing workforce would likely to be viewed as beneficial. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.7.2 Population Effects

- **Impact 3.17.3.7-2:** The Slower, Longer Project Alternative would result in a substantial growth and concentration of population. Project-related population would be somewhat lower than under the Proposed Action, but the population would remain in the area for a substantially longer period of time.

Significance of the Impact: This impact is considered significant. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.7.3 Housing

- **Impact 3.17.3.7-3:** The Slower, Longer Project Alternative would result in substantial demand for new housing. Project-related housing demand would be somewhat lower than under the Proposed Action, but occur over a substantially longer period of time. As noted in Section 3.17.3.2.3, the decrease in housing demand over a 20-year period during the reduction in mining activities and eventual closure could place a large number of housing units on the market, potentially depressing housing values in the area. Potentially negative effects of Project closure on the southern Eureka County housing market would be substantially delayed under this alternative compared to the Proposed Action.

Significance of the Impact: This impact is considered significant. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.7.4 Public Utilities and Services Effects

- **Impact 3.17.3.7-4:** The Slower, Longer Project Alternative would result in substantial demand for public infrastructure and services, although at a somewhat lower level than

under the Proposed Action; however, demand would occur over a substantially longer period.

Significance of the Impact: This impact is considered significant and has both beneficial and potentially adverse aspects. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.7.5 Public Fiscal Effects

Under the Slower, Longer Project Alternative, annual sales and use tax and net proceeds of mining revenues to the state, Eureka County and the ECSD would be substantially less than under the Proposed Action. However, the time frame from which tax revenues would be generated from these entities would be doubled. Project-related expenditures by Eureka County and the ECSD would be less than under the Proposed Action but would remain substantial based on the description of the alternative.

- **Impact 3.17.3.7-5:** Similar to the other action alternatives, the Slower, Longer Project Alternative would result in a substantial increase in revenues and expenditures for Eureka County and the ECSD, but the revenues would be less on an annual basis and accrue over a substantially longer period of time. At the same time, the demand on services and need for expenditures would also be lower but extend over a longer period, as compared to the Proposed Action.

Significance of the Impact: This impact is considered significant. While the long-term tax revenues would likely provide for increased infrastructure expenditures, it is suggested that EML and Eureka County build on previous and current planning efforts in order to prepare for the possible timing differences between expenditures and tax revenues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

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, **housing, population, economic conditions, and employment** 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,

under the Proposed Action; however, demand would occur over a substantially longer period.

Significance of the Impact: This impact is considered significant and has both beneficial and potentially adverse aspects. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues. **The implementation of mitigation measures for socioeconomic effects is beyond the jurisdiction of the BLM. See Section 3.26 of this EIS for a more detailed discussion of mitigation measures beyond the BLM's jurisdiction.**

3.17.3.7.5 Public Fiscal Effects

Under the Slower, Longer Project Alternative, annual sales and use tax and net proceeds of mining revenues to the state, Eureka County and the ECSD would be substantially less than under the Proposed Action. However, the time frame from which tax revenues would be generated from these entities would be doubled. Project-related expenditures by Eureka County and the ECSD would be less than under the Proposed Action but would remain substantial based on the description of the alternative.

- **Impact 3.17.3.7-5:** Similar to the other action alternatives, the Slower, Longer Project Alternative would result in a substantial increase in revenues and expenditures for Eureka County and the ECSD, but the revenues would be less on an annual basis and accrue over a substantially longer period of time. At the same time, the demand on services and need for expenditures would also be lower but extend over a longer period, as compared to the Proposed Action.

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