- **Impact 3.16.3.7-4:** The Slower, Longer Project Alternative would cause increases in noise levels that could impact local residences through construction activities or poorly maintained construction equipment. The maximum noise levels received at the nearest ranch house, which is approximately two miles away from the nearest areas where grading would occur, would be reduced by approximately 23 dB as compared to the values shown on Table 3.16-6, ignoring sound absorption or any shielding provided by topography; therefore, maximum construction noise levels at the nearest ranch house would be in the range of approximately 47 to 67 dB. In practice, considering the topography of the Project Area, much of the construction equipment would be shielded from view of the nearest ranch house by topography. In those cases, the construction noise levels would be further reduced by 5 to 10 dB or greater.

  Significance of the Impact: Noise levels produced by construction activities or poorly maintained construction equipment in the vicinity of the Roberts Creek Ranch house could be significant if such activities occurred at nighttime or if the noise level exceeds 55 dB.

- **Mitigation Measure 3.16.3.7-4:** Construction in the vicinity of the Roberts Creek Ranch house or greater sage-grouse leks (see Section 12.3 of Appendix C) would be limited to daylight hours. Construction equipment used in the vicinity of residences would be fitted with the best available technology manufacturers' noise control equipment, including engine exhaust silencers and acoustical enclosures. Noise control equipment would be maintained in good working order. Implementation of this mitigation measure would result in a less than significant impact.

- **Effectiveness of Mitigation and Residual Effects:** The implementation of this mitigation measure would be effective at reducing the potential impact to less than significant by controlling the generation of the noise.

- **Impact 3.16.3.7-5:** Noise caused by blasting during construction and mining could cause annoyance if residents were startled by unexpected blasts, or if blasting overpressures caused rattling of residence windows. The Slower, Longer Project Alternative would not otherwise impact auditory resources associated with blasting.

  Significance of the Impact: This impact is not considered significant. Based on the conclusions from the analysis, no additional mitigation is proposed.

3.16.3.7.2 Residual Adverse Impacts

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

3.17 Socioeconomic Values

3.17.1 Regulatory Framework

The NEPA requires consideration of local plans and policies in the assessment of the social and economic effects of proposed activities involving federal lands (43 CFR 1506.2). Federal, state, and local plans and guidelines that apply to social and economic values within the Socioeconomic Values and Environmental Justice Study Area (Study Area), include the

following: Eureka County 2010 Master Plan, including the updated Natural Resources, Federal or State Land Use, and Economic Development Elements; the Shoshone-Eureka RMP; and the Land and Resource Management Plan for the Toiyabe National Forest.

The updated Growth Management, Public Facilities and Services, Economic Development, Land Use (Eureka County 2010), and Housing Elements of the Eureka County Master Plan outline specific goals that pertain to the Proposed Action and alternatives. Guidance and input for this assessment have also been provided by Eureka County staff, the Board of Eureka County Commissioners, and the Eureka County NEPA Committee.

3.17.2 Affected Environment

3.17.2.1 Study Methods

The baseline descriptions and data presented below are based primarily on the Mount Hope Project Socioeconomic Assessment (2008 Socioeconomic Assessment) prepared by Blankenship Consulting LLC and Sammons/Dutton LLC for EML in 2008 (BCLLC/SDLLC 2008). That document is incorporated by reference and copies are on file at the BLM MLFO. The baseline also reflects supplemental information developed in consultation with Eureka County and submitted to the BLM (BCLLC/SDLLC 2009, Appendix D). In part, the supplemental information provided a series of three analyses to examine the implications of alternative demographic and residency assumptions on the population and demographic effects presented in the Socioeconomic Assessment, which is considered the Base Case. Results of this sensitivity analysis are summarized in Section 3.17.3.3.2 of this EIS. A copy of the memorandum describing the sensitivity analysis can be found in Appendix D of this EIS.

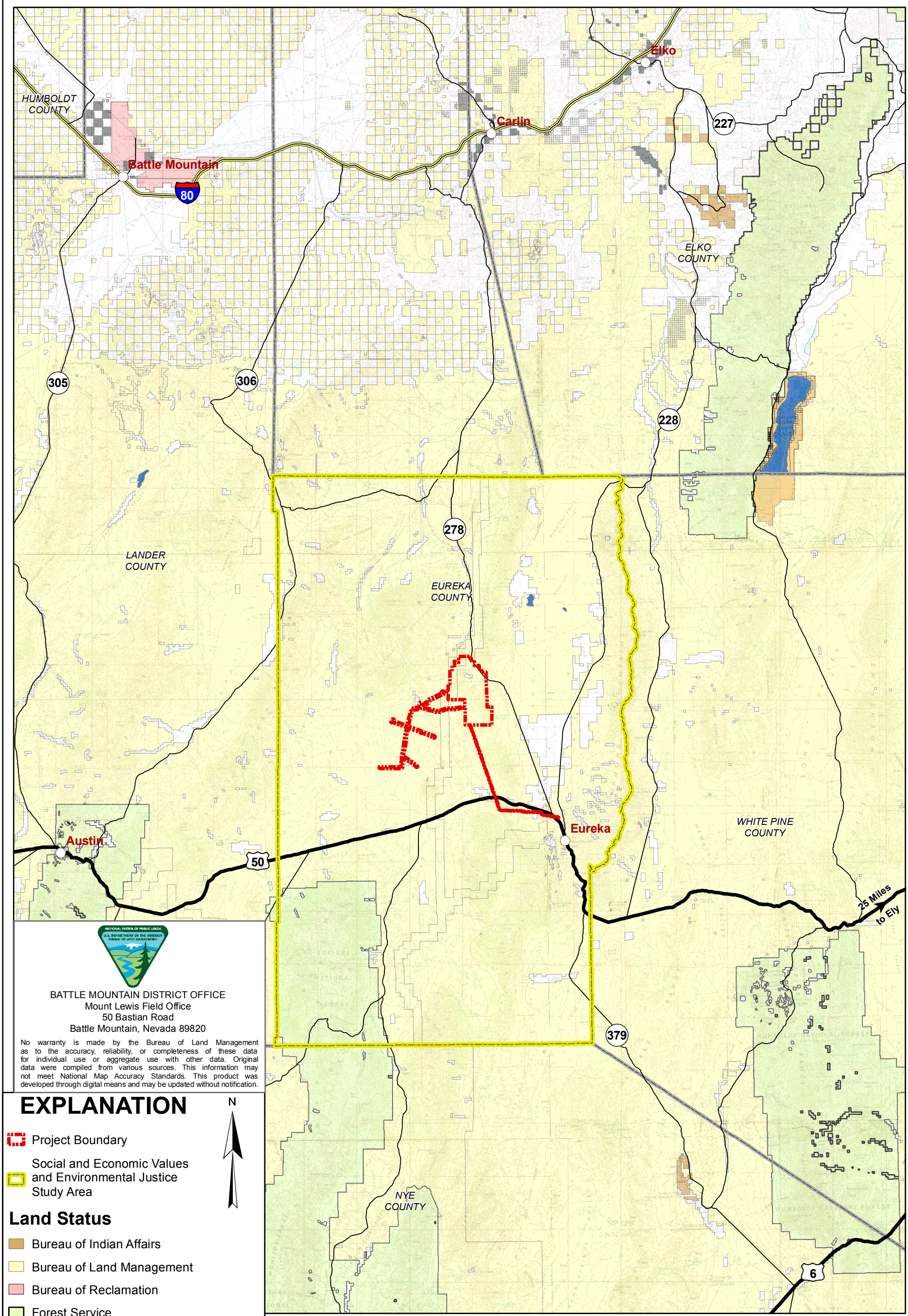
The EIS also considers material changes in economic, demographic, public infrastructure, service and fiscal conditions and EML plans that have occurred since the 2008 Socioeconomic Assessment was prepared. Information for the update was drawn from published sources as cited and from information provided by Eureka County and EML.

3.17.2.1.1 Study Area

The primary social and economic study area for the proposed project is Eureka County (Figure 3.17.1), focusing on southern Eureka County, particularly the community of Eureka and the nearby 3rd Street/Devil's Gate and Diamond Valley rural areas. Other, more distant communities, including Carlin, Elko, Ely and Austin, are considered in terms of their potential to be a source of workers for the Project and for meeting housing needs of non-local workers of the Project during both the construction and operations phases of the Project.

There are no incorporated towns in Eureka County. Eureka County provides public services throughout the county. Eureka, the county seat, and Crescent Valley, which is located in the northern part of the county on the Lander County border, are unincorporated towns as defined by NRS:[2] The community of Beowawe is also located in the northern part of Eureka County, approximately six miles south of Interstate 80 (I-80). Beowawe does not have unincorporated

[2] NRS 269.520. "Unincorporated town" or "town" means a specific unincorporated area within a county in which one or more governmental services are provided by the county in addition to those services provided in the general unincorporated area of the county, for which the residents of such area pay through ad valorem taxes or for which other revenue is secured from within the area.



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

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

EXPLANATION

N

- Project Boundary
- Social and Economic Values and Environmental Justice Study Area

Land Status

- Bureau of Indian Affairs
- Bureau of Land Management
- Bureau of Reclamation
- Forest Service
- Fish and Wildlife Service
- Nevada State
- Private
- Water

0 5 10 15 20 Miles

DESIGN: EMLLC	DRAWN: CVD/GSL	REVIEWED: RFD
CHECKED: -	APPROVED: RFD	DATE: 05/12/2011
FILE NAME: p1635_Fig3-17-1_SocioStudyArea.mxd		

BUREAU OF LAND MANAGEMENT

MOUNT HOPE PROJECT

DRAWING TITLE:

Social and Economic Values and Environmental Justice Study Area

Figure 3.17.1

town status. The Town of Eureka is substantially closer to the proposed Project than other northeastern Nevada communities (Table 3.17-1).

Table 3.17-1: Cities and Towns within 100 Miles of the Project Area

City or Town	County	Approximate One-Way Travel Distance (miles)	2010 Population
Eureka	Eureka	23	610
Crescent Valley	Eureka	60 (gravel surface)* or 108 (highway)	392
Carlin	Elko	70	2,368
Elko	Elko	90	18,297**
Ely	White Pine	100	4,255
Austin	Lander	93	192

*Although Crescent Valley is approximately 60 miles from the Project Area, travel between the two locates requires approximately 1.5 hours.
** This value does not include Spring Creek or areas surrounding Elko.
Source: U.S. Census Bureau 2010; BCLLC/SDLLC 2008.

3.17.2.2 Existing Conditions

3.17.2.2.1 Population and Demography

Table 3.17-2 displays U.S. Census Bureau decennial population counts from 1880, the first census taken following the creation of Eureka County, through 2010, the most recent census. The County's population trended downward from a high of over 7,000 in 1880 to the low of 767 residents in 1960. The population has increased to 1,987 in 2010.

Table 3.17-2: U.S. Census Bureau Eureka County Population Between 1880 and 2000

Census Year	Eureka County Population
1880	7,086
1890	3,275
1900	1,954
1910	1,830
1920	1,350
1930	1,333
1940	1,361
1950	896
1960	767
1970	948
1980	1,198
1990	1,547
2000	1,651
2010	1,987

Source: U.S. Census Bureau 2006 for 1880 – 1910; Eureka County Economic Development Council 2006 for 1920 – 2000; U.S. Census Bureau 2010 for 2010

During the past decade, the Eureka County population declined from 1,651 in 2000 to 1,384 in 2002, and subsequently climbed to 1,987 in 2010 (Table 3.17-3). Population trends in Eureka County's unincorporated towns mirror those of the entire County and employment in the mining industry between 2000 and 2010. As shown, the population of the towns of Eureka and Crescent Valley generally followed that of the County, initially declining and then growing modestly, followed by another cycle of contraction and expansion. The low point in terms of County population coincided with suspension of operations at the Ruby Hill Mine. Such patterns are not uncommon in small, rural western communities, where many types of natural resource and infrastructure development activities can trigger short-term population influxes, followed by a comparable decline in population when the activity is completed.

Table 3.17-3: Eureka County Population 2000 to 2010

Area	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Eureka County	1,651	1,506	1,384	1,420	1,484	1,485	1,460	1,458	1,553	1,562	1,987
Eureka Town	499	470	434	446	454	440	433	431	473	483	610
Crescent Valley	330	298	279	300	304	311	292	289	283	283	392

Source: Nevada State Demographer 2010.

The Nevada State Demographer's office is funded by the Nevada Department of Taxation and is responsible for preparing annual population estimates and periodic population projections for Nevada's counties, cities, and unincorporated towns. Population projections are prepared using the REMI[3] model, with the model's default assumptions modified to reflect local knowledge about key economic activities across the state. The Demographer also consults Moody's (www.moodys.com) for economic data. The current forecasts for Eureka County, prepared in advance of the 2010 census and predicated on a 10 percent increase in countywide employment by 2017, followed by nearly a decade of stable employment, anticipated modest population growth through 2016/2017, followed by a decline of approximately 200 residents over the subsequent 15 years. The declines reflect a combination of assumed employment losses and demographic trends associated with the aging baby-boom population. The forecasts do not include the proposed Project, nor do they include allowances for any future but currently undefined activities, e.g., new mines, or other factors, such as retirement migration to the Town of Eureka, which might drive local growth development (Nevada State Demographer 2010).

At the time of the 2010 Census, just over two-thirds of the County's residents (1,351) lived in the Town of Eureka and nearby rural areas in the southern portion of the County, with 636 residents in Crescent Valley, Beowawe and elsewhere in the northern portion of the County. Approximately 53 percent of the residents were male and the median age of area residents was 42.4 years compared to 36.3 years in the State of Nevada as a whole. Residents 18 to 65 years of age comprised 62 percent of the County's population. The average household size in southern Eureka County was 2.38 persons, noticeably smaller than the statewide average of 2.65 individuals (U.S. Census Bureau 2010).

The racial composition of the local population in southern Eureka County is more predominately white than that of the state as a whole. In 2010, 89.6 percent of area residents identified

[3] The REMI model is a proprietary economic-demographic model developed and marketed by Regional Economic Models, Inc. The model has broad acceptance within the professional community. The version used by the Nevada State Demographer has both a statewide component and separate modules for each of the state's 16 counties and for Carson City.

themselves as white, alone or in combination with one or more other races. That compares to 66.2 percent at the statewide level (U.S. Census Bureau 2010).

3.17.2.2.2 Housing

Eureka County had a total of 1,076 housing units in 2010 (see Table 3.17-4), a net increase of 51 units, or five percent, compared to the 2000 Census (U.S. Census Bureau 2002; 2010). The net change is consistent with that reported by the Eureka County Assessor based on local property tax records (Personal Communication, Michael Mears, Eureka County Assessor 2010). Most of the additions were multi-family units including some built in the Town of Eureka by Barrick to house workers at the Ruby Hill Mine (the Ruby Hill Mine is described in Section 3.17.2.2.3).

Table 3.17-4: Eureka County Housing Units 1990, 2000, and 2010 Estimate

Units	1990 Census	2000 Census	2010 Census	2000-2010 Change
Total Units	817	1,025	1,076	51
Single Family Units[1]	265	354	*	
Multifamily Units	25	37	*	
Mobile Homes/Other	527	634	*	

[1] Includes both attached and detached units.
[2] Includes 12 Senior housing units.
* 2010 Census data for housing units by type not available at the time of this update.
Sources: U.S. Census Bureau 2010.

At the time of the 2010 Census, 836 units or 78 percent of all units were occupied, with 240 vacant, the latter including homes held for recreational and seasonal use. Owner-occupied housing numbered 556 units and renter-occupied homes totaled 280. Two-thirds of the 2010 housing stock was located in the southern portion of the county, including in the Town of Eureka.

As in many rural western communities, mobile homes are the predominant housing type in Eureka County. Detailed housing information from the 2010 Census is not yet available at the time of this update, but according to the Eureka County Assessor, 71 percent of total Eureka County housing units were mobile homes in 2011 and of the total mobile homes 52 percent were on lots and 48 percent were in mobile home parks. A total of 27 percent of all housing units were single-family (attached and detached) and only two percent were apartments (Mears 2011).

Despite a large number of unoccupied units reported in the 2010 Census, there are few housing units available for purchase or rent in southern Eureka County. The County Assessor was aware of three homes for sale in the southern part of the county in January 2011 (Personal Communication, Michael Mears, Eureka County Assessor 2011). Generally very few rental properties are available, and those that become available are filled immediately through word-of-mouth rather than advertising. The apparent anomaly between the many unoccupied units and limited availability reflects vacant properties in town that are not listed for rent or for sale, many showing signs of disrepair. The owners have chosen for unknown, personal reasons not to rent or sell these properties (Personal Communication, Ron Damele, Eureka County Public Works 2006; Personal Communication, Michael Mears, Eureka County Assessor 2007; and 2011).

The 3rd Street/Devil's Gate area in Diamond Valley has been subdivided and has the potential to develop 112 lots (Lumos & Associates 2007). These lots are served by County-maintained General Improvement District (GID) water systems but do not have wastewater collection and treatment services so homeowners rely on septic systems. An additional 122 lots in the adjacent Ruby Hill Subdivisions - North and South are anticipated to be absorbed into the Devils Gate #2 GID (Damele 2010).

In 1997 Eureka County annexed 164 acres of land near the Eureka County fairgrounds, formerly administered by the BLM, into the Town of Eureka. The County and EML entered into a lease agreement for the site, now known as the Eureka Canyon Subdivision, allowing for the placement of temporary housing on the site. Subsequent to that lease, EML performed $5.1 million on earthwork, tree removal and site preparation. Eureka County and EML mutually agreed to terminate the lease in 2010, but agreed that a portion of the site could be used to accommodate housing to meet needs of the community, including those needs of EML's Project (Fiorenzi and Hansen 2010). The Eureka County Commission subsequently entered into a contract with Nevada Rural Housing Authority to develop housing in the Eureka Canyon Subdivision. The subdivision could accommodate up to 110 multi-family units, 122 single-family residential units and some commercial development under a preliminary subdivision plan (Johnson 2010). There are also 47 residential lots in the Prospect Subdivision and 85 potential infill lots within the town (Damele 2010), although some of the latter are not readily developable or on the market (Housing in Southern Eureka County 2011).

The southern Eureka County housing inventory has grown slightly in recent years. During 2009 and 2010 only two conventional single-family homes were built in the Town of Eureka and five were built in Diamond Valley. Barrick constructed four of these units to house Ruby Canyon Mine employees. Barrick also developed several new rental apartment units in 2009, which were immediately occupied upon completion. Approximately ten new manufactured homes have been placed on lots during the last two years, primarily in Diamond Valley (Mears 2011).

Temporary housing resources are limited in southern Eureka County. All temporary accommodations for tourists and visitors, including four motels offering a total of 88 rooms, are located in the Town of Eureka (Eureka County 2010). Four mobile home and recreational vehicle (RV) parks provide nearly 100 spaces for short- and long-term rental. During the peak summer travel and hunting seasons, the short-term accommodations are frequently at or near full occupancy (BLM 2005). A 36-space mobile home park located within the Town of Eureka was purchased and refurbished by EML. One previously closed RV park is undergoing refurbishment and a new park with approximately 30 RV spaces is under construction (Personal Communication, Michael Mears, Eureka County Assessor 2011).

Housing in Other Area Communities

Table 3.17-5 displays housing information from the 2010 Census for communities within 100 miles of the Project.

Table 3.17-5: Housing in Communities within 100 Miles of the Project Area

	Crescent Valley	Carlin	Elko	Ely	Austin
Total Housing Units	237	1,043	7,221	2,185	162
For Rent	17	82	203	67	8
For Sale	5	2	36	40	1

Source: U.S. Census Bureau 2010 (Webcensus Factfinder 2)

Table 3.17-6 displays temporary housing resources (hotels, motels and RV parks) in communities within 100 miles of the Project.

Table 3.17-6: Temporary Housing Resources in Communities within 100 miles of Eureka County

	Crescent Valley	Carlin	Elko	Ely	Austin
Motels/Rooms	0/0	3/101	31/1,890	18/663	3/39
RV Parks/Spaces	1/30	1/47	7/518	9/244	2/32

Sources: Nevada Commission on Tourism 2011

3.17.2.2.3 Economy and Employment

Employment

Mining dominates the Eureka County economy in terms of employment and earnings. This dominance is reflected in the statistics on Eureka County employment by place of work, but not by statistics on employment by place of residence, which are more reflective of the much smaller and more recent mining presence in southern Eureka County. Total employment increased by more than 460 percent between 1984 and 1997, topping 5,300 jobs in 1997, led by increases in mining employment from 485 to 4,347 in those years. This dramatic increase was the result of the startup and expansion of several gold mines along the Carlin Trend[4] in the northern part of the County whose employees reside for the most part outside of the County. During the peak employment year of 1997, total employment reached 5,321, driven by record high mining employment of 4,374. The latter included the startup operations for the Ruby Hill Mine in southern Eureka County, although that mine accounted for less than three percent of total mining jobs in Eureka County that year. Mining was 82 percent of total employment in the County during that year. Mining employment subsequently fell to 3,180 in 2003. The drop in mining employment resulted in a corresponding drop in total County-wide employment to 3,964 in 2003. Since that time, mining and total employment have both increased (see Table 3.17-7, which summarizes employment trends for Eureka County from 2000 to 2009).

[4] The Carlin Trend, one of the world's most productive gold mining districts, is a northwest trending belt of mineral deposits over 50 miles long and five miles wide extending through northern Eureka County into Elko County on the northwest and southeast.

Table 3.17-7: Eureka County Employment, by Broad Industrial Grouping, on a Place of Work Basis, 2000-2009 (Selected Years)

Year	Farm	Mining[1]	All Other Private[2] (non-farm)	Government	Total
2000	162	3,735	370	229	4,496
2001	127	3,615	274	229	4,245
2002	110	3,405	297	209	4,021
2003	127	3,304	367	166	3,964
2004	134	3,324	356	171	3,985
2005	143	3,565	321	199	4,222
2006	155	3,795	623	209	4,782
2007	157	4,005	1,121	219	5,502
2008	161	4,045	495	229	4,930
2009 (est)	161	4,112	462	189	4,924

[1] Mining employment for 2002 through 2004 is based on the U.S. Bureau of Economic Analysis' (U.S. BEA's) reported 2001 employment and year-to-year changes in mining jobs between 2001 and 2004 reported by the Nevada Department of Employment, Training, and Rehabilitation (NDETR). The vast majority of these mining jobs have been located at mines in northern Eureka County.
[2] All Other Private includes agricultural services and forestry, construction, manufacturing, wholesale and retail trade, transportation and utilities, and services.
Source: BCLLC/SDLLC 2008; U.S. Bureau of Economic Analysis, 2006 and 2010a; Nevada Division of Employment, Training and Rehabilitation, 2006..

Most Eureka County mining employment is associated with gold mines in the northern part of the County. In 2009, Newmont Mining Corporation's Eastern Nevada Operations employed 2,175 workers and Barrick's Goldstrike Betze-Post operations employed 1,008 workers. Barrick's Ruby Hill Mine, adjacent to the Town of Eureka, employed 127 workers (Nevada Bureau of Mines and Geology 2010). The Ruby Hill Mine, an open pit, cyanide heap leach gold mine, was opened in the mid-1990s by Homestake and acquired by Barrick in 2001. Mining ceased from 2002 until 2006, when Barrick began mining the East Archimedes extension at the mine. A few Eureka County residents also worked at the Cortez Gold Mine in Lander County and Barrick's Bald Mountain Mine in White Pine County.

Aggregate commuting/journey to work data are available from the 2000 Census. That data shows that 66 percent of workers employed in Eureka County lived in Elko County, 28 percent in Eureka County, and five percent in Lander, White Pine County and Washoe counties. The majority of the commuters are employed at gold mines located in northern Eureka County. These mines are relatively close to Elko and Carlin and at least a portion of the commute from Elko is over interstate highway.

Although the mining industry is the dominant employer in the County, other sectors play roles in supporting the County's economy, particularly that segment located in the southern portion of the County. Other sectors include agriculture, government and public education, retail trade and services, and construction. The levels of economic activity and employment in sectors other than agriculture, particularly construction, have historically reflected changes in mining activity, but they also reflect non-mining related demand, including that from tourism and outdoor recreation.

Farm employment has experienced some volatility in recent times, declining for several years at the beginning of the decade, but increasing thereafter. As a consequence, farm employment in 2009 was reported at 159, a net loss of three farm jobs as compared to 2000. The National Agricultural Statistics Service (NASS) reported 86 farms in Eureka County in 2007, up from 73 in 2002 and 84 in 1997 (NASS 2009). Eureka County farmers and ranchers reported just over $25 million in livestock, commodity and other agricultural product sales in 2007 and out of 17 counties in Nevada, Eureka County was ranked fourth in the state in terms of crop value. Aggregate sales rose to $32.5 million in 2008, declining to $26.5 million in 2009. (U.S. BEA 2010a; 2010b) Revenue derived from livestock sales generally account for 60 percent to 70 percent of the aggregate sales by local farms and ranches. Cattle account for most of the livestock raised in Eureka County with sheep and horses accounting for most of the remainder. Approximately 35,000 acres of farmland are devoted to forage production.

Two areas potentially affected by the Project are the Diamond and Kobeh Valleys. Diamond Valley, located east of the Project Area, is an agricultural area irrigated by groundwater and center-pivot irrigation systems. Diamond Valley is known for its high quality native hay and alfalfa that is in some cases sold to specialty markets including dairies and racehorse breeders and trainers. Most Diamond Valley production is exported to other states and abroad. Approximately 22,000 acres are irrigated in Diamond Valley (see Section 4.3.1 Grazing and Agriculture). Agricultural use of the Kobeh Valley, located south and west of the Project Area, is used primarily for grazing. Only 1,200 acres were under cultivation in Kobeh Valley in 2007 (see Section 4.3.1).

Government employment, which includes federal, state and local government and public school employment, had increases through much of the 1990s, eventually peaking at approximately 280 in 1997/98 (U.S. BEA 2006). Public sector employment subsequently declined to 166 in 2003 before climbing to 216 in 2009. Available data from the NDETR for 2009 suggest a year-to-year loss in state government employment based in Eureka, most likely reflecting changes associated with the state's severe fiscal crisis brought on by the national economic recession.

Other private sector employment in Eureka County, which includes construction, retail trade and services, increased during the period when mining activities increased in the mid-1990s and then followed the decline in employment during the 2000 through 2002 period; however, other private employment increased during 2003 and 2004, which could have been a result of the induced effects of the Falcon-Gondor transmission line construction project.

The local business sector in the Town of Eureka is limited in diversity and scale, focused primarily on essential consumer, building, and automotive goods and services. Retail shopping opportunities include groceries, hardware and lumber, auto parts/fuel/supplies, and novelties and gifts targeted at tourists. There are also several restaurants and other food service establishments, two bars and a casino in the Town of Eureka. Consumer and business services include a bank, motels, RV/mobile home parks, equipment rental, trucking and motor vehicle repair services. Consumers use the internet or travel to Elko, Reno, or elsewhere to access a wider selection of goods, financial services, and a broader range of medical and dental care (BCLLC/SDLLC 2008).

As of the second quarter of 2010, Eureka County hosted 62 private and public employers, including a total of 8 federal, state and local governmental entities, 14 in consumer oriented trade

and services other than health care, three in health care, and 16 in construction and mining (NDETR 2010).

Tourism and recreation attractions in southern Eureka County include hunting, fishing, sightseeing, off-highway (OHV) vehicle use, visits to the Eureka Opera House and Sentinel Museum, general interest in the historic mining character of the community, and events such as the County fair, County youth fair, high school rodeo, and a series of horse shows, softball tournaments, bicycle races, and shooting and archery tournaments (BCLLC/SDLLC 2008). Travelers along U.S. Highway 50, including bicyclists and motorcyclists, contribute to the southern Eureka County economy. The scale of the retail and services sectors in Eureka County result in numerous limitations on the reporting of employment, number of establishments, sales and sales tax receipts, and other economic data. In addition, recreation and tourism cut across multiple retail and service sectors and are not distinct; as a result, such data are not readily available.

Labor Force and Unemployment

Eureka County's labor market conditions generally parallel trends in the mining industry, although they are more closely tied to activities in the southern part of the County because most employees of the mines in northern Eureka County live in other counties. The local labor force grew from 785 in 1994 to 1,019 in 1998 when mining employment in the region was at its peak and the Ruby Hill Mine near the Town of Eureka was initiating operations. The resident labor force declined after the peak, partially in response to the suspension of operations at the Ruby Hill Mine. In 2005, when construction of the East Archimedes expansion of the Ruby Hill Mine was underway, the labor force stood at 674 and unemployment at 3.6 percent. In the fall of 2006, Eureka County and northeastern Nevada in general were experiencing a labor shortage. In September 2006, there were 243 employers who listed job openings with the Elko office of Nevada Job Connect, and many of those listings were for multiple positions. Employers in Eureka County reported difficulties filling vacant positions (BCLLC/SDLLC 2008). As shown in Table 3.17-8, the labor force subsequently grew to 911 in 2010, more than 29 percent over the 2006 level, even as effects of the recession resulted in increased unemployment.

Table 3.17-8: Eureka County Labor Force, Unemployed and Unemployment Rate Selected Years

	2005	2006	2007	2008	2009	2010	2011 (Apr)
Labor Force	674	705	797	843	893	911	879
Unemployed	24	28	35	43	66	83	54
Unemployment Rate (%)	3.6	4.0	4.4	5.1	7.4	9.1	6.1

Source: U.S. Bureau of Labor Statistics (BLS) 2011.

Table 3.17-9 shows the annual unemployment rates for Eureka County, Nevada, and the U.S. from 2005 to 2010. Prior to the expansion of mining in the region, which began in the early 1980s when intensive exploration of the Carlin Trend coincided with higher gold prices; Eureka County's unemployment rate was higher than that for Nevada and the U.S.. The unemployment rate declined below the statewide and national averages from 1999 through 2002, the years when the Ruby Hill Mine was operating, rising slightly after the mine suspended operations. Bolstered

by the mining industry, local unemployment rates have been below the state and national rate since 2005, and particularly in recent years when the global recession resulted in substantially higher unemployment. Nevada's unemployment rate, dominated by drastic decline in construction and gaming and tourism in Clark County/Las Vegas averaged 14.9 percent in 2010.

Table 3.17-9: Average Annual Unemployment Rates, United States, Nevada, and Eureka County

Location	Percentages					
	2005	2006	2007	2008	2009	2010
U.S.	5.1	4.6	4.6	5.8	9.3	9.6
Nevada	4.5	4.2	4.6	6.7	12.5	14.9
Eureka County	3.6	4.0	4.4	5.1	7.4	9.1

Source: U.S. BLS 2011.

Personal Income

Eureka County personal income data by place of work statistics reflect the effect of the Barrick and Newmont mines in the northern part of the County. Following the opening of these mines, total earnings increased more than five-fold to $182 million between 1985 and 1990 (U.S. BEA 1984). Further increases marked the expansion of those mines, with total annual earnings reaching $274.8 million in 1995. Since that time, total earnings on a place of work basis have climbed, but at a slower rate.

The non-local status of the northern mines' employees is reflected in the labor earnings data. As shown in Table 3.17-10, most of the labor earnings paid by Eureka County employers flow out of the local economy. During 2004 a net outflow of $247.9 million occurred, equivalent to 81 percent of the total $307.9 million in wages and salaries paid to jobs located in Eureka County. In 2004 the personal income of residents, including adjustments for social security deductions and other income such as interest and dividends, was $40.9 million. Five years later in 2008, total earnings paid by Eureka County employers had climbed nearly 40 percent to $429.3 million and the net outflow increasing to $335.6 million. The aggregate personal income of residents was $65.0 million.

Table 3.17-10: Eureka County Personal Income by Place of Residence: Selected Years

	2004	2005	2006	2007	2008
Earnings by Place of Work ($ M)	307.9	311.7	387.6	457.6	429.3
Residency Adjustment ($ M)	-247.9	-247.3	-310.1	-367.1	-335.6
Social Security Deductions ($ M)	-$32.7	-32.5	-41.2	-49.7	-43.7
Other Income to Residents ($ M)	13.6	13.7	13.3	14.2	15.1
Total Personal Income - Residents ($ M)	40.9	45.6	49.6	55.0	65.0
Per Capita Income	$28,827	$33,238	$33,944	$35,826	$40,674

1) ($M) = millions of current dollars. 2) A negative residency adjustment reflects the net earnings of workers employed in Eureka County, but who reside elsewhere, primarily in Elko County, that are in excess of the earnings of Eureka County residents employed outside the County.
Source: U.S. BEA 2010c.

Although higher than Nevada and the U.S. before the late 1990s, Eureka County residents fell below the state and nation in terms of per capita income during the 2000 to 2007 period. In 2004 the per capita income of Eureka County residents ($28,827) was 15 percent below the statewide average of $33,787 and 13 percent below the nationwide average of $33,050 for that year. Personal income growth in Eureka County in recent years has outpaced that across the state and nation, such that local per capita in 2008 ($40,674) was again comparable to the statewide and national averages (see Table 3.17-11). Median income in Eureka County during 2009 was $56,815, approximately seven percent higher than the Nevada statewide median income of $53,310, and 13 percent above the national average ($50,221) (U.S. Census Bureau 2010).

Table 3.17-11: Per Capita Personal Income, Eureka County, Nevada, and United States Selected Years

	1990	1995	2000	2005	2006	2007	2008
Eureka	$23,052	$25,708	$23,299	$33,238	$33,944	$35,826	$40,674
Nevada	$20,346	$24,817	$30,437	$38,117	$39,231	$40,930	$40,936
United States	$19,447	$23,076	$29,845	$35,424	$37,698	$39,392	$40,166

Source: U.S. BEA 2010d.

3.17.2.2.4 Fiscal Conditions

Local government finances in Nevada are complex, involving locally derived and state-shared revenues. The former consist primarily of ad valorem/property taxes on real and personal property and the net proceeds of mines operating in the County. The latter include sales, motor vehicle, fuel and gaming tax revenues. Intergovernmental revenues from the state are also very important for rural Nevada counties, having evolved in response to the state's unique tax, economic and geopolitical structures, including the differences in economic conditions affecting the Las Vegas and Reno metropolitan areas, as compared to those affecting rural agricultural and mining communities.

Eureka County's current fiscal structure reflects a heavy reliance on ad valorem taxes and intergovernmental transfers, combined with the influences of a small population base, large service territory, and year-to-year variances in the mining related tax base and revenues. For example, Eureka County's assessed valuation, which also supports local property taxes for the school district, declined by more than $154 million (31 percent) between fiscal years 2001/2002 and 2002/2003, following a reappraisal of the mines, but increased by nearly $200 million the following year (Table 3.17-12). Since then, Eureka County’s total assessed valuation has grown dramatically as a result of capital investment in mining, combined with the effects of higher production output and gold prices. In 2008/2009, the County’s total assessed value reached an all-time historical high of $1.48 billion. The total valuation declined to $1.36 billion the following year (2009/2010) as gains of $100 million in real property assessments were offset by a drop of more than $210 million in net proceeds of mining and other assessments. Total assessed valuation climbed by $54 million for the current 2010/2011 tax year.

The volatility in taxable value carries over to ad valorem tax revenues, influencing local government and school district fiscal budgeting and policies. Within the past five years, ad valorem taxes levied by Eureka County increased from $5.2 million in fiscal year 2005/2006 to $17.2 million in 2008/2009 (Table 3.17-13). The latter was a record high, occurring in part due to legislatively approved changes in the collection of net proceeds of mining taxes. These

changes resulted in a one-time advancement of receipts that the County would have previously received in 2009/2010. Although the one-time acceleration in receipts contributed to a decline in tax revenues the following year as the new schedule was established, the total revenues were still nearly 50 percent higher than in 2007/2008 due to the intervening increases in production levels and higher market value.

Table 3.17-12: Eureka County Assessed Value, Fiscal Years 2000/2001 through 2010/2011 (in Millions of Dollars)

Fiscal Year	Secured[1]	Unsecured, Including Net Proceeds of Mines[1]	Total
2000/2001	356.6	261.2	617.8
2001/2002	400.3	91.4	491.7
2002/2003	235.4	102.1	337.5
2003/2004	308.2	227.9	536.1
2004/2005	340.2	260.5	600.7
2005/2006	273.4	298.5	571.9
2006/2007	333.8	473.4	807.2
2007/2008	381.9	628.1	1,010.0
2008/2009	473.1	1002.2	1,475.3
2009/2010	573.4	789.5	1,362.9
2010/2011	648.6	767.7	1,416.3

[1] Secured property generally refers to real property, mobile homes placed on foundations, and some improvements held by a title, whereby the taxes assessed create a lien on the property. Unsecured property generally refers to personal property, mobile homes not place on foundation, and other property interest subject to property tax.
Source: Nevada Department of Taxation 2010.

Table 3.17-13: Eureka County Revenues (In Dollars): Fiscal Years 2006 to 2010

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Taxes	$ 5,155,474	$ 7,106,760	$ 8,845,802	$ 17,219,653	$ 12,892,856
Licenses and Permits	$ 16,747	$ 14,960	$ 12,932	$ 12,633	$ 16,376
Intergovernmental	$ 8,809,292	$ 11,578,968	$ 11,261,021	$ 11,081,640	$ 13,318,785
Charges for Services	$ 1,209,527	$ 1,319,790	$ 1,571,648	$ 2,348,076	$ 1,935,850
Fines and Forfeits	$ 153,570	$ 178,792	$ 102,324	$ 123,652	$ 93,025
Miscellaneous	$ 2,372,550	$ 2,367,536	$ 2,701,718	$ 1,302,759	$ 985,147
Total Revenue	**$ 17,717,160**	**$ 22,566,806**	**$ 24,495,445**	**$ 32,088,413**	**$ 29,242,039**

Source: Eureka County 2010.

Combining the real and personal property valuations associated with the mining industry and net proceeds reveals that the mining industry accounts for approximately 90 percent of the total ad valorem tax base of the County and ECSD. Intergovernmental revenues can also vary dramatically from year to year, which when combined with fluctuations in taxes on net proceeds results in substantial variances in total revenues. Over the past five years the County's total revenues increased from $17.7 million in 2005/2006 to $32.1 million in 2008/2009, the latter reflecting a one-time shift in the assessment and receipt mining tax revenues in response to statutory changes. Total revenues declined by $2.9 million the following year (approximately

nine percent) with declines from most sources other than intergovernmental transfers, the latter increasing by $2.2 million.

Intergovernmental revenues account for the vast majority of the County's non-ad valorem tax revenues. A total of $13.3 million in such revenues were received in 2009/2010, up from $8.8 million in 2005/2006. Intergovernmental revenues from the state include the Basic County-City Relief Tax, Supplemental County-City Relief Tax, motor vehicle property taxes, and fuel taxes. Basic County-City Relief Tax and Supplemental County-City Relief Tax are statewide sales and use taxes enacted to provide property tax relief. Basic County-City Relief Tax is a state-mandated county-imposed sales and use tax returned to the county of origin, while revenues derived from the Supplemental County-City Relief Tax sales and use tax are pooled and distributed according to a specific formula. Intergovernmental revenues also include various federal payments and grants, including receipts of federal Payments in Lieu of Taxes (PILT). In 2010, federal PILT payments totaled $275,208, based on 2,156,915 acres of qualifying federal lands (BLM 2010).

Recognizing the volatility in revenues and timing lags associated with mining activity, assessment of taxes and receipt of revenues, the Board of Eureka County Commissioners has a long-standing a policy to maintain relatively steady property tax rates, funding reserve accounts during periods of prosperity and drawing down reserves to cushion the budgetary impacts of mine closures or declining net proceeds or assessments (BCLLC/SDLLC 2008; BLM 2005).

The overlapping ad valorem tax rates of all entities imposed on property in the Town of Eureka is $1.9896 per $100 of assessed valuation for 2010/2011. That rate is consistently the lowest or among the lowest rates in the state and is more than 45 percent below the state-mandated maximum of $3.64. Table 3.17-14 shows the ad valorem tax rates in the Town of Eureka during fiscal year 2010. Eureka County's levy is $0.8458, 43 percent of the total. ECSD's levy is $0.750, the mandated statewide levy, a drop of $0.1625 from the preceding year reflecting the retirement of the district's outstanding bonded debt and subsequent elimination of the corresponding debt service levy. Other levies include $0.2153 per $100 of assessed value dedicated to the Town of Eureka primarily to fund public works, a county-wide levy to support television service, and a state-mandated levy of $0.17.

Table 3.17-14: Ad Valorem Tax Rates in the Town of Eureka: Fiscal Year 2010/2011

Taxing Entity	Tax Rate ($)
Eureka County	0.8458
Eureka County School District	0.7500
Eureka Town	0.2153
State of Nevada	0.1700
Eureka County Television (TV) District	0.0085
Total	1.9896

Note: Rates are in dollars per $100 of assessed valuation.
Source: Nevada Department of Taxation 2010.

County-wide ad valorem taxes also apply to the net proceeds of mining. Such proceeds are taxed by the state at a rate of $5.00 per $100 of net proceeds. From the total revenues thereby

generated, revenues equivalent to those that would have been derived by the local levy are returned to the county and school district of origin, the remainder being retained by the state to fund other needs. While the level of local revenues derived from net proceeds can vary considerably from year-to-year in response to market prices, production and allowable deductions by the mining companies, more than $5.1 million in net proceeds revenues accrued to the county, with another $9.1 million to the school district in 2009.

Eureka County expenditures have increased in recent years from $12.5 million in 2005/2006 to $28.2 million in 2009/2010, the rise generally tracking the growth in revenues over time (Table 3.17-15). Budgeted expenditures increased across all major functions/departments. Much of the increase is accounted for by non-recurring outlays for facility and road improvements funded from current revenues and the County's accumulated reserves for such purposes.

Table 3.17-15: Eureka County Budgeted Expenditures Fiscal Years 2006 to 2010

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
General Government	$ 3,089,721	$ 4,563,306	$ 6,901,906	$ 9,360,002	$ 7,078,305
Public Safety	$ 1,984,091	$ 2,202,399	$ 2,620,349	$ 2,319,528	$ 3,167,273
Judicial	$ 595,857	$ 911,649	$ 1,098,340	$ 1,064,787	$ 1,126,404
Public Works	$ 2,468,542	$ 3,308,029	$ 5,158,508	$ 5,164,730	$ 7,786,714
Health and Sanitation	$ 845,291	$ 1,221,028	$ 1,062,653	$ 1,289,008	$ 1,208,777
Culture and Recreation	$ 972,314	$ 1,006,237	$ 1,086,293	$ 1,211,887	$ 1,324,386
Community Support	$ 382,374	$ 411,240	$ 384,553	$ 424,247	$ 463,467
Intergovernmental	$ 2,165,102	$ 816,100	$ 3,156,243	$ 3,816,953	$ 6,046,716
Total Expenditures	**$ 12,503,292**	**$ 14,439,988**	**$ 21,468,845**	**$ 24,651,142**	**$ 28,202,042**

Source: Eureka County 2010.

Budgeted outlays for operating purposes, including payroll and benefits associated with a staffing increase of five full time equivalents (FTEs), were more modest.

Net current revenues, defined as total revenues less total expenditures, ranged between $1.0 and $8.1 million over the past five years (Table 3.17-16). After accounting for other financing sources or outlays, net surpluses occurred in four years, the residual net revenue transferred to the County's reserve funds. As a result the County's reserve fund balances climbed by 49 percent, from $38.3 million to $57.0 million at the end of the 2008/2009 fiscal year. Capital outlays in 2009/2010 resulted in a net use of just over $710,000 in reserve balances, reducing the total reserve balance to $56.3 million.

Eureka County completed several major capital improvement projects in 2009 and 2010. These projects included a new Eureka Fire House, a water storage and distribution projects in Eureka and arsenic treatment projects in Devil's Gate and Crescent Valley. Eureka County has a long-standing policy of refraining from the use of long-term debt for capital improvements. The policy of funding improvements using available resources reflects the substantial revenues generated by mining and the County's awareness of the uncertainties surrounding the industry and the associated potential implications for variability in tax revenues. While current plans of the existing mines indicate sufficient reserves to sustain operations for some time, variability in the price of gold can affect production levels and net proceeds, in turn affecting the County's tax base. Such uncertainties make the policy of avoiding debt when possible a prudent course of action (BCLLC/SDLLC 2008; BLM 2005).

Table 3.17-16: Eureka County Budget Summary, Fiscal Years 2006 to 2010

	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010
Total Revenues	$17,717,160	$22,566,806	$24,495,445	$32,088,413	$29,242,039
Total Expenditures	$12,503,292	$14,439,988	$21,468,845	$24,651,142	$28,202,042
Net Current Revenue	$5,213,868	$8,126,818	$3,026,600	$7,437,271	$1,039,997
Other Financing Sources		$90,351	$15,000	$6,400	$(1,750,000)
Net Transfer to/Use of Reserve Fund Balance	$5,213,868	$8,217,169	$3,041,600	$7,443,671	$(710,003)
Reserve Fund Balance (Ending)	$38,330,900	$46,551,069	$49,592,669	$57,036,340	$56,326,337
Note receivable reserve	$484,328	$415,819	$343,297	$266,334	$185,656
General Fund	$10,159,434	$17,068,570	$10,450,236	$12,467,226	$10,105,839
Capital Projects	$8,541,428	$7,981,844	$9,782,820	$9,553,687	$8,741,945
Special Revenue	$19,145,710	$21,084,836	$29,016,316	$34,749,093	$37,292,897

Source: Eureka County 2010.

A very small portion of the reserve fund is held as a reserve against an outstanding note receivable; however, the vast majority of the funds are unreserved being held for potential use in meeting future general fund needs, capital projects, and other special needs as established by the County Commission.

3.17.2.2.5 Public Utilities and Eureka County Services/Facilities

Utilities

Information concerning public utilities in southern Eureka County was obtained from the Master Plan for the Town of Eureka Water and Sewer Systems and Devil's Gate GID (District 1& 2) Water Systems (Lumos & Associates 2007), from the Overview of the Summary Report of Existing Municipal Water Conditions in Southern Eureka County (Damele 2010), and from information contained in Eureka County's 2007 through 2010 Comprehensive Annual Financial Reports (Eureka County 2010).

Water Supply, Treatment, Storage and Distribution

Eureka County maintains and operates three water systems in the southern part of the county:

- Eureka Town Water System;
- Devil's Gate GID #1; and
- Devil's Gate GID District #2.

The Town of Eureka water utility is supplied by two ground water wells located approximately 3.5 miles north of town. One well produces 900 gpm and another produces 750 gpm. Water from the two wells is piped to two storage tanks that feed booster pumps, which in turn transfer the water to the town. Together the wells produced 58.4 million gallons (approximately 179 acre-feet) in 2009, an increase of ten percent over the quantity produced in 1995. Water levels in both wells have been declining at annual average rates of just over two feet in recent years.

During 2009, an additional 300,000 gallon storage tank was constructed at the booster station and an additional booster pump and new generator were installed. Water storage in town now

consists of a 350,000 gallon storage tank on the southeast end of town and a 750,000 gallon storage tank and newly constructed 1,250,000 gallon storage tank on the west side of town. During 2010 the water and wastewater lines on Main Street were replaced. The cost of these and other utility system improvements totaled nearly $6 million (Damele 2010).

Ten springs, which currently only provide water to a mobile home park, could serve as a supplemental water source for the town, but improvements would be required to connect the springs to the main water system. Eureka County is working with the BLM to obtain approval for ROWs to make the necessary improvements.

The Town of Eureka water system served 276 residential and commercial customers in 2009. Average daily demand during 2009 was 160,000 gallons per day (gpd) and maximum daily demand was 480,000 gpd. Well production capacity was 1,296,000 gpd. Eureka County estimates that the potential customer base for the Town of Eureka water system could be an additional 409 customers, including 277 housing units in the Eureka Canyon Subdivision, 47 lots in the Prospect Subdivision and 85 lots in the townsite (Damele 2010).

Water supply and distribution services in the Devil's Gate area of Diamond Valley are provided by the Devil's Gate GID #1 and GID #2. GID #1 operates one well that produced 2,073,600 gallons (6.4 acre feet) in 2009. This well is capable of producing 60 gpm. GID # 1 serves 14 customers and has an average daily demand of 5,681 gallons and a maximum daily demand of 17,043 gallons. Given the limited land area of the district, substantial additional growth is not anticipated.

GID #2 has one 60 gpm well that serves as the primary source of water for the district. The well produced 5,733,600 gallons (17.6 acre feet) in 2009 and feeds a 250,000 gallon storage tank. A second well produces 200 gpm, but this water exceeds EPA standards for arsenic and is therefore not in the municipal system, although it does provide construction water. The GID Board is in the process of making necessary improvements to bring the present system into compliance (BCLLC/SDLLC 2009, Appendix D). GID #2 had 41 customers in 2009 with an average daily demand of 15,708 gpd and a maximum daily demand of 47,125 gpd. The current storage requirement is for 225,462 gallons with fire flow of 1,000 gpm for two hours. The existing 250,000 gallon tank meets the storage requirement (Damele 2010). The County constructed an additional 400,000 gallon storage tank and installed 7,000 linear feet of water main during 2010 and early 2011 (Personal Communication, Ron Damele, Eureka County Public Works 2011).

The projected customer base for GID #2 includes an additional 234 customers including a build-out of an additional 112 lots currently within the district and the 122 lots in Ruby Hill Subdivisions – North and South – that may be absorbed into the district (Damele 2010).

As with the wells serving the Town of Eureka water system, the average decline in water levels in the Devil's Gate GID # 1 and #2 districts has been one to two feet per year.

Wastewater Collection and Treatment

Wastewater treatment services within the Town of Eureka are provided by a multiple-cell, aerated, evaporative lagoon wastewater treatment facility (WWTF) managed by the County public works department. The WWTF is currently permitted to discharge a maximum of 100,000 gpd, and currently operates at 70 percent of its permitted capacity. Eureka County has

received permits to expand the facility to 200,000 gpd (Massey 2011). The estimated cost for the expansion is $1.3 million. The outfall pipe at the WWTF can accommodate approximately 100 additional connections before capacity is exceeded. Costs for expanding the outfall pipe have been estimated at $300,000 (Damele 2010).

Wastewater treatment in Diamond Valley is accomplished through the use of individual septic systems.

Solid Waste Disposal

Eureka County operates the Class II-rated Whiskey Flat Landfill just north of the Town of Eureka. The landfill serves the entire county and currently receives less than 20 tpd of solid waste including solid waste hauled from Crescent Valley. As of 2008, the landfill had an estimated 30 years of remaining life at recent disposal volumes (Research and Consulting Services, Inc. 2008). The landfill is staffed by two County public works employees and fees are charged on a quarterly or per use basis (Personal Communication, Ron Damele, Eureka County Public Works 2006). A private vendor provides solid waste collection services in the Town of Eureka and the surrounding area.

Other Utilities

Electricity

Mt. Wheeler Power provides electric power to central and southern Eureka County including the Town of Eureka and the Project Area. Mt. Wheeler currently has capacity to serve additional customers in southern Eureka County (Personal Communication, Jesse Murdock, Mt. Wheeler Power, Inc. 2006).

Propane

Residential and commercial gas is provided by private propane vendors.

Telephone

Telephone service is provided by Nevada Bell. Cellular phone coverage is available across much of the County except in Pine Valley along SR 278.

Facilities and General Services

Eureka County is governed by a three member Board of County Commissioners elected at large to overlapping four-year terms. Each year the Board selects one of its members to serve as Chairperson. County government provides a range of services to the two unincorporated towns and to the County as a whole.

Table 3.17-17 displays Eureka County full time employment by function for the four previous fiscal years. The County added five employees during the four-year period. County employment is anticipated to increase by one staff position in the coming year.

Table 3.17-17: Eureka County Government Full Time Employees by Function, Fiscal Years 2007 to 2010

Function	Year Ending June 30, 2007	Year Ending June 30, 2008	Year Ending June 30, 2009	Year Ending June 30, 2010
General Government	17	18	18	18
Judicial	9	9	9	9
Public Safety	21	22	23	23
Public Works	24	24	25	25
Health and Sanitation	1	1	2	2
Culture and Recreation	10	10	10	10
Community Support	2	2	2	2
Total Full Time Employees	**84**	**86**	**89**	**89**

Source: Eureka County 2010.

Eureka County administrative functions include the following:

- Board of County Commissioners
- Assessor
- Clerk and Treasurer
- Recorder/Auditor
- District Attorney
- Natural Resources

Most of the Eureka County administrative offices are housed in the historic courthouse. The District Attorney, Yucca Mountain Information Office and Natural Resources Office are housed in the auxiliary administrative office building along with the Public Works Department. The courthouse was renovated in 1998.

Law Enforcement and Criminal Justice

Sheriff's Office

The Eureka County Sheriff's Office provides law enforcement for the entire County, operates the County's detention facilities and provides dispatch services for all County public safety functions including police, emergency medical and fire suppression activities. The detention facility can accommodate 20 inmates, including four female inmates. Occupancy averaged seven to eight inmates in 2006/07. Juvenile detention facilities are located in Elko, requiring the department to provide transportation services. Although an infrequent occurrence, juvenile transportation poses a burden on the department, requiring dedication of an officer and vehicle for at least a half day per trip (Personal Communication, Robert Cutler, Eureka County Sheriff's Office 2006; Personal Communication, Ken Jones, Eureka County Sheriff's Office 2007).

The Criminal Justice Center is adequate for Eureka's current population in terms of overall administrative space and detention capacity. A sheriff's substation is located in Crescent Valley (Personal Communication, Ken Jones, Eureka County Sheriff's Office 2007).

In December 2010, the Sheriff's Office staff totaled 20 including the sheriff, undersheriff, patrol officers, dispatchers, administrative personnel and jailers. The department has a current staffing ratio of one patrol officer for every 100 to 200 residents. The department faces challenges recruiting qualified personnel willing to relocate to the Town of Eureka. The lack of available housing is a critical recruitment issue. Additionally, between $35,000 and $40,000 is required to provide a vehicle and equipment, and up to six months is required to fully train a new officer. Current staffing does not allow continuous seven-day per week, round-the-clock patrol in the Town of Eureka; however, officers are on call during non-patrolled hours and to back up the on-duty staff as needed. The department has a part-time animal control officer (Personal Communication, Ken Jones, Eureka County Sheriff's Office 2007; Massey 2010).

According to the Nevada Department of Public Safety (NDPS), the Eureka County Sheriff's Office made 42 criminal arrests during 2010 (NDPS 2011). Eureka County crime rates[5] are substantially lower than the State of Nevada as a whole. In 2010, Eureka County's crime rate (offenses) of 16.16 was less than half the 34.04 rate for the State of Nevada as a whole (NDPS undated).

District Attorney

The District Attorney is responsible for prosecuting all felony, gross misdemeanor, and juvenile offender cases committed within the County. The Office of the District Attorney is also the legal branch of local government representing the Eureka County Commission and other County agencies in civil, administrative, and litigation matters. The District Attorney's staff includes the District Attorney and one secretary/paralegal. The District Attorney's office has historically experienced an increase in its caseload during times of transition in communities, such as during construction projects or when a mine starts up, changes or shuts down (Personal Communication, Ted Beutel, Eureka County 2007). A majority of these cases are not Part 1 offenses.

Public Defender

Eureka County depends on the State Public Defender's office in Ely (White Pine County) to provide services for indigent defendants. Criminal representation is adequate for the current level of demand. However, civil indigent representation and legal aid service is currently inadequate (Massey 2010).

Eureka Justice Court

The Eureka Justice Court adjudicates small claims (up to $5,000), civil cases (up to $10,000), all traffic offenses, felonies up to preliminary hearing and protective orders, and also performs marriages. The justice court staff includes the Justice of the Peace, one full-time and one half-time administrative staff, and casual administrative staff, as needed (Personal Communication, J. Schweble, Eureka County Justice of the Peace 2007).

[5] Crime rates refer to the number of Part I offenses per 1,000 inhabitants. Part 1 offenses include: homicide, forcible rape, robbery, assault, burglary, larceny-theft, motor vehicle theft and arson.

Eureka County Juvenile Probation Office

The probation office provides a variety of probation services for adjudicated youth and prevention services for adjudicated and non-adjudicated youth in Eureka County. The office has a Chief Probation Officer and a Grants Administrator. The youth probation caseload averages ten to fifteen cases per month. Probationers are also provided counseling by a licensed clinical social worker. As shown in Table 3.17-18, the probation office offers a variety of programs to its target population of Eureka County youth (Personal Communication, Karen LaBarry, Eureka County Juvenile Probation Department 2007).

Table 3.17-18: Eureka County Tutorial and Life Skills Program Participation 2007

Program	Participants
Eureka Elementary School Tutorial	43
Eureka Elementary School Life Skills	35
Crescent Valley Elementary School Tutorial	10
Crescent Valley Elementary School Life Skills	20
Eureka High School Tutorial	17
Eureka High School Life Skills	35
Girls Circle	40
Boys Council	20

Source: Massey 2010

The probation office also provides a variety of recreation and sports programs to youth throughout the County including soccer, wrestling, basketball, swimming, dance program, ski trips, graduation night, back to school pool parties, and others (Personal Communication, Karen LaBarry, Eureka County Juvenile Probation Department 2007; Massey 2010).

Emergency Response

Emergency response includes fire protection and emergency medical/ambulance services. Eureka County funds an emergency management services coordinator (Coordinator) to coordinate emergency planning, response and management among the various local service providers and to serve as a liaison with various statewide entities. The Coordinator also directs the volunteer ambulance/emergency medical service in Eureka (Personal Communication, Mike Sullivan, Eureka County Emergency Medical Services 2006).

Fire Protection

Eureka County funds six local volunteer fire departments (VFDs). In addition to the Town of Eureka and Diamond Valley, VFDs are located in Beowawe, Crescent Valley, Dunphy and Pine Valley, none of which have full-time employees. These departments, along with the NDF and BLM, maintain mutual-aid agreements to augment the capacities of any given department should the need arise. Eureka County provides funds to the NDF to help fund its fire suppression activities. Two local fire departments, the Eureka Volunteer Fire Service (VFS) and the Diamond Valley VFS service southern Eureka County, the primary study area for the Mount Hope Project.

The Eureka VFS provides fire suppression service in and around the Town of Eureka. The Eureka VFS is staffed by 25 volunteers and maintains eight vehicles including the following: two Type 1 structure engines, one 3,800 gallon water tender; one Type 6 brush fire truck; two Type 4 brush fire trucks; one rescue/extraction truck equipped with jaws-of-life, spreaders, etc.; and a pumper truck, which is only used within the Town of Eureka (Personal Communication, Dan Brown, Eureka Volunteer Fire Service 2006, Massey 2010).

The rolling stock is housed in the Town of Eureka in a new two-story, seven-bay fire station commissioned in late 2009. The fire station houses the Chief's office, a training room, future living quarters and a self-contained breathing apparatus refill station. Although the Eureka VFS primary service area is southern Eureka County, the department has and would continue to be called to other parts of the County to support other VFDs and agencies for fire suppression incidents. During dry years, the department frequently responds to multiple calls per week to fight wildland fires. The VFS also accompanies the ambulance on motor vehicle accident calls. Given the large service area that the Eureka VFS must cover, response times can be as long as 30 to 45 minutes including the time required to assemble volunteers. In addition to County support, the Eureka VFS supplements its budget with social events and a raffle. Training is supplemented by the State of Nevada (Personal Communication, Dan Brown, Eureka Volunteer Fire Service 2006; Massey 2010).

Fire protection services to the area that includes the proposed Project Area are provided by the Diamond Valley VFS located on 11th Street in Diamond Valley, approximately 15 miles from Mount Hope. The Diamond Valley VFS has 13 volunteers, three of whom are certified Emergency Management Technicians (EMTs). The Diamond Valley VFS maintains the following four pieces of equipment: a structure/rescue unit; one 3,000 gallon tanker truck; an older military six-wheel drive (aka a 6x6) wildland unit; and a one-ton wildland unit (Personal Communication, Paul Strite, Diamond Valley Volunteer Fire Station 2007).

The Diamond Valley VFS maintains a three-bay fire station, to accommodate five vehicles including an ambulance. The department would like to expand the station in the future. Most calls to the VFS are for vehicle accidents along SR 278 and for wildland fires. Response time to the Mount Hope area is likely to be over 30 minutes given the time required to assemble volunteers in this rural area (Personal Communication, Paul Strite, Diamond Valley Volunteer Fire Station 2007).

Emergency Medical/Ambulance Services

Emergency medical care and transportation are provided by the Eureka County Emergency Medical Service (EMS), a volunteer ambulance service serving the entire County. The service is funded through user fees and Eureka County. In the southern part of the County, the EMS is staffed by a full-time paid EMS Coordinator, who is an EMT, and ten volunteers (Personal Communication, Mike Sullivan, Eureka County Emergency Medical Services 2006; Massey 2010). Approximately half of the volunteers are intermediate EMT certified. Two ambulances and a search and rescue vehicle are housed in the Town of Eureka. One ambulance is a larger 2009 model, with more modern treatment capabilities, capable of transporting three patients, which has improved the EMS's reliability and treatment response. An older 1997 ambulance has been stationed in Diamond Valley in anticipation of activity at the Project Area. The ambulances have radio communication with Northeast Nevada Regional Hospital in Elko, where most patients are transported. Fixed-wing and helicopter emergency medical air transportation is

available to hospitals in Elko, Reno, and Salt Lake City, Utah. Overall responses and responses in southern Eureka County have been increasing in recent years. In 2005, the EMS responded to a total of 151 calls, 90 of which were in the southern part of the County. The EMS responded to 205 calls in 2009 (134 in the southern part of the county) and 211 calls through late December 2010 (125 in the southern part of the County). The EMS Coordinator anticipates hiring full-time staff if calls substantially increase (Personal Communication, Mike Sullivan, Eureka County Emergency Medical Services 2006; Massey 2010).

Health Care

Health care in southern Eureka County is provided at the Eureka Medical Clinic, located in the Town of Eureka and operated by the Nevada Health Centers, Inc. The clinic, when fully staffed, employs a physician, a physician's assistant/clinic coordinator, two medical assistants, and an administrative employee. The current physician and physician's assistant are both family care providers with experience in emergency care and pediatrics. The clinic provides a full range of basic and emergency medical services. A physical therapist is available twice a week at the Eureka Clinic (Personal Communication, William Jensen, Eureka Medical Center 2006; Personal Communication, Steve Hansen, Nevada Rural Health Centers Inc. 2007; Massey 2010).

The Eureka Medical Clinic facility was constructed in 1998 with funding from Eureka County. Financial support for the clinic is provided from fees for service, county revenues, federal grants and health care funding programs. The Eureka Medical Clinic is open during normal business hours, Monday through Friday, with 24/7 on-call service available at other times. The clinic includes the following facilities: four examination rooms; medical supplies and records storage facilities; radiology (X-ray) facilities; emergency and basic trauma treatment facilities with advanced cardiac life support capabilities; EKG and pulmonary function diagnostic facilities; hearing and vision testing facilities; and an in-house pharmacy for prescriptions written by the clinic's physician. Eureka County recently purchased a digital X-ray machine for the clinic (Personal Communication, William Jensen, Eureka Medical Center 2006; Massey 2010).

Most patients requiring hospitalization use the Northeastern Nevada Regional Hospital in Elko, 115 miles from the Town of Eureka. A smaller hospital is available in Ely. Patients requiring specialized care often choose to access facilities in Reno. The clinic offers immunizations and routine medical screening. Dental care is provided by a visiting dentist and a dental technician, using facilities at the clinic (Personal Communication, Steve Hansen, Nevada Rural Health Centers Inc. 2007; Massey 2010).

During 2004 the Eureka Medical Clinic had 2,287 patient visits by 904 people. Nine percent of these visits were from patients who were uninsured; three percent were covered by Medicaid; and 15 percent were covered by Medicare (NHCI 2006). The current (2010) level of patient visits is similar to 2004 levels (Massey 2010). The clinic has capacity to treat additional patients. The rural health care standard is 1,500 people for one physician (Personal Communication, Steve Hansen, Nevada Rural Health Centers Inc. 2007). There were approximately 1,350 people in southern Eureka County at the time of the 2010 Census (see Section 3.1.2.2.1).

Social and Senior Services

Eureka County provides emergency assistance (emergency food, shelter, transportation to the Nevada Department of Human Resources office in Ely) to those requesting it on an as-needed

basis. The County Social Services Coordinator administers the assistance program that ranges from providing indigent health care to energy payment assistance. The income qualifications associated with most programs limit eligibility. Residents seeking social assistance available through the Nevada Department of Human Resources (cash grants, medical assistance, food stamps) must either visit the department's office in Ely, apply by mail, or over the Internet. The caseload from Eureka has traditionally been limited, with the largest demand for food stamps (BLM 2005; Personal Communication, Millie Oram, Eureka County Social and Senior Services 2007).

Eureka's Senior Citizens' Center provides lunches and a Meals-on-Wheels program to all seniors in the community. The Senior Center also organizes social and recreational events, provides transportation services, and operates a food bank for all low-income citizens. West States Apartments owns 12 housing units, which are rented to low-income seniors. These units are fully occupied and have a waiting list. Home Health coordinates a visiting helper to persons in Eureka County who need assistance in taking medicines or daily living (Eureka County Economic Development Council 2006; Personal Communication, Millie Oram, Eureka County Social and Senior Services 2007).

Library and Recreational Facilities

Eureka County provides a building, operations funding, and equipment for the library in the Town of Eureka and contracts with the Elko-Lander-Eureka Library System for personnel and administrative support. The library in the Town of Eureka is open 25 hours a week. The building housing Eureka's library was built in 1982. A wide selection of books and periodicals is available, along with Internet service and materials available through interlibrary loan accessed through a statewide computer database (Eureka County Economic Development Council 2006).

Recreational facilities and services are discussed in Section 3.15 (Recreation and Wilderness).

Public Education

Public education (kindergarten through 12th grade) in Eureka County is provided by the ECSD, which is headquartered in the Town of Eureka. In addition to administrative offices, the ECSD operates an elementary school and a junior/senior high school in Eureka, which serve students in the Town of Eureka and the southern portion of the county. ECSD operates an elementary school in Crescent Valley, which serves the Crescent Valley/Beowawe area. The ECSD sends junior and senior high school students from the Crescent Valley/Beowawe area to the Lander County School District's junior and senior high schools in Battle Mountain, and also sends some Pine Valley area students to the Elko County School District Combined School in Carlin, paying these two districts for tuition and transportation.

<u>School Capacities</u>

Total fall enrollment in the ECSD experienced a long-term decline from a peak of 378 students during the 1997-1998 school year to a recent low of 220 students during the 2003-2004 school year. By the fall of 2009/2010, the total had climbed to 260 students, including pre-kindergarten and kindergarten students (Table 3.17-19). The declining student enrollments had generated capacity to allow future enrollment increases within current facilities, without immediately requiring additional capital construction.

The Eureka elementary school has a maximum capacity of 280 students and an optimum capacity of 240. The junior/senior high school has a maximum capacity of 232 students and an optimum capacity of 190. Maximum capacity is typically calculated by multiplying the number of classrooms by the number of students each classroom is designed to accommodate. Optimum capacity considers the appropriate amount of space that the school district determines should be dedicated to specific instructional programs or administrative functions that occur within a school building. In addition, the statutory limits on some elementary class sizes and any specific needs of incoming students (e.g., English as a Second Language classes) may limit each building's actual capacity (Personal Communication, Ben Zunino, ECSD 2007).

In operation since the 1995-1996 school year, the Eureka elementary school facility had a peak enrollment of 220 students during the 1997-1998 school year compared to the lowest fall enrollment of 94 students in 2008-2009. Class sizes and pupil to teacher ratios for elementary grades are generally under 20 students with kindergarten through third grades statutorily required to be fewer than 15 students.

Table 3.17-19: Eureka County School District Enrollment from the 1996-1997 School Year to the 2009-2010 School Year

School Year	Enrollment		
	Kindergarten Through 6th	7th Through 12th	Total
1996-1997	189	143	332
1997-1998	220	158	378
1998-1999	204	154	358
1999-2000	187	160	347
2000-2001	152	153	305
2001-2002	149	136	285
2002-2003	139	100	239
2003-2004	129	91	220
2004-2005	127	109	236
2005-2006	117	107	224
2006-2007*	135	110	235
2007-2008 *	114	122	236
2008-2009 *	114	128	242
2009-2010 *	135	125	260

*2006-2007 and later includes pre-school and kindergarten students, at full enrollment.
Source: BCLLC/SDLLC 2008; Nevada Department of Education 2010.

The core facility at the junior/senior high school was built in 1968. Recent renovations to the junior/senior high school have replaced three older functionally and mechanically obsolete modular classrooms and relocated a bus barn and vocational shop facilities. The junior/senior high school has accommodated a peak of 160 students in the 1999-2000 school year; 2008-2009 fall enrollment was 128 students (Nevada Department of Education [NDE] 2009).

Eureka County schools are recognized among the best in Nevada. During the 2005-06 school year, both the Eureka Elementary School and the Eureka County Junior/Senior High School were designated as Nevada High Achieving Schools by the NDE. The Eureka County Senior High School was also designated a STARS Honor Grant High School. ECSD schools consistently score higher than the statewide average on the Nevada Criterion-Referenced Examinations.

School District Fiscal Conditions

Unlike many other school districts in Nevada that rely on state funding, ECSD derives virtually all of its revenue from locally generated ad valorem property taxes levied on real and personal property and the net proceeds of mining. Total revenue reached a record high of $16.6 million in 2008-2009, more than twice the revenues available three years earlier (Table 3.17-20). Like Eureka County's revenue, much of the increase was due to net proceeds of mining taxes, with a spike in such revenues in 2008-2009 due in part to the one time change in the timing of collection and disbursement of taxes on net proceeds of mining. Total revenues declined to $14.4 million the following year. Ad valorem taxes typically account for more than 75 percent of the ECSD's annual revenue, with 85 to 90 percent of that tied to mining.

Table 3.17-20: Eureka County School District Revenues, Fiscal Years 2005-2006 to 2009-2010

Revenue Source	Revenues by School Year (In Dollars)				
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
Local - Ad valorem	5,029,025	5,423,379	7,713,820	13,901,984	12,162,570
Local – Other	1,665,870	1,140,900	2,703,817	2,432,882	2,091,693
State and Federal Programs and Grants	410,600	277,600	94,861	224,842	135,950
Total Revenue	**$ 7,105,495**	**$ 6,841,879**	**$ 10,512,498**	**$ 16,559,708**	**$ 14,390,213**

Source: BCLLC/SDLLC 2008; ECSD 2009 and 2010.

Change in economic times along with historical declines in enrollment reflect underlying demographic trends that resulted in a challenging environment for the school board, ECSD administrators, faculty and staff in past years as they collectively strove to maintain quality public education in Eureka County. The ECSD's total staffing level declined by one-third between the 2000-2001 and 2002-2003 school years, and the total annual expenditures budget fell to $3.74 million in 2002-2003. The cuts reflected the effects of falling enrollments on allowable expenditures and reductions in mine-related property tax revenue to fund discretionary programs, faculty, and other costs. Although some savings accompany enrollment decline, facility operating and maintenance costs, transportation costs, and those costs required to provide a core curriculum are less variable. Due to the remoteness of the schools, housing shortages and other factors, the ECSD salaries are among the highest in the state.

More recently, enrollment has climbed, supporting increases in allowable expenditures. Increases in the number of junior/senior high students in Beowawe and Crescent Valley also contributed to increases in the amount of tuition paid to the Lander County School District and to higher transportation costs. As a consequence, the general fund operating expenditures of the ECSD grew from $4.35 million for the 2005-2006 school year to just over $7 million in the 2009-2010 school year (Table 3.17-21).

In addition to the general fund expenditures, the adopted budget for the 2005-2006 school year contained a total of $5.6 million in capital outlays and debt service. Capital and debt service outlays were just over $2 million during the 2009-2010 school year. The ECSD, like Eureka County on the whole, has taken advantage of the economic prosperity associated with the resurgence of mining to undertake major capital improvements without incurring excessive long-term debt. In 2004, the ECSD gained electorate approval to issue $6 million in long-term debt.

Proceeds from the debt issuance funded renovations at the high school, including replacing three portable classrooms in order to stem increasing utility and maintenance costs, integrate classroom spaces with the existing structure and improve the overall functionality of the educational environment. Higher than anticipated construction costs for relocation of the bus barn and vocational shop facilities pushed the total cost for the renovations to over $8 million (BCLLC/SDLLC 2008). As a result of multi-year high revenues from taxes on the net proceeds of mining, the bonded indebtedness used to build those facilities was retired in 2010.

Table 3.17-21: Eureka County School District Expenditures

Expenditure	Expenditures by School Year (In Dollars)				
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010
General Fund:					
Regular Programs	$ 1,801,605	$ 1,928,895	$ 2,472,146	$ 2,327,334	$ 3,311,024
Vocational and Other Programs	269,779	314,145	465,696	511,550	609,930
Undistributed and Food Service	2,288,392	3,027,741	2,926,747	3,395,819	3,121,760
General Fund Operating Expenditures	**$4,359,776**	**$5,270,781**	**$5,864,589**	**$6,234,703**	**$7,042,714**
Capital / Debt Service	5,601,015	5,582,088	2,096,197	1,331,528	2,087,700
Total Expenditures 1	**$ 9,960,791**	**$ 10,852,869**	**$7,960,786**	**$7,566,231**	**$9,130,414**

[1] These totals exclude transfers to reserve fund balances.
Source: BCLLC/SDLLC 2008; ECSD 2009 and 2010.

3.17.2.2.6 Social Conditions and Affected Publics

This section generally describes existing social conditions in Eureka County and groups that could be affected by the Project. Information for this section was obtained from interviews (between 2006 and 2008) with local officials, County staff and local residents, and from a review of secondary sources (BCLLC/SDLLC 2008).

Southern Eureka County, including the Town of Eureka and Diamond Valley, is a close-knit community where many residents know each other because of their long association with the community. There are a number of multi-generational families in the community, some whose roots date back to the original settlement of the area by people of European descent. Many southern Eureka County residents are deeply involved in the community. It is not uncommon for an individual to be a hay grower or business person, serve as an elected official or be an appointed member of a board or committee and also serve as a member of a VFD, search and rescue team, or other civic organization.

Although the Town of Eureka hosts tourists and highway travelers during summer months and periodic influxes of mine workers from area mines, it remains a town that endeavors to maintain its small town traditions and lifestyles. Many residents enjoy knowing many of their neighbors and value the low crime rate, and the slow paced, casual atmosphere of the town.

On the other hand, some community members are concerned that many of the community's youth move away to find suitable employment and would like to have a somewhat larger student body at the high school to support a broader curriculum. The narrow range of commercial, dining and entertainment options is a drawback for some residents.

The Project mine/milling facility is a large project relative to the population base in southern Eureka County. Consequently virtually everyone in southern Eureka County would likely be affected by the Project to some degree.

Specific public and groups identified during scoping and interviews as potentially affected by development and operation of the mine include:

- Individuals and businesses that provide goods and services to the mining and construction industries and to the population at large;
- Eureka County residents who are unemployed or underemployed and families with children who might otherwise leave the community to seek employment;
- Southern Eureka County residents who have low or fixed incomes, such as senior citizens and individuals and families who receive public assistance;
- Diamond Valley farmers, most of whom grow alfalfa, meadow hay or other grasses. Much of the Diamond Valley crop is marketed as high quality dairy and export grade hay. Diamond Valley producers are keenly interested in maintaining the current quantity and quality of ground water that these agricultural enterprises rely upon and are concerned about the effect of ground water withdrawals on their farming operations;
- Grazing operators who run cattle on two BLM grazing allotments that include portions of the Project Area and in Kobeh Valley;
- Businesses that support farming and ranching; and
- Recreation users of the area around the Project. These users mainly include hunters, some OHV users (ATV and snowmobile) and visitors, re-enactors and supporters of the Pony Express National Historic Trail, which traverses the Project Area.

3.17.3 Environmental Consequences and Mitigation Measures

3.17.3.1 Significance Criteria

The NEPA (Section 1508.14) states that "...economic or social effects are not intended by themselves to require preparation of an environmental impact statement. When an environmental impact statement is prepared and economic or social and natural or physical environmental effects are interrelated, then the environmental impact statement would discuss all of these effects on the human environment." This means that social or economic differences are not enough to result in a potentially significant adverse effect, but they need to manifest themselves with some physical change, as described in the NEPA (Section 1508.8(b)), "...effects may include growth inducing impacts and other effects related to induced changes in the pattern of land use, population density or growth rate."

The Proposed Action would be considered to have a significant effect on social and economic values if the following occurred:

- Substantial long-term change in any sector of the local economy, such as major expansion or contraction of employment, output or diversity;

- An increase in temporary or resident populations that would unduly strain the ability of affected communities to provide housing and services or otherwise adapt to growth-related social and economic changes;

- An aggregate change in public sector revenue and/or expenditure flows likely to either compromise the ability on the part of affected units of government to maintain public services and facilities at established service levels, or allow for improved services without increasing the tax burdens on existing taxpayers; or,
- Permanent displacement of residents or users of affected areas that would result from project-induced changes in or conflicts with existing uses or ways of life.

The significance threshold would be triggered if any one of the above criteria were satisfied.

3.17.3.2 Assessment Methodology

The social and economic characteristics of the Study Area and socioeconomic aspects of the proposed Project were analyzed to determine potential effects or impacts of the Proposed Action and alternatives on employment, income, population, housing, public infrastructure and services and social conditions. Fiscal effects were assessed based on information obtained from EML and Eureka County.

Due to the dynamic nature of economic conditions in Eureka County, the nation, and the small number of recent mining operations in southern Eureka County, assessing social and economic effects of the Proposed Action and alternatives is challenging. The assessment is based on the Project's location, existing labor force and housing conditions, and recent southern Eureka County mining experience, adjusted for the differences in size, mine location, and Project duration.

Economic conditions have changed substantially since the preparation of the 2008 Socioeconomic Assessment (BCLLC/SDLLC 2008). The regional economy was robust during 2007 and early 2008, but at the time of the 2010/2011 update there were increased levels of unemployment locally, with substantially higher unemployment rates across the State of Nevada and the nation. The implications of higher unemployment for the socioeconomic effects of the Project are unclear. On one hand, there is a larger, albeit still relatively small, pool of unemployed workers in Eureka County and adjacent counties, increasing the potential that locals and daily commuters would fill direct and secondary jobs associated with Project construction and operations, if these conditions persist. On the other hand, continuing high unemployment levels across the state and nation could mean that more nonlocal unemployed workers would be willing to relocate to the Town of Eureka or surrounding communities for the possibility of work. It is uncertain whether more or fewer workers would be willing to relocate their families or commute weekly than was anticipated in the 2008 Socioeconomic Assessment (BCLLC/SDLLC 2008).

This assessment focuses on the 18-month construction phase and the first nine years of production operations, a period when the mine would achieve and maintain full production, creating long-term steady job opportunities conducive to household relocation and to the creation of indirect and induced jobs in the community. This is the period when the major socioeconomic effects and need for community response would be anticipated. The assessment includes a brief discussion of the Project effects of subsequent changes in operation beyond the first nine years of operations; however, socioeconomic effects are not analyzed in detail because they are anticipated to occur gradually over an extended period of time and the capability and capacities of the community would have changed in response to the intervening growth, making such an assessment highly speculative.

The residency patterns for EML workers developed for the 2008 Socioeconomic Assessment assumed that EML would facilitate the development of both temporary and long-term housing in the Eureka Canyon subdivision, such that most construction and operations workers would find accommodations in southern Eureka County. This assumption also made it likely that the bulk of Project-related population growth and demand for local government and public facilities and services would occur in southern Eureka County. Although the site plan for the Eureka Canyon subdivision contains areas designated for construction worker housing facilities and for multi-family and single family units and lots that could house operations and secondary workers, the anticipated development schedule of the subdivision, other than construction of 66 units to accommodate demand unrelated to the Project, has not been announced as of mid-2011.

Given that the plans, timing and pace of housing development in southern Eureka County are as yet unresolved, it is uncertain whether adequate housing would be available to accommodate the Project-related population forecast in the 2008 Socioeconomic Assessment during Project construction and the initial months of Project operations. A potential response to such a housing shortage would be that more construction and operations workers would commute on a daily basis from other, more distant communities. Fewer workers in southern Eureka County would mean that the short-term demand for community infrastructure and services described in the 2008 Socioeconomic Assessment would be overstated. Conversely, Project-related demand for housing and local government infrastructure and services would occur in communities outside of southern Eureka County. Through the construction period, demand in other communities would be temporary and likely extend to a limited range of infrastructure and services. Some of the long-term demand associated with Project operations would also be temporary, until adequate housing was developed in southern Eureka County.

Even if adequate housing became available in southern Eureka County, the experience of the Ruby Hill Mine and other mines in Nevada suggest that some Project workers would commute to the Project daily from other communities. Two categories of daily commuters would be anticipated: existing residents of those communities who would not generate additional demand for housing or public services in their home communities, and non-local construction and operations workers who choose to locate in communities outside southern Eureka County and commute on a daily basis. The number of non-local daily commuters would likely be small in comparison to the populations of the host communities and result in minimal socioeconomic effects. Potential effects on communities outside of southern Eureka County by relocating Project workers are discussed in subsequent parts of the socioeconomic analysis.

In consultation with Eureka County, a sensitivity analysis (SA) was conducted to supplement the 2008 Socioeconomic Assessment, as noted in Section 3.17.2.1; Study Methods (see

Appendix D). The SA examined the secondary employment, population and school enrollment effects of differing operations workforce residency, labor participation, and demographic assumptions than those contained in the 2008 Socioeconomic Assessment. The SA results are expressed in terms of population and school enrollment and the implications of the SAs are included under those topics and also considered under Section 3.17.3.2.3 Housing Effects, Section 3.17.3.2.5 Public Utilities and Services Effects and Section 3.17.3.2.6 Public Fiscal Effects.

3.17.3.3 Proposed Action

The proposed Project would have an estimated 18 month construction period, followed by a 44-year production life. Figure 3.17-2 in the following section provides a timeline and workforce loading schedule for Project construction and the first six months of Project operations. Figure 3.17-3 provides an operations workforce loading schedule over the estimated production life of the Project.

Increases in Proposed Action-related employment and population are discussed in detail in the Socioeconomic Assessment (BCLLC/SDLLC 2008) and are summarized in the following sections.

3.17.3.3.1 Economic and Employment Effects

The Project would generate three types of employment:

1. Workers in a variety of construction crafts would be required to construct mine facilities. Mine construction would be performed by an engineering, procurement, and construction management contractor, and a number of specialty sub-contractors.
2. A wide variety of managerial, administrative, technical, skilled, and unskilled workers would be needed to operate the mine during the production phase.
3. Purchases of goods and services by the mine, contractors, suppliers, and by mine construction and operations employees would generate additional jobs across all sectors of the local and regional economies.

Figure 3.17.2 displays projected construction and operations employment for the 24 months after Project initiation.

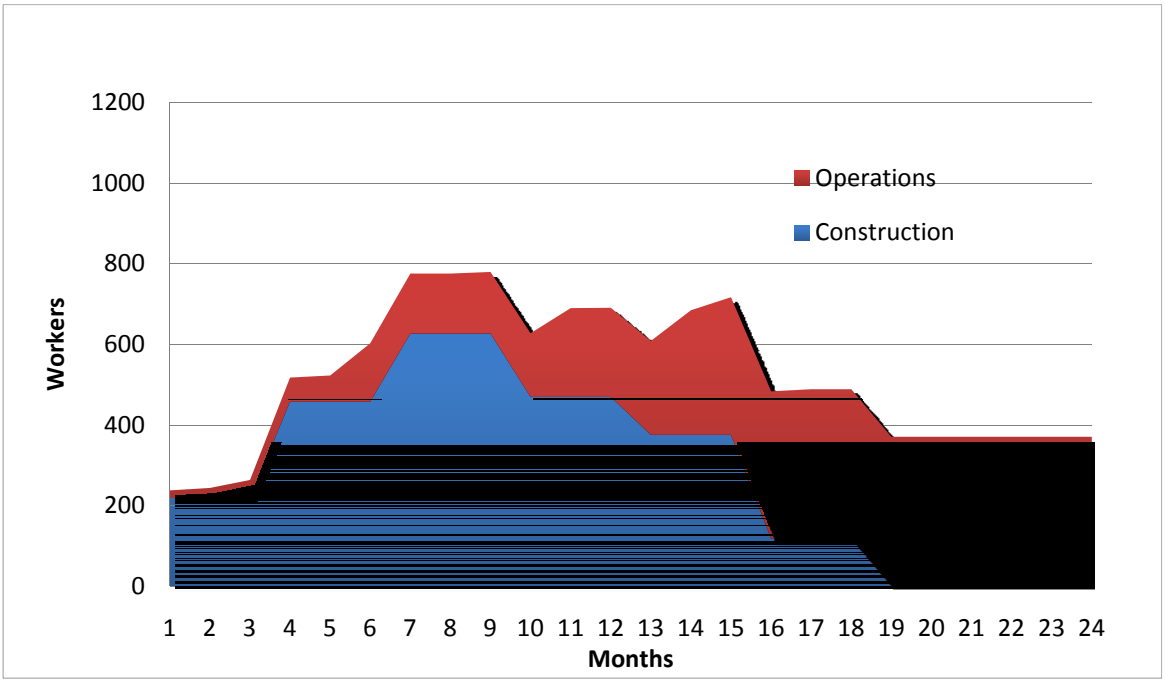
Employment During Construction

Projections provided by EML (BCLLC/SDLLC 2008) indicate that on-site construction would begin with approximately 220 workers, expanding over time until peaking at over 600 workers during completion of the mill and processing facilities in the third quarter of construction. The estimated construction workforce would average nearly 400 workers over the 18-month period.

EML would also begin employing operations workers during Project construction (see Figure 3.17.2). Project direct operations employment would total approximately 20 workers as construction begins, increasing to the full operations compliment during the last two months of construction. Over the first 24 months of construction and operations, direct on-site employment would result in an average of approximately 567 jobs. There would be a three month peak where

a total of approximately 775 combined construction and operations workers would be on site, starting around the seventh month of construction.

Figure 3.17.2: Estimated Mount Hope Construction and Operations Workforce, First 24 Months After Project Initiation

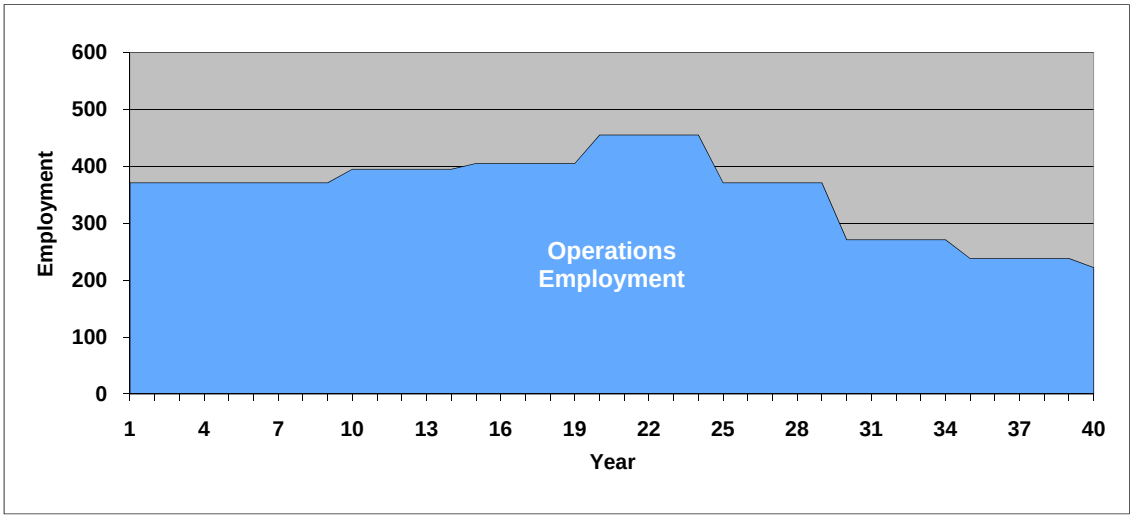


Source: EML estimates.

Employment During Production Operations

After construction is completed, EML anticipates operations employment of approximately 370 employees for nine years, at which time the number of workers would gradually build to 455 in Year 20, remain at that level for five years, and then gradually decline to approximately 220 in Year 40 (Figure 3.17.3).

Figure 3.17.3: Estimated Mount Hope Operations Employment



Source: EML workforce estimates.

Although the size of the Project workforce and the highly specialized occupations needed for some mine construction and operations activities would dictate a need to recruit non-local labor for initial mine operations, it is likely that some southern Eureka County residents would leave their current employment to work at the Project, as discussed in the Labor Competition and Job Shift section, below.

Secondary Employment

Economic data for northeastern Nevada indicate each mining construction job supports approximately 0.6 secondary job in the region and approximately 1:1 secondary jobs supported by each permanent mining job (Fadali et al. 2005). Secondary employment includes two types of non-direct employment:

- Indirect employment includes jobs supported by EML and contractor purchases of goods and services from local and regional businesses. Although EML would purchase goods and services in Eureka County, most construction and mining supply and service firms are located in Elko or Reno (BCLLC/SDLLC 2008).
- 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).

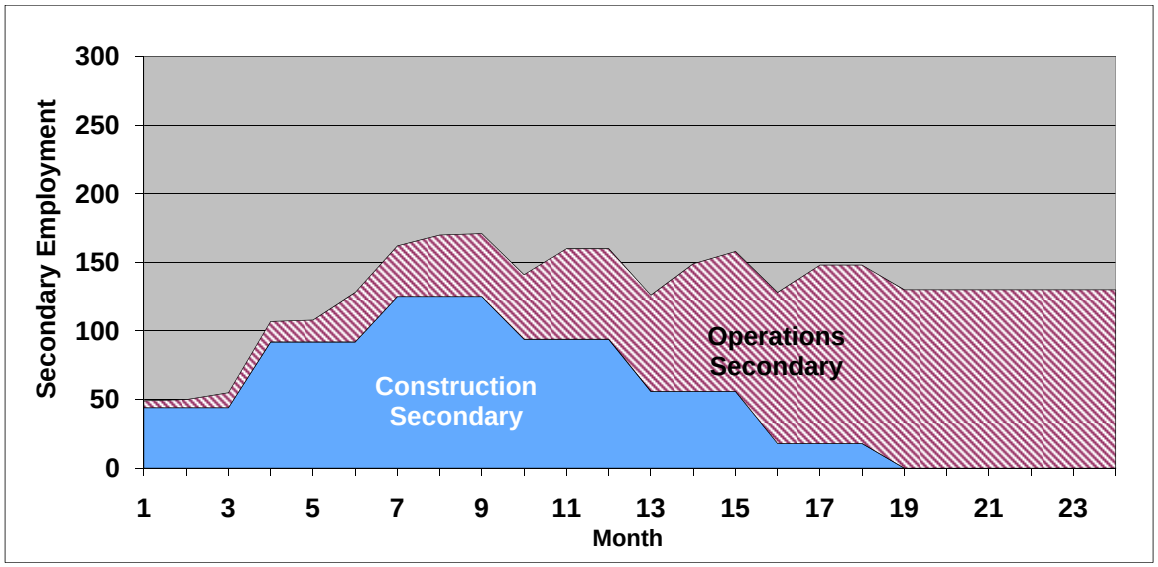
Project-related local secondary employment estimates from the beginning of construction through initial operations indicate that secondary employment would peak at approximately 170 workers in conjunction with construction and stabilize at an estimated 130 workers for the first nine years of operations (see Figure 3.17.4). 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.

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.

Figure 3.17.4: Estimated Secondary Employment: Construction and Initial Operations



Source: BCLLC/SDLLC assumptions based on IMPLAN derivations

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. 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 would be mitigated (see Appendix C, Grazing Rights Mitigation Plan). Mitigation would also be available for Project-related effects on ground water drawdown as they affected agricultural production in the area (see Section 3.2.3, Water Resources - Water Quantity). 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.

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 agricultural 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 C) 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. Based on the conclusions from the analysis, no mitigation measures are proposed.

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 County[6].

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.

[6] Note that unemployment levels were substantially higher at the time this DEIS 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 2.64[7];
- 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 2.64[8]; 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 phase[9].

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

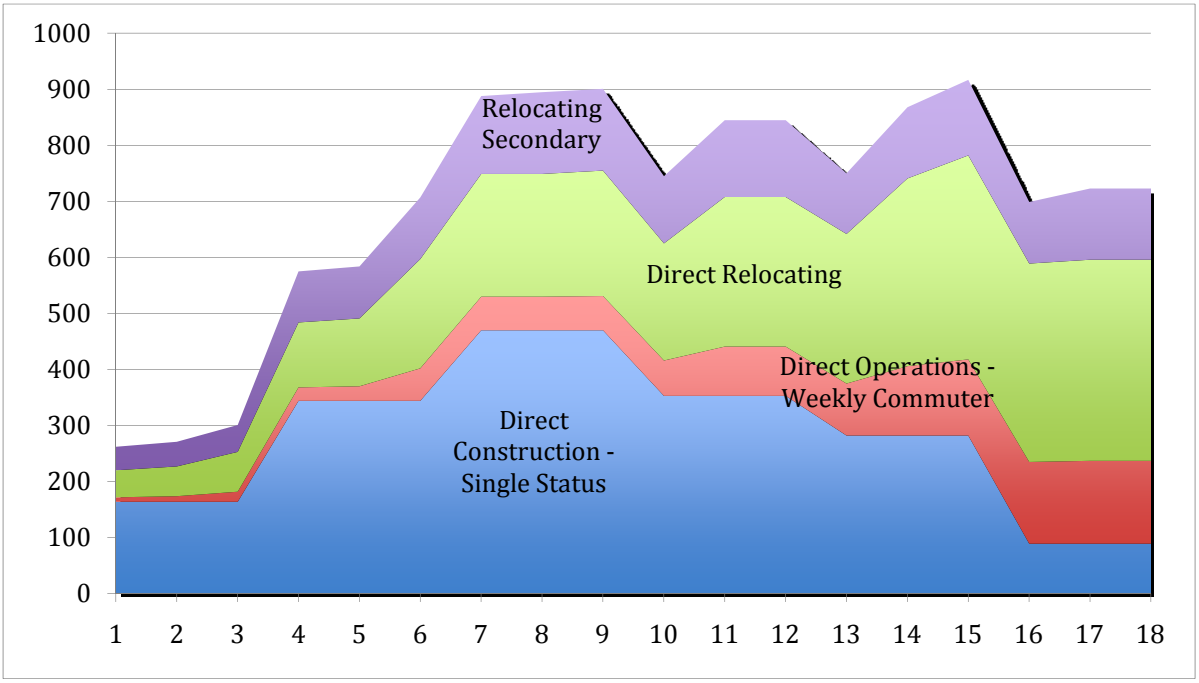
[7] The 2000 Census average household size for Nevada was 2.62 persons per household. The 2010 average was 2.65. Experience has shown that few construction workers relocate their families with children for short-term (one- to two-year) projects (Personal Communication, Gamble, Lander County School District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

[8] 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.

[9] 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. [10] 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 D of the EIS.[11]

Table 3.17-23 summarizes the results of the sensitivity analysis 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 sensitivity analysis.

The sensitivity analysis 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

[10] 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.

[11] 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*,

2008 Socioeconomic Assessment (the Base Case) are relatively minor plus 12 and minus three percent respectively.

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 D). 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: 1st 9 years of production operations	603	678	584	795
Estimated incremental school enrollment[12]	96	106 – 122	83 – 96	140 – 161

Source: BCLLC/SDLLC 2009, Appendix D

Differences in population and school enrollment projections associated with the respective SAs continue through subsequent phases of operations (see Table 1 of Appendix D). 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, such that the net effect is considered neutral. Based on the conclusions from the analysis, no additional mitigation measures are proposed.

[12] 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

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.

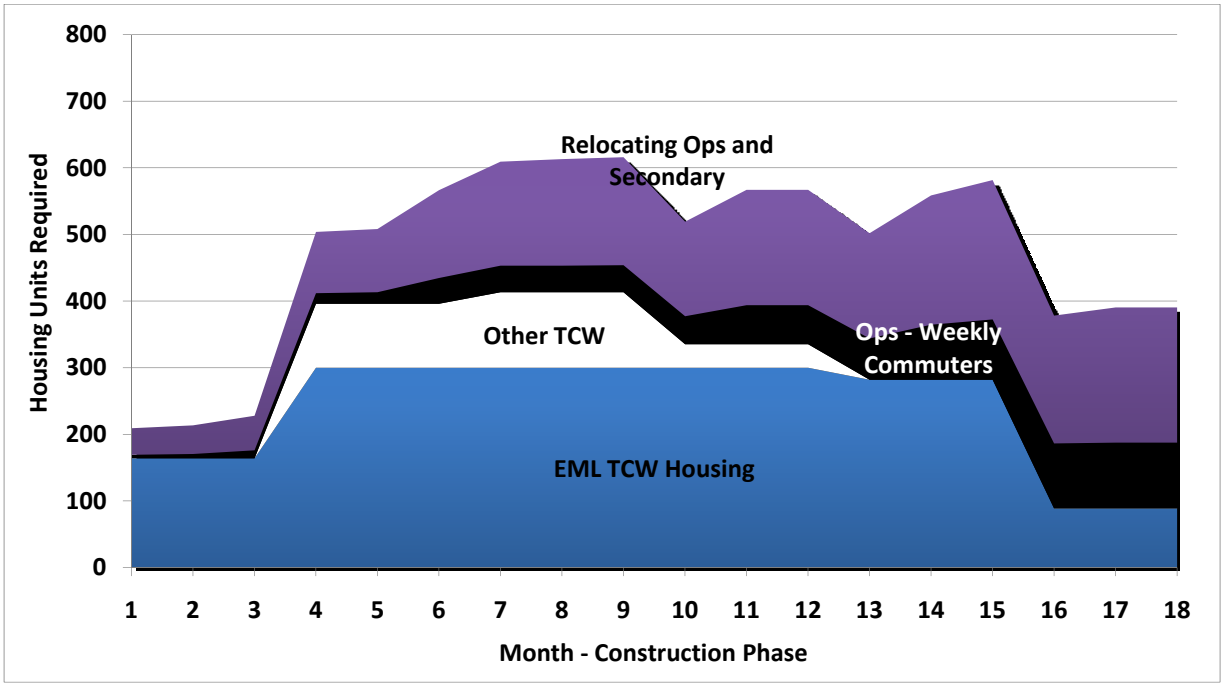
Assuming the TCW housing facility is operational as construction begins, with capacity to accommodate up to 300 workers, un-met Project-related southern Eureka County housing demand from construction and operations workers and relocating secondary workers would increase from approximately 50 units during 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 temporary construction worker 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. No mitigation measures are proposed. 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.

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 temporary construction workers 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 Drinking Water standards for arsenic 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 Drinking Water Standards. 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 at the current location or 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 temporary construction workers 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. 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 Emergency Medical Services 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 would likely join these volunteer agencies, few construction workers are likely to do so; consequently, EMS services may be 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, 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 is insufficient to warrant addition of another full-time physician at the clinic, but 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 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. No mitigation measures are proposed. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues.

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 the first ten years of operations would be $22.1 million in LSST, $4.9 million in BCCRT, $17.2 million in SCCRT, and $19.7 million in state sales tax. Eureka County is projected to realize $22.1 million in sales tax revenues (BCCRT and SCCRT) through construction and the first ten years of production. An estimated $11.1 million in LSST revenues would accrue to the ECSD, and $30.7 million to the State of Nevada. 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 D). 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; however, no mitigation measures are proposed. 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.

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 from the introduction of a large number of newcomers into a small, relatively stable rural community, rather than the fact that the Project involves mining.

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.

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 plans have been developed for these impacts, which may reduce concern for the affected ranchers.

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.

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 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.

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; however, no mitigation measures are proposed. This impact is likely to be viewed as beneficial as it would delay community population losses associated with mine closure.

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; however, no mitigation measures are proposed. This impact is likely to be viewed as beneficial as it would delay potential adverse effects on the southern Eureka County housing market.

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. No mitigation measures are proposed. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues.

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; however, no mitigation measures are proposed. 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.

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; however, no mitigation measures are proposed. Continued employment of an existing workforce is likely to be viewed as beneficial.

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; however, no mitigation measures are proposed.

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; however, no mitigation measures are proposed.

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. No mitigation measures are proposed. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues.

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 ECSD 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 ECSD, compared to the Proposed Action.

  Significance of the Impact: This impact is considered significant; however, no mitigation measures are proposed. 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.

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.

A half-production Project has not been designed; 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 smaller than that required for the proposed Project, although the decrease would be less than 50 percent (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). It is estimated that the decrease in operations employment for the Slower, Longer Project Alternative would be approximately 30 percent. 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 resulting from Project operations would be less; however the population would remain for twice as long as 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; however, no mitigation measures are proposed. Continued employment of an existing workforce would likely to be viewed as beneficial.

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; however, no mitigation measures are proposed.

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; however, no mitigation measures are proposed.

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. No mitigation measures are proposed. Nevertheless, it is suggested that EML and Eureka County build on previous and current planning efforts to address public infrastructure and service issues.

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; however, no mitigation measures are proposed. 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.

3.17.3.7.6 Residual Adverse Impacts

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

3.18 Environmental Justice

3.18.1 Regulatory Framework

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

3.18.2 Affected Environment

3.18.2.1 Study Methods

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

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

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

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