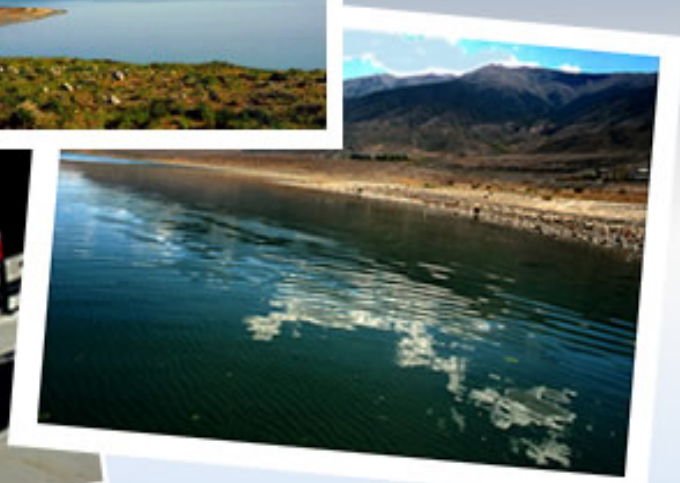
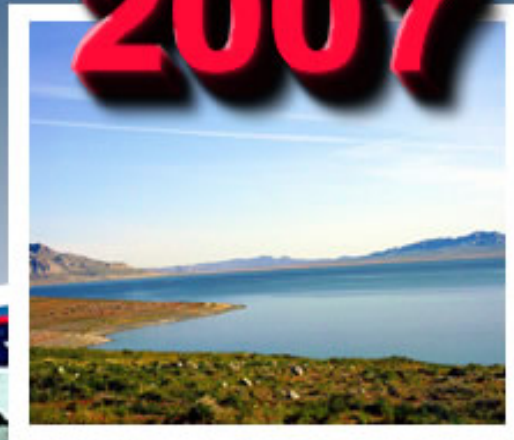


Mineral County Baseline Update

2007



Mineral County Nuclear Projects Office

Baseline Update 2007

This report provides a baseline description of existing
conditions in Mineral County as of 2007

Prepared by

Mineral County's Office of Nuclear Projects
Research and Consulting, Inc., and
NWOP Consulting, Inc.

November 2007



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Summary of Economic and Demographic Changes

This report is being prepared as part of Mineral County's efforts to establish baseline conditions for the purposes of assessing potential impacts associated with the Yucca Mountain Project. The baseline report is updated annually in order to establish a thorough understanding of local socioeconomic and demographic conditions in Mineral County.

There have been few demographic changes in Mineral County over the last year. Population declined somewhat from 2005 to 2006. The declines from 2005 to 2006 may be in part due to job losses in the mining industry. Since 1990, the Mineral County population has declined by nearly 2,000. These declines were attributed to reductions in civilian and military personnel at Hawthorne Army Ammunition Depot and a downturn in mining activity.

In the future, population growth could rebound significantly as several new businesses are in the process of moving to the Hawthorne area. These businesses include a waste disposal and recycling operation associated with the reuse of the Rawhide Mine, a new defense and security contractor, Skyview Academy (a private youth correctional facility) and Peninsula Flooring. Collectively, these new business operations could provide more than 700 new jobs in the local economy over the next five years. Additionally, numerous part-time job opportunities associated with business expansion. The total population associated with the increase in employment (direct and indirect) could be as high as 1,820 people. Unlike the mineral industry, the aforementioned new employment opportunities will not be as cyclical in nature. Therefore, Mineral County is likely to benefit from more permanent housing development and the willingness of local businesses to invest long-term to increase the level of goods and services offered locally. Most of the projected 700 new jobs will be created between 2008 and 2011.

Industrial employment in the County has stabilized around 1,700 jobs in 2006 with an unemployment rate of approximately 6.8 percent (Table 2-3). However, total employment in Mineral County has stabilized just above 1,900 (Table 2-5). Since 1998, Mineral County has lost nearly 750 jobs. With the limited economic base in the County, recent job losses translated directly into population declines in the County. With the limited economic base, unemployed workers will leave Mineral County in search of employment opportunities elsewhere. With new employment opportunities, the total number of jobs in Mineral County should increase substantially. Total employment in the County could reach 2,400 by 2011, and increase of 30 percent over current levels.

Taxable sales remain constant year over year. The total level of taxable sales will increase as employment and population gains occur. As of May 2007, taxable sales in Mineral County appear to be slightly behind 2006 levels. Taxable sales for the first 11 months of the 2007 fiscal year is just over \$30 million

Along with the previous job losses in Mineral County, the local housing market had suffered as well. During 2003 and the early part of 2004, a number of foreclosure and tax sales of single-family properties occurred in Mineral County. Conditions have improved over the last two years. Based upon recent Mineral County Assessor data, the median price was approximately \$60,000, and the highest sales price for a single-family residential unit in the last 12 months was \$207,000. A large number of single-family structures sell between \$70,000 and \$160,000. Both the average and median price of a single family detached home increased slightly year over year. The average price of a home in Mineral County was almost \$82,000 in 2006. With increasing local employment, the demand for housing should increase along with the price.

This year's baseline report identified very few changes in other resources in Mineral County. There has been little or no change to traffic counts, health care and public facilities, and natural resources. If new businesses become fully established during the next year, most population gains will probably be made in the Hawthorne area. Such increases will probably lead to greater increases in municipal water demand, traffic counts, and sales and room tax. However, as new employment and job increases take place, more significant economic and demographer changes should occur.

A summary of economic and demographic conditions is shown in Table S-1.

TABLE S-1 SUMMARY OF ECONOMIC AND DEMOGRAPHIC CONDITIONS MINERAL COUNTY: 2000, 2003, 2004, 2005, AND 2006					
	2000	2003	2004	2005	2006
Population	5,071	4,687	4,673	4,629	4,399
Industrial Employment	1,840	1,740	1,780	1,770	1,700
Total Employment	2,160	2,020	2,030	1,980	1,920
Unemployment Rate	10.1%	6.4%	6.2%	5.9%	6.8%
Per Capita Income	\$24,306	\$23,495	\$25,341	\$26,633	-
Taxable Sales	\$40,773,806	\$30,867,093	\$36,424,537	\$31,532,336	\$33,444,779
Assessed Value	\$99,019,648	\$85,078,257	\$73,108,979	\$73,359,340	\$76,709,400
Median S.F. Home	\$59,500	\$53,000	\$55,000	\$60,000	\$60,000


1.0 INTRODUCTION AND BACKGROUND

Mineral County, Nevada, was created out of the northern portion of Esmeralda County on February 10, 1911. Nevada's earliest maps show the presence of Walker Lake, a prominent feature of Mineral County and a noted landmark to early explorers. Jedediah Smith, first non-native explorer into Nevada, passed near Walker Lake in 1827 during his remarkable trip from west to east across the state. Peter Skene Ogden, another noted earlier explorer of the region now known as The Great Basin, was here in 1829, then Fremont in 1845 with his guides Kit Carson and Joseph Walker, for whom the lake was named.

The town site of Hawthorne was selected in 1880 by H.M. Yerington, president of the Carson and Colorado Railroad Company as a division and distribution point for the new railroad. Yerington named the new town Hawthorne after a lumberman friend in Carson City. On April 14, 1881, the first train arrived at the town's site, loaded with prospective buyers for the new town. Hawthorne's location, at the southern end of Walker Lake, was adjacent to the important Knapp's Station and Ferry Landing on the busy Esmeralda toll road from Wadsworth to Candelaria. Radiating roads ran to all of the surrounding mining areas, adding importance to this area and its development as distribution point. In its early years the county had many well known mining towns such as Aurora, Belleville, Candelaria, Rawhide and others congregated to exchange merchandise and news. In 1883, Hawthorne took the Esmeralda county seat from declining Aurora, but later lost it to booming Goldfield. In 1911, Hawthorne again became a county seat, this time for the newly formed Mineral County.

In 1926, a destructive munitions explosion in the east caused the United States military to explore alternative, relatively remote sites for the storage of explosives. In 1930, the U.S. Navy selected the Hawthorne-Whiskey Flat portion of the lower Walker Lake Valley as the site for its ammunition depot. The storage facilities grew over the years and became the Navy's largest such munitions facility. The town of Babbitt was subsequently built on the northern edge of the facility to house military personnel. The town of Hawthorne underwent significant growth due to this facility. The County's total population expanded from 1,863 persons in 1930 to 5,560 by 1950 and eventually peaked at 7,051 persons by 1970. During the 1980's and 1990's the





depot's activities declined. During the first half of 2000, the economic conditions in Mineral County have begun to stabilize.

Presently, Hawthorne is a central point for desert travelers and for the vacation, sporting, and recreational activities on nearby Walker Lake. Walker Lake, along with Pyramid Lake located in Washoe County to the north, represents one of two remaining lake remnants of Ice Age Lake Lahontan, which some 12,500 years ago covered approximately 8,600 square miles and a large portion of northwestern Nevada. Due to upstream irrigation diversions and drought, Walker Lake's surface elevation and volume have declined significantly since the early 1900's, increasing the salinity of the lake's waters and jeopardizing its fishery.

Mineral County is also home to the Walker River Paiute Indian Reservation, which occupies over 200,000 acres and is located in the northwestern portion of Mineral County, spilling over to the north into Churchill County and to the west into Lyon County. Although the area around Walker Lake in the Utah Territory was set-aside for "Indian Purposes" in 1859, it was not until 15 years later that President Grant signed the executive order formally establishing the Walker River Indian Reservation on March 19, 1874. In 1906, after many years of pressure from state and federal government officials, and particularly local mining interests, the Walker River Paiute Tribe ceded 268,000 acres of reservation land to the federal government, including all lands surrounding Walker Lake. It was first believed that the ceded lands contained extensive mineral deposits, although later exploration failed to find significant ore bodies. Later, on several occasions the federal government added to the reservation lands, first in 1918 (34,000 acres), then again in 1928 (69,000 acres), and finally in 1936 (171,200 acres), eventually increasing the reservation's total acreage to its current level of 232,902 acres.

Mineral County is located in the west-central portion of Nevada and borders the State of California on the southwest (Figure 1-1). Mineral County is the sixth smallest county in Nevada, covers approximately 4,019 square miles, (9,938 square kilometers) and accounts for approximately 3.5 percent of Nevada's total surface area of 110,540 square miles (285,298 square kilometers).

Of Mineral County's 2,572,160 acres of surface area, 2,091,422 acres, or just over 81.3 percent of the county's total area are controlled and managed by the federal government. Of these federally managed public lands, approximately 382,499 acres are managed by the U.S. Forest Service (USFS). The USFS managed lands include a portion of the Toiyabe National Forest, which covers much of the southernmost portion of Mineral County. Relative to Nevada's seventeen counties, Mineral County ranks as the eighth highest in terms of its percentage of federal land ownership and fifth lowest in terms of the actual area of federal ownership.





1.1 Purpose

This report provides a baseline description of existing conditions in Mineral County as of 2007. The report provides information on social, economic, public services and facilities, and natural resources available in Mineral County and its communities. The report will be used to measure potential changes to Mineral County as a result of the high-level nuclear waste repository at Yucca Mountain and associated transportation activities. Additionally, material presented in the following chapters represents a compilation of previous investigations by Mineral County for Yucca Mountain oversight activities such as the Transportation Status Report and Impacts to Mineral County Visitors. The baseline report contains information about population, labor force, employment, wages, fiscal conditions, natural resources, and land uses. The Yucca Mountain draft and final environmental impact statement contained very little information about Mineral County. This report will help supplement the lack of information developed by DOE. The baseline report will be updated periodically as part of Mineral County's on-going efforts to assess potential impacts associated with the Yucca Mountain Project.

In 2006, the Department of Energy announced that it was reconsidering its rail routing options to Yucca Mountain. The Mina route which would cross Northern Nevada on a Union Pacific rail, turn south at Winnemucca, pass east of Fernley, through the growing communities of Silver Springs and Wabuska, through the Walker River reservation and to Hawthorne.

Two important factors led to DOE reconsideration of the Mina Route. First, the Walker River Tribe Paiute were willing to consider rail shipments through the reservation to potentially avoid highway shipments. The Tribe currently owns the underlying land for the portion of the Mina Branch line which passes through the reservation. However, in April of 2007, faced with growing pressures from their membership and from neighboring communities that were becoming increasingly vocal against the possibility of nuclear waste traveling through Northern Nevada, the tribal council passed a resolution removing the tribe from a federal environmental impact study that included a rail segment for shipments of spent nuclear fuel along the outskirts of its sovereign lands north of Walker Lake.

The DOE's attention has been refocused on a 319-mile rail corridor to Yucca that originates at Caliente in Eastern Nevada.

To many analysts, the east-west Caliente corridor figures to be more expensive and more challenging from an engineering and construction standpoint than the 209-mile north-south Mina route that would run along old mining town rail beds at spots.

Rail improvements and construction would proceed to Mina and near or through Tonopah and Goldfield, and south to the repository site near Amargosa Valley.

2.0 SOCIAL AND ECONOMIC CHARACTERISTICS

2.1 Population

The population of Mineral County has fluctuated significantly. Population swings can largely be attributed to mining and defense related activities. Historically, mining has played an important role in Mineral County along with the build-up of U.S. Army Ammunition Plant at Hawthorne. In recent years the area has experienced some population declines attributed to the downturn in precious metals mining that has resulted in the shutdown of many active sites throughout Mineral County and Nevada. These reductions in the Mineral Industry occurred prior to 2004. Figure 2-1 shows current and historic population patterns for Mineral County. Over the last several years population has remained relatively unchanged. A surge in population growth is likely to occur with new economic development prospects coming to Hawthorne and Mineral County.

In coming years, the population will probably begin to rise based on several factors. Recent efforts to attract new industry and jobs to the area have been successful. Substantial increases in employment are beginning to occur. Major employment increases will be provided by Skyview Academy, Peninsula Flooring, and Defense Department related activities.



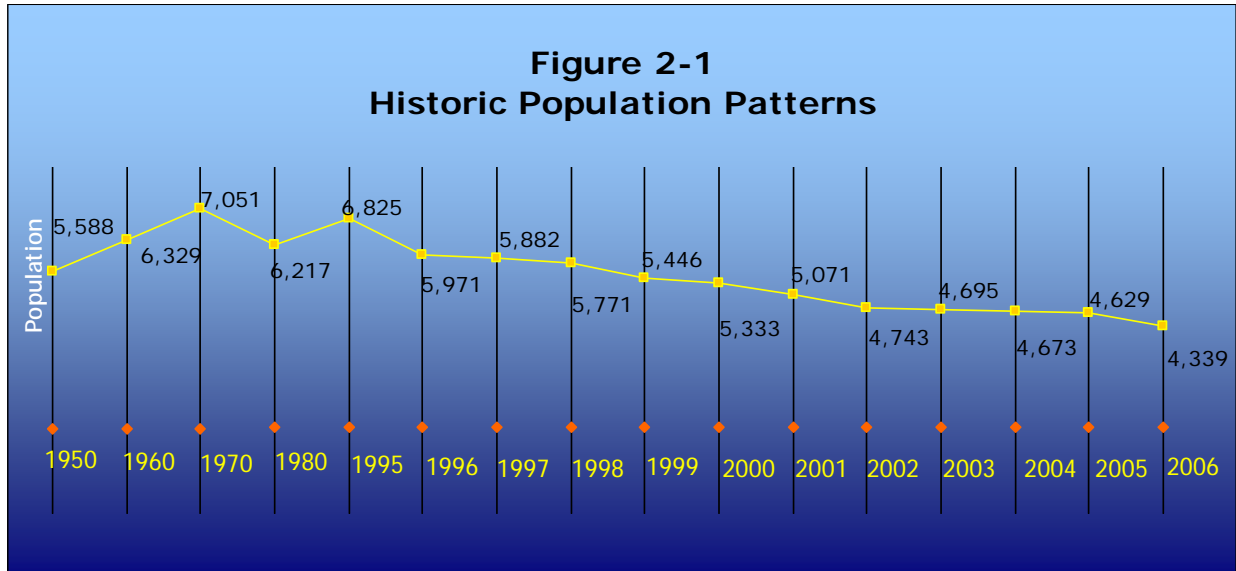
Additionally, areas adjacent to Mineral County continue to develop. Churchill County to the north and Lyon County to the north and west continue to experience significant population and employment gains. Even areas to the west of Mineral County in California are showing increases in population. As the population of the region grows more people will visit the area for recreation and other purposes. Employment centers will move closer to Mineral County providing job opportunities for residents who choose to commute. Also, U.S.

95 will play an increasing role in interstate highway transportation and goods movement. Traffic use statistics provided by the Nevada Department of Transportation confirms this trend (See Section 3.4)

The aforementioned conditions could result in relatively strong gains in population over the next several years. Table 2-1 provides population forecasts for Mineral County through 2011 based upon recent employment growth. Over the next 5 years, as many as 700 to 750 new jobs will be created in Mineral County.

Table 2-2 contains a comparison of population characteristics for Mineral County, the Town of Hawthorne, and Schurz. Most apparent in the population data is the general aging of the population. Mineral County has one of the highest percentages of people age 65 and older. Also, the median age in the County has climbed to 42.9 while the percentage of the population that is age 5 and under has declined from 8.8 percent in 1990 to 5.3 percent in

2000. Nearly 20 percent of the population in Mineral County was age 65 or older in 2000. In comparison the percentage of persons age 65 and older in the State of Nevada is 11 percent and the median age was 35 in 2000. Again, demographic trends in Mineral County are due to the loss of workers and their families.



Source: U.S. Census and Nevada State Demographer.

	2006	2007	2008	2009	2010	2011
Mineral Co (1)	4,399	4,477	4,607	5,127	5,647	6,297
Hawthorne	2,931	2,993	3,097	3,513	3,929	4,449
Mina	218	220	224	240	255	275
Luning	81	82	83	88	93	100
Walker Lake	319	331	350	428	506	604
Schruz	720	721	722	727	732	739
Mineral Co (2)	4,399	4,443	4,487	4,532	4,578	4,623
Hawthorne	2,931	2,960	2,990	3,020	3,050	3,081
Mina	218	220	222	225	227	229
Luning	81	82	83	83	84	85
Walker Lake	319	322	325	329	332	335
Schruz	720	727	734	742	749	757

2006 Nevada State Demographer

- (1) Forecast based upon potential job creation, business expansion.
- (2) Base forecast 1% per year through 2011

Many older retirees particularly those formerly associated with the U.S Department of Defense have remained in the community. As economic development occurs and new jobs

become available in Mineral County, the percentage of persons age 65 and older will become lower. Projected employment gains will bring more working age families which increases the number of school age children.

Table 2-2 Age of Population, Mineral County		
	1990	2000
Mineral County Population	6,475	5,071
Percentage of Population 5 yrs or younger	8.8%	5.3%
Percent of Population age 65 yrs or Older	13.1%	19.8%
Median age	33.9 yrs	42.9%
Hawthorne Population	4,162	3,311
Percent of Population age 5 yrs or younger	8.6 yrs	5.0%
Percent of Population age 65 yrs or Older	13.8%	20.6%
Median Age	34.2	43.7
Schurz Population	617	721
Percent of Population age 5 yrs or younger	16.4%	8.7 %
Percent of Population age 5 yrs or younger	8.9%	11.9%
Median age	28.0 yrs	34.6 yrs

Source: 1990 and 2000 Census

2.2 Economic Activity

2.2.1 Labor Force and Unemployment

Economic activity in Mineral County and its communities has been fairly narrow. Population growth and declines have largely been influenced by changes in mining and Department of Defense activities. Traditionally, mining, trade, services and government provide the largest employment sectors (Table 2-3). The services and government sector are strongly influenced by activities at the Hawthorne Army Ammunition Depot. Since 1998 total industrial employment has declined from 2,260 to approximately 1,710. The labor force and employment bottomed in 2002 and appears to have stabilized over the last 5 years. Figure 2-2 shows population growth and total employment in Mineral County. The primary reason unemployment rates tend to decline in Mineral County over time is that unemployed workers seek employment outside Mineral County or relocate after layoffs occur.

Wages in Mineral County are typically lower as compared to wages for industries throughout the State. On average, weekly wages in Mineral County as of the 1st quarter of 2005 were \$657 slightly lower than the State average of \$745 (Table 2-4). The differences in wages are also shown in a comparison of per-capita income. On average, annual per capita income in Mineral County is about \$7,000 lower than the average for the State of Nevada (Figure 2-3).

Table 2-3: Industrial Employment, Mineral County: 2001-2006						
Sector	2001	2002	2003	2004	2005	2006
Total Employment	1,710	1,760	1,740	1,780	1,770	1,700
Nat. Resources Mining	170	150	140	*	60	*
Construction	20	30	30	30	30	20
Manufacturing	*	0	10	10	10	*
Trade, Trans, Utilities	220	140	120	120	130	140
Information	*	10	10	*	*	*
Financial Activities	*	50	40	40	30	40
Services	710	760	790	960	870	870
Government	570	620	610	610	630	610

Source: Nevada Department of Employment, Training and Rehabilitation.

Unemployment rates in Mineral County have been relatively high peaking in 2000 at 10.1 percent and declining to 6.0 percent 2003 and rising to 6.8 percent in 2006 (Table 2-5). The current rate is about 2.0 percent above the State's unemployment rate. Just over 150 people remain unemployed in Mineral County. Major employers are shown in Table 2-6. The largest employer is Day Zimmerman contractor operator for the U.S. Department of Defense facility at Hawthorne.

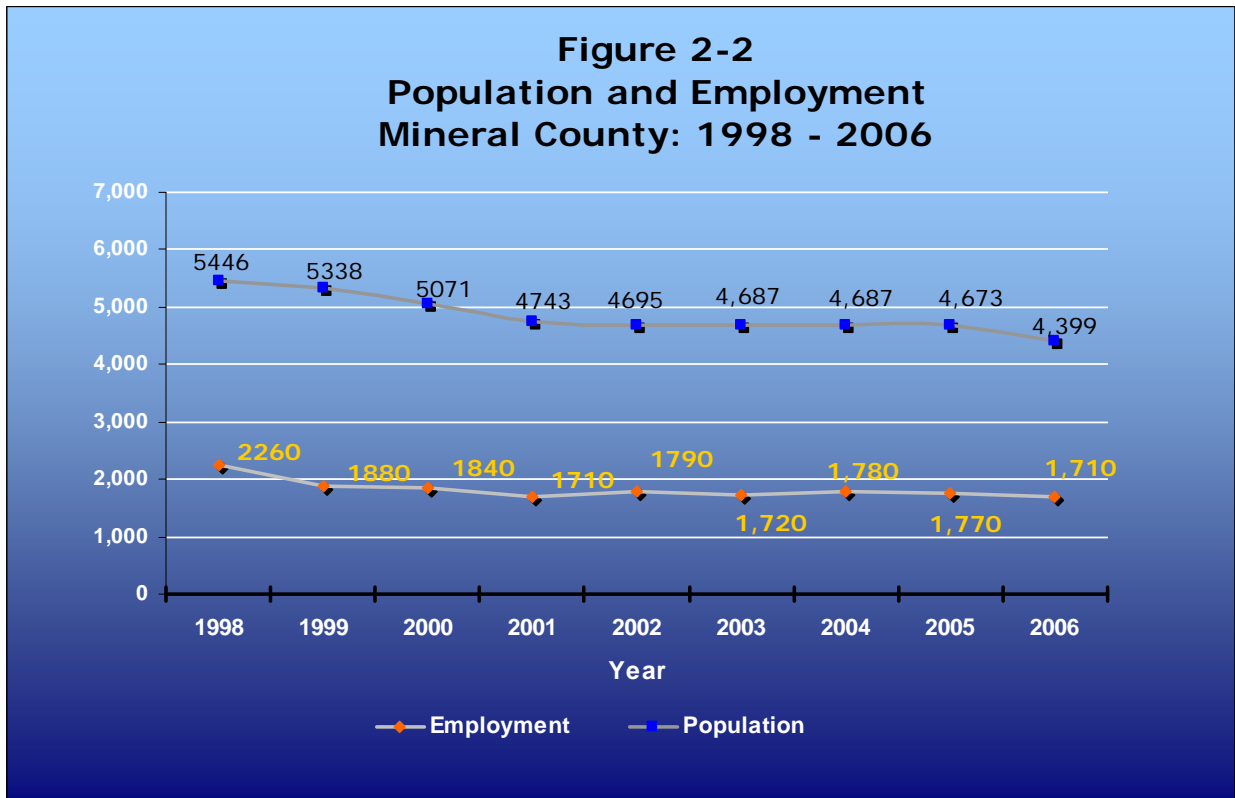
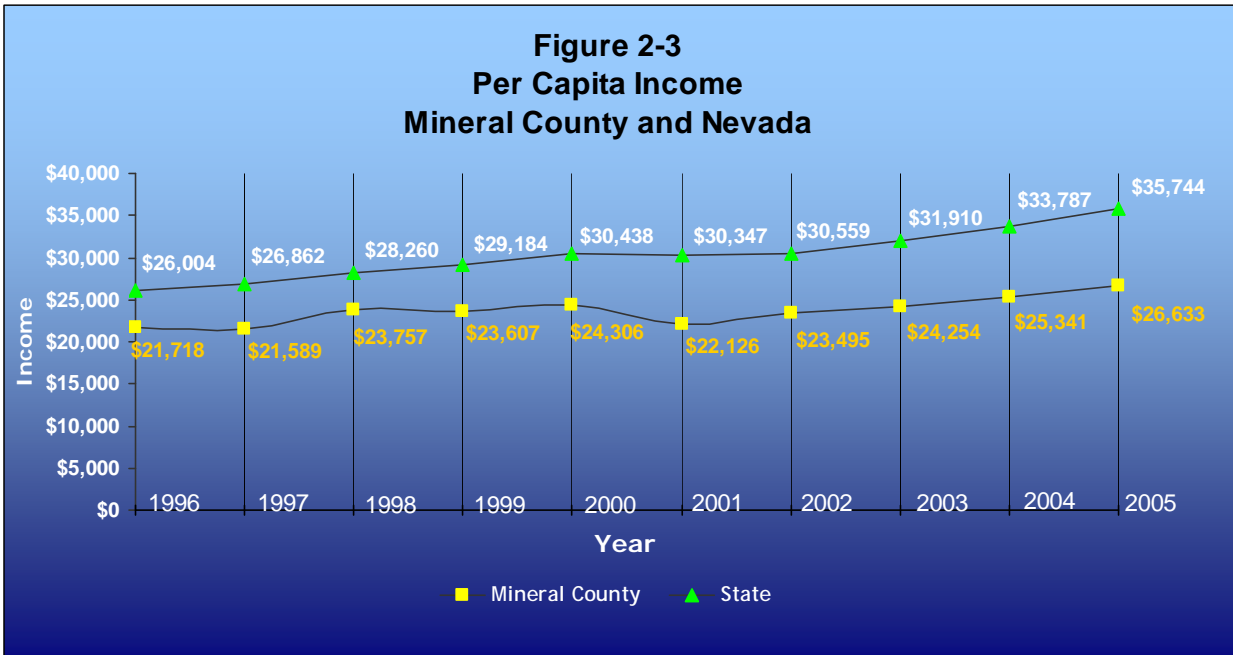


Table 2-4: Industrial Employment and Wages: Mineral County: 2006

Industry	Mineral County			State of Nevada		
	Avg Emp	% of Total	Wages	Avg. Emp	% of Total	Wages
Total	1,708	100.0%	\$661	1,271,202	100.0%	\$770
Natural Resources/Mining	23	3.6%	\$1,272	13,844	1.1%	\$1,084
Construction	35	1.8%	\$426	142,679	11.2%	\$816
Manufacturing	*	0.7%	*	50,234	4.0%	\$816
Trade, Transportation, Information	189	9.5%	\$479	233,182	18.3%	\$641
Financial Activities	*	*	*	16,117	1.3%	\$917
Professional Services	43	2.5%	\$512	65,719	5.2%	\$888
Education and Health Serv.	*	*	*	158,481	12.5%	\$873
Leisure and Hospitality	367	20.3%	\$664	161,210	12.7%	\$800
Other Services	251	14.8%	\$244	338,639	26.7%	\$509
Government	*	0.7%	*	29,808	2.3%	\$522
	263	14.2%	\$701	61,289	4.82%	\$972



Per capita income for Mineral County remains below the overall State level. However, Mineral County has experienced consistent gains in income from 2001.



Table 2- 5 Mineral County Labor Force and Unemployment: 2000 - 2006							
	2006	2005	2004	2003	2002	2001	2000
Labor Force	2,070	2,070	2,130	2,150	2,185	2,120	2,350
Unemployment	150	120	120	120	130	160	195
Unemployment Rate	7.1%	5.9%	5.7%	5.9%	6.0%	7.6%	8.3%
Total Employment	1,920	1,950	2,010	2,020	2,050	1,980	2,160

Source: Nevada Department of Employment, Training and Rehabilitation

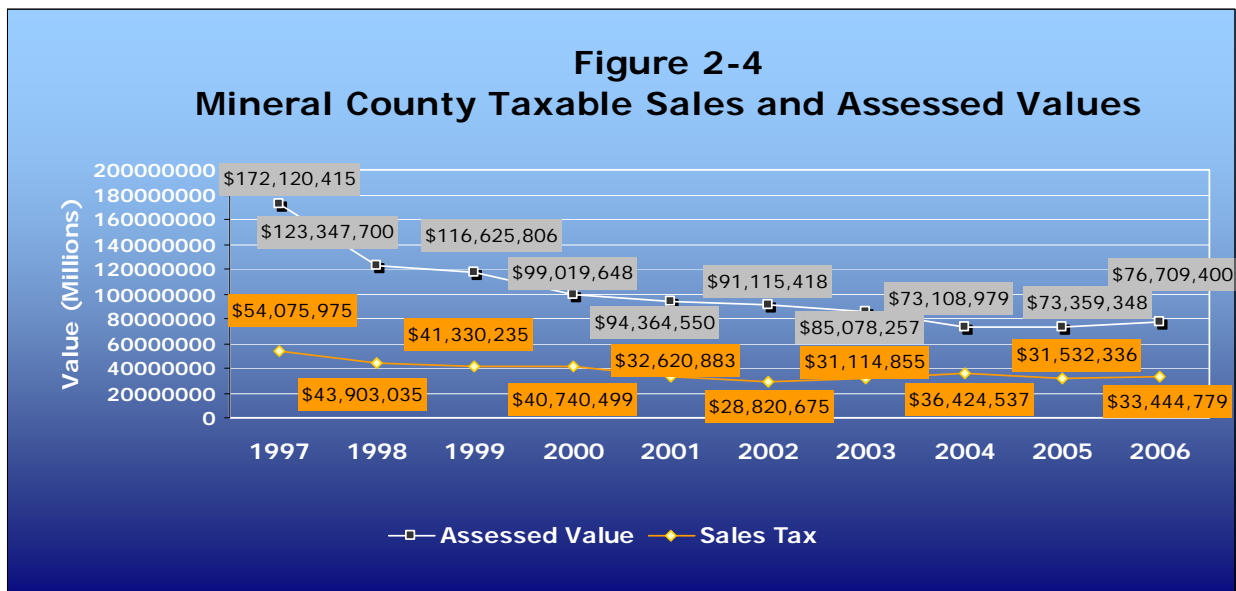
Table 2-6 Major Employers: 2006		
Company	Sector	Number of Employees
Day & Zimmerman	Service	400-499
El Capitan	Service	100-199
Mineral County Schools	Government	100-199
Mineral County	Government	100-199
Mt. Grant Hospital	Government	100-199
Sky View Academy, LLC	Private	50-59
Federal Government	Government	50-59
Safeway Stores, Inc.	Trade	20-49
HCU	Finance	20-49
BAE Systems & HDSOs	Technical and Trade	20-40

Source: Nevada Department of Employment Security, 2006

2.2.2 Taxable Sales and Assessed Value

In 1997 total assessed value in Mineral County was just over \$153 million. Since that time assessed value declined about 40 percent to \$91.8 million. In the year 2003 Taxable sales in Mineral County declined by nearly 50 percent since 1997. The drop in taxable sales and assessed value is shown in Figure 2-4. Declines have generally occurred across a range of business sectors. The most sizeable declines have occurred in the construction, chemical and allied products, wholesale trade, and automotive

dealers and gasoline. It appears that the mining sector has had the greatest impact on taxable sales over that past several years. The decline in taxable sales has important fiscal ramifications for Mineral County and the ability to fund services. In addition to the decline in taxable sales, total assessed value has also declined significantly but appears to have leveled off in 2004. In 2005, taxable sales decline somewhat while total assessed value remained unchanged. For 2006, total assessed value has increased to just over \$76 million and taxable sales for 2006 increased 5 percent over 2005 levels.



Source: Nevada Department of Taxation, various years

Appendix A shows the general revenues and expenditures of Mineral County. Locally generated revenues have increased in 2004 and 2005 and total governmental revenues in 2005 increased by almost \$1.0 million from levels in 2004.

2.2.3 Housing

Along with the previous job losses in Mineral County, the local housing market suffered as well. During 2003 and the early part of 2004, a number of foreclosure and tax sales of single-family properties occurred in Mineral County. Based upon Mineral County Assessor data, the average single-family sales price was about \$82,000 in 2007. The median price was approximately \$60,000, and the highest sales price for a single-family residential unit in the last 12 months was \$207,000. Based upon the ratio of median sales prices of a single-family home to the median family income, Mineral County remains very affordable in 2007. Since 2004 housing prices have improved in response to new employment growth and development in the Hawthorne area.

In 2000 there were 2,167 housing units of which 1,780 were single-family detached housing units. Nearly all of the single family attached and multi-family housing is

found in the Town of Hawthorne. Very few new homes have been constructed in Mineral County in recent years. The Mineral County Housing Authority operates an elderly housing complex on the northeast portion of the town of Hawthorne.

Information on rental rates is very difficult to find because most rental units are comprised of single-family homes, and mobile homes. The 2000 median gross rent was \$398 per month and the median value of specified owner occupied units was \$59,900 (2000 Census). Most rental rates in Mineral County range from a low of \$300 per month to \$750 per month.

The housing cost burden in Mineral County is largely concentrated among households that have incomes at or below 50 percent of the median income. Those households with the greatest cost burden in 2000 tend to be small renter households and owners.

The construction of new housing units will be required for new development in Mineral County. The availability of the current housing stock is very limited. Rental units and multi-family housing is very difficult to find. In the near-term housing prices should rise in response to increased demand and limited housing supply.

Overall housing affordability has improved in Mineral County from 1990 to 2004. The ratio of the median value of a single-family home to the median household income was 1.09 in 2004. The ratio remained relatively unchanged in 2005. Nationally, the ratio of median housing costs to median income is just over 3.

The housing cost burden among both lower income renters and owners has generally decreased. Based upon 2005 median home sales price, households at or above 30 percent of the median income can still afford to purchase the median value of a home sold in Mineral County. Lower income households including those at the 30 percent of the median income can afford rental housing Mineral County, if it were available. However, new employment and associated housing demand will probably lead to price increases over the next several years.

2.2.4 Tourism/Visitation

The total number of visitors is difficult to estimate, particularly outdoor recreation users to Mineral County. The primary recreational resource in the area is Walker Lake. The majority of out-of-area recreation users probably have Walker Lake as a destination although other forms of dispersed recreation such as hunting, camping, off-road vehicle use are readily available in Mineral County. Estimates of the type and volume of visitors to Mineral County include the following:





- **Hotel/Motel Overnight Visitors**

There are approximately 276 motel rooms in Hawthorne. Based upon discussions with local operators, the overall occupancy rate could be as high as 70 percent resulting in as many as 70,518 room nights per year. The occupancy rate is likely to fluctuate depending upon general economic conditions. The average number of persons per room is assumed to be 2 based upon visitor registration information collected from local motels. The total number of estimated overnight motel visitor's in Mineral County is 141,036, annually. A portion of said visitors attend special events in the Hawthorne area each year. It is important to make this distinction because visitors who attend special events tend to spend more and stay longer as compared to overnight travelers passing through the area. Conditions in 2007 have not changed substantially over the last two years.

RV Park Visitor


There are approximately 149 RV spaces in the Hawthorne area. Assuming average occupancy is similar to the hotel/motel rate, there could be approximately 38,069 RV space rentals per year. With an average of 2 persons per RV rental would result in 76,139 visitors per year. A new RV park opened in 2004 adjacent to U.S. Highway 95. The new park will likely increase the number of RV related visitors staying in the Hawthorne area.

RV park visitors are noticeably different from overnight hotel visitors in terms of their place of origin. RV park users from Nevada are a small percentage of the total (9.8 percent) as compared to overnight hotel visitors where Nevada accounts for about 42 percent of that market segment. There are a higher percentage of RV travelers from the Pacific Northwest including Canada as compared to hotel visitors. Canada, Washington, and Oregon account for approximately 16.39 percent of the RV park users. Another strong market area is Arizona (12.3 percent of RV park users), particularly central and southwestern portions of the State. The Sacramento Valley is a sizeable market for both RV park users as well as overnight hotel visitors. Not surprisingly, snowbirds and the movement of travelers during the fall and spring months heavily influence RV park users and their place of origin.

The RV park users and the overnight hotel visitors appear to be two distinct market areas. A vast majority of overnight hotel visitors are within close proximity whereas RV park users come from more distant origins.

- **Recreational Users**

The Bureau of Land Management operates a campground and other day use facilities at Walker Lake. Total visitation as recorded by BLM was 34,086 visits and a total of about 21,000 visitor days. A visitor day is defined as one visit on one day. At Sportsman's Beach total visits were 20,274 in 2001 and 12,629 visitor days. BLM sees heavier usage at Sportsman's Beach during the off-season primarily due to snowbirds



moving through the area either south in fall or north in the spring. Additional information from BLM concerning the place of residence or length of stay for recreation users was not available. Given that a number of visitors are snowbirds traveling in RV units, information about RV park visitors may be similar to those using Sportsman's Beach, particularly in terms of their place of residence

- **Recreational Users**

Special events in the Hawthorne area generate approximately 15,100 visit and 7,050 visitor nights in 2004. Total special events visitors have not changed substantially.

2.3 Relationship of the Area's Economy to that of the Larger Region

Mineral County's current relationship to that of the larger region is somewhat limited. The County has limited retail and wholesale trade activity, as many local residents must travel to other areas to purchase durable and non-durable goods as well as certain types of services.

Mining employment and associated economic activity has little connection to the larger region. In recent times, local mining employment and operations have been located in Mineral County. Often times with mining, the employment base is in a different location from the actual mining operation. With recent mining operations, the place of employment (Mineral County) has been the same as the place of residence for employees.

There are strong commuting patterns in Mineral County as well. The 2000 census provides commuting patterns for Mineral County Workers leaving Mineral County traveling principally to Churchill County, Lyon County, Washoe County and Nye County. In 2000, 198 workers traveled to these four counties. At the same time 117 workers from Churchill, Lyon and Washoe traveled to Mineral County.

Defense Department related activities have some connection with the Fallon Naval Air Station. However, the majority of economic related activity associated with the Hawthorne Army Ammunition Depot is located in Mineral County.

The strongest relationship of the area's economy to that of the larger region is directly and indirectly associated with water, transportation, and tourism. Walker Lake provides regional opportunities for recreation. As discussed in Section 4.0, the ability to sustain a sport fishery and water levels in Walker Lake is threatened by the lack of river inflows. This situation is attributed to upstream diversions for irrigated agriculture. Activities associated with the Lake help draw tourists to the area who in turn utilize local lodging, gaming, and service related industries in Mineral County. Prevailing economic conditions of the region can have some impact on the outdoor recreation and tourism occurring at Walker Lake and the greater Mineral County region. Carson City, Reno and surrounding areas provide the largest share of visitors staying overnight in the Hawthorne area (See Figure 2-5).

In addition to those coming to Mineral County to enjoy Walker Lake, the Hawthorne area in particular benefits from highway traffic and travelers on U.S. 95. Travelers using U.S. 95 stay overnight in Hawthorne, these visitations contribute to gaming, services, and to a lesser extent, retail sectors of the local economy. National or western regional economic conditions can influence overall activity in Mineral County.



The left image is from a satellite showing the topography of Mineral County, the right is an aerial image taken about the same location.





3.0 PUBLIC INFRASTRUCTURE

3.1 Sewer and Water Community

Sewer and water services are provided in the Town of Hawthorne, Mina and Luning. Currently, the Hawthorne, Mina and Luning service areas have sufficient water resources to accommodate a 60 percent increase in water use. Mina and Luning serve approximately 39 commercial and industrial customers and 135 residential customers. Hawthorne provides water service to 1,521 residential customers, 167 commercial and industrial users, and 28 services to other users. The Hawthorne system has the capacity to serve approximately 6,000.

Sewer services in Hawthorne include 1,427 residential customers and 159 commercial and industrial users. Current wastewater treatment capacity for Hawthorne is .7 million gallons per day which is sufficient to serve approximately 2,800 residential equivalent housing units.

3.2 Communications

Telephone service is available in all communities in Mineral County. Internet service is also provided in most areas of the County. Radio and cell phone coverage is available throughout most of the County.


3.3 Energy Distribution

Energy available in Mineral County includes electricity and heating oil, and propane gas. Natural gas service is currently not available. Sierra Pacific Resources is the electrical energy provider to Mineral County.

3.4 Transportation

Transportation modes available to commercial traffic include highway and air service. U.S. 95 is a major north-south highway extending from Canada to Mexico. Average daily traffic volumes have been gradually increasing. Nevada Department of Transportation traffic counts show average daily traffic on the Hawthorne By-pass road increasing from 2,280 in 1992 to 2,850 in 2005. Similar increases were measured south of Schurz. The increase in traffic flows on 95 north of Hawthorne is largely coming from U.S. 95 connecting into Fallon. Comparing U.S. 95 traffic counts at the north and southern end shows a 600-count increase at the northern end of Mineral County and a 400-count increase on the southern end. U.S. 95 through Mineral County also serves as a major route connecting to U.S. 395 to the Los Angeles Basin and Interstate 80. Figure 3-1 shows major transportation routes through Mineral County.

The Hawthorne municipal airport is located immediately north of the town along Bonanza Road and U.S. 95. Ground access to the airport is from U.S. 95. The airport was originally developed and operated by the U.S. Navy. In 1962 the facility was transferred to county ownership and operation. There are three runways, 2 dirt and 1 asphalt. The general aviation area, located at the south end of the airport, consists of



one fixed base operator (FBO)/terminal building and support areas including aprons, hangers, fueling facilities and related activities. In the terminal area there are six hangers, one of which is owned by the County. In addition, there is a wood frame 25X50 terminal building with FBO office. An aircraft-parking apron accommodating 49 tie down spaces is located in the terminal area. A 65-acre industrial park is being developed along U.S. 95 to the west of the terminal area.


There are no other local transit operators in the County. There is currently no commercial rail service to Hawthorne. The Department of Defense operates and maintains the branch rail to Hawthorne for dedicated purposes.

3.5 Health Care

The Mount Grant Hospital has three licensed agencies, the acute hospital, skill nursing facility, and the adult day care center.

- Acute Care: Mt. Grant General Hospital is licensed for eleven acute care beds. Two beds are equipped for ICU/CCU care, and the remaining beds are designated for medical/surgical. There are four physicians on the active medical staff and one physician assistants.
- Skilled Nursing Facility: The Lefa L Seran Skill Nursing Facility has 24 licensed beds for long-term care. The levels of care provided range from skilled to intermediate.
- Emergency Room: The emergency room at Mt. Grant General Hospital is open 24 hours a day to render urgent medical care for major injuries and illness. One certified physician's assistants in conjunction with four local physicians provide 24-hour coverage. Modern instrumentation is found in the emergency room and a highly trained, motivated staff is there to assist during medical emergencies. For medical emergencies that require care beyond the scope of services offered, air ambulance service is located in Reno and is capable of responding and being on hospital premises within 45 minutes. A local ground ambulance is also available.
- Laboratory: two well-qualified medical technologists, one medical laboratory technician and one clerk/phlebotomist staff the laboratory. Laboratory services are available 24 hours a day, with call-out after office hours and on weekends. State-of-the-art instrumentation allows for a great number of in-house testing, making test results available to your physician today, not tomorrow. Specialty testing is sent to a reference laboratory in Reno daily, and results are returned to the hospital within 24 hours.
- Adult Day Care: The Sunrise to Sunset Adult Day Care Center is licensed to care for five clients. The center operates Monday through Friday from 7:00am to 7:00 pm. Physician referral is required.

- Blood Bank: There is a licensed blood bank in the laboratory where screened blood and blood products are immediately available for cross-match and transfusion services only.
- Radiology: The radiology department has three certified technologists. The department is supervised by a consulting radiologist who is at the hospital on a monthly basis. The hospital has an ultrasound unit which is available for use at any given time. A mobile MRI unit is on the premises every week for diagnostic scanning. The department has a sophisticated teleradiology system that, through the use of computers, cameras and a telephone line, will transmit an image to a receiver unit monitored 24 hours a day by a radiologist who will then provide on-the-spot interpretation. CT scans are available at the hospital 24hrs a day 7 days a week. Fluro exams are no longer available.
- Electrocardiogram: EKG service is provided as a 24-hour service with Telemed interpretation available upon physician request only. This is a telephone/teletype system whereby the EKG is read by a cardiologist and the information is forwarded back to the hospital. A 24hr holter monitoring is also available with interpretation performed by local physicians.
- Surgery: The hospital has a well-equipped surgery suite and a highly trained nursing/physician team for minor elective survey (Orthopedic, Podiatry, and Ophthalmology).
- Respiratory Therapy: Two certified respiratory therapists provide a variety of services to patients. Offered services are shared between clinic, inpatient therapy, pulmonary function testing, and other modalities within the scope of their department.
- Dietitian: Licensed dietitian services are available to include patient education and diabetes training. These services are shared between clinic, inpatient, ER, and SNF. The dietitian performs as Risk Manager as well.
- Nursing: The nursing staff at Mt. Grant General Hospital is well qualified to attend to your medical and emergency needs. Many of the registered nurses have received additional training in critical care nursing, operating room techniques, and advanced cardiac life support training and certification. The licensing practical nursing staff has strong skills, and the nurse aides are certified per NV legislative regulations.
- RHC Clinic: Mt Grant Medical Building is a licensed RHC clinic and is open 7 days a week from 9am-5pm weekdays and 10am-12pm and 1pm-5pm weekends. Services provided for regular appointments and walk-in patients include 1) health screenings, physicals, 2) routine healthcare maintenance, 3) minor surgical procedures, 4) prenatal care and referrals for delivery, 5) emergency procedures, stabilization and referral to appropriate providers for the life threatening illnesses and injuries 6) health education, counseling, 7) referral to hospital in-



patient and out-patient ancillary services as well as ER or long-term care. Two certified family practice physicians and one certified internist/geriatrics and one family practice physician as well as one PA-C rotate to provide clinic, ER, Acute and long-term care coverage.

- Consulting Physicians: As a service to the residents of Mineral County, Mt. Grant General Hospital provides clinic space for specialty physicians who come from Reno/Carson City or Fallon on a monthly /bi-weekly basis to see patients in Hawthorne. The specialties include: Cardiology, OB/GYN, Ear Nose and Throat, Podiatry, Ophthalmology, Pain Management, Endocrinology, Orthopedics, Urology, General Surgery, Dental, and Pathology.
- Physical/Speech/Occupational Therapy: One certified physical therapist provides outpatient and inpatient PT 5 days a week. Speech and occupational therapy is not available at the present time.
- Pharmacy: There is no pharmacy on site. Medications are available for inpatient only.

Other services include: homemaker service for elderly, blood bank, radiology, electrocardiogram, surgery, and respiratory therapy, dietitian, nursing, and consulting physicians. The specialties include: 1) cardiology, 2) ob/gyn, 3) ear, nose and throat, 4) podiatry, 5) ophthalmology, 6) gastroenterology, 7) psychiatry, 8) endocrinology, 9) orthopedics, 10) Urology, and 11) general surgery.

3.6 Schools and Other Public Facilities

There are three elementary, one middle school, and one high school within .5 miles of the highway (Table 3-1). These facilities are generally less than .25 miles from the highway. There are approximately 865 children enrolled in public schools. Figure 3-2, 3-2A and 3-2B show the location of public facilities in relation to the U.S. Highway 95 corridor.









Table 3-1: Public Facilities Mineral County: 2006	
Area	Facilities
Hawthorne to Walker Lake	
Elementary Schools	1
Middle/Secondary Schools	1
Fire Station/Public Safety Building	2
Library	1
Parks	4
Campgrounds	3
Hospital	1
Schurz Area	
Elementary Schools	1
Middle Schools	0
Fire Station/Public Safety	1
Library	0
Parks	2
Medical Clinic	1
Mina to Luning	
Elementary Schools	1
Middle Schools	0
Fire Station/Public Safety	2
Library	1
Parks	1
Total Facilities	24



4.0 NATURAL RESOURCES

4.1 Land and Water Resources

4.1.1 Lands

Mineral County is located in the west-central portion of Nevada and borders the State of California on the southwest. Mineral County is the sixth smallest county in Nevada, covers approximately 4,019 square miles, (9,938 square kilometers) and accounts for approximately 3.5 percent of Nevada's total surface area of 110,540 square miles (286,297 square kilometers). Of Mineral County's 2,572,160 acres of surface area, 2,091,422 acres, or just over 82 percent of the county's total area are controlled and managed by the federal government. Of these federally managed public lands approximately 1,561,512 acres of Mineral County are managed by the U.S. Bureau of Land Management (BLM), and 382,499 acres are managed by the U.S. Forest Service (USFS). The USFS managed lands include a portion of the Toiyabe National Forest, which covers much of the southernmost portion of Mineral County. Relative to Nevada's seventeen counties, Mineral County ranks as the eighth highest in terms of its percentage of federal land ownership and fifth lowest in terms of the actual area of federal ownership. Major land uses for Mineral County are shown in Figure 4-1. Figure 4-2 through 4-6 show land use in Hawthorne, Babbitt, Walker Lake, Mina, and Luning.

Most land in Mineral County is public land used for livestock grazing, mining, and recreation. In the Hawthorne area, the Department of Defense has large land holdings used for storage of conventional weapons. At the very northern end of Mineral County there is the Walker River Paiute/Shoshone reservation that has a population of approximately 860. Within the reservation there is residential housing, small commercial establishments, and a few Tribal administration buildings. There is a Tribal school just south of the intersection with U.S. Highway 95A.

South of the Reservation, the Highway corridor runs parallel to Walker Lake for approximately 25 miles. There are two camp/rest areas along the highway near Walker Lake. The Highway passes through the community of Walker Lake. There are a small number of tourist commercial uses along the Highway as well as residential housing.

Predominate land use from the community of Walker Lake to Hawthorne is the Department of Defense lands. The Hawthorne Army Ammunition Depot (HWAAD) is a government owned contractor operation that encompasses 147,044 acres including the southern one-third of Walker Lake. The mission of HWAAD is to serve as an ammunition depot; produce, assemble, test, and demilitarize munitions; maintain equipment; and provide tenant support. HWAAD has 1,793 permanent, earth covered munitions magazines and 97 permanent explosive storehouses, with a combined storage capability of 92,250,000 cubic feet (U.S. Department of the Air Force, 1991).





Figure 4-2 Land use in Hawthorne



Figure 4-3 Land Use in Babbitt




Figure 4-4 Land Use in Walker Lake



Figure 4-5 Land Use in Mina





In the Town of Hawthorne land uses are mixed. There are primarily commercial and residential developments on the highway corridor. Several of the commercial establishments along the corridor are motels. Many of the major motels in the area are located adjacent to the highway effectively increasing the population density of the corridor. There are also a number of RV parks along in the corridor. Most of these parks are adjacent to the highway. Their presence, particularly in the summer and fall months effectively increases the permanent population along the corridor. In all there are approximately 149 RV spaces in the corridor. Most are located in Hawthorne. Lands immediately south and east of Hawthorne are under the control of the Department of Defense.

In the Towns of Mina and Luning, which are located adjacent to U.S. 95, there are a variety of land uses. The most predominate land use are small tourist commercial and residential. The location of many residential and commercial establishments within the corridor is much closer than default assumed in the Radtran Analysis used in the Yucca Mountain DEIS. In the Town of Hawthorne, commercial establishments along U.S. 95 are generally within 15 to 30 feet of the highway.

4.2 Water Resources

This section describes the surface and groundwater resources available in Mineral County

4.2.1 Surface Water

Major surface water features are shown in Figure 4-7. With the exception of Walker Lake and Walker River there are few perennial streams in the County. Most of the perennial streams are located in the Wassuk Range west of Walker Lake.


- **The Walker River System--Confluence and Main stem**

Today, in the absence of the effects of an ascending and descending Lake Lahontan, or the natural shifting of the Walker River's channel through the Adrian Valley, the river's course continues through Mason and Campbell valleys and enters Walker Lake. Seven miles downstream from Yerington, the Walker River runs alongside the Mason Valley Wildlife Management Area, an extensive natural habitat area of over 13,000 acres maintained by the Nevada Division of Wildlife. Just beyond this area, at the north end of Mason Valley, the Walker River begins a swooping clockwise turn from north to east to southeast and enters the Walker River Paiute Indian Reservation. Here, the Walker River flows through Campbell Valley and after some 13 miles, enters Weber Reservoir. From Weber Reservoir, the Walker River continues mostly south for another 21 miles across alluvial flats of dried lakebed before entering Walker Lake.

- **Walker Lake**

Walker Lake is the terminal (i.e., without outflow) lake of the Walker River system. It represents one of only two remaining major remnants of ancient Lake Lahontan, an Ice Age lake, which covered much of northwestern Nevada as recently as 12,500 years






ago. Walker Lake is approximately 25 miles long, just over five miles wide, about 9-foot deep, and contains just over two million acre-feet of water. Walker Lake's waters are of relatively poor quality, characterized by high concentrations of total dissolved solids (TDS), consisting mostly of salts, relatively high temperatures, low dissolved oxygen, and the presence of hydrogen sulfide. The lake also tends to support large blooms of plank tonic blue-green algae, which, when combined with high TDS concentrations and low dissolved oxygen, creates a relatively inhospitable environment to fish species, particularly native Lahontan cutthroat trout. Except where the Walker River enters the lake at its northern end, Walker Lake's shores are virtually devoid of major riparian plant growth due, no doubt, to highly variable lake levels. In this respect, Walker Lake's barren shoreline resembles the other classic Great Basin desert terminal lakes (e.g., Pyramid Lake in Nevada, Mono Lake in California, and the Great Salt Lake in Utah).

Walker Lake's future as a viable fishery has been seriously threatened over the last one hundred years or so due to insufficient inflows from the Walker River. From data covering the 1939-1993 period of record, the U.S. Geological Survey (USGS) estimated that an average of 76,000 acre-feet per year flowed into the lake from the Walker River. However, due to the highly variable hydrology of this region, the Walker River has rarely produced "average" inflows to Walker Lake. As an example, during the recent ten-year period of 1987-1996, which encompassed the eight-year drought period of 1987-1996, Walker Lake received inflows from the Walker River in essentially only three years (1987, 1995, and 1996). Nonetheless, under such "average" hydrologic conditions, in addition to Walker River inflows, the USGS estimated that Walker Lake might expect to receive an average of 14,000 acre-feet per year of lake surface precipitation (4.9 inches per year), 11,000 acre-feet per year of local ground water inflows, and 3,000 acre-feet per year of local surface water inflows. More than off-setting these inflows into Walker Lake, however, has been a rate of lake surface evaporation totaling approximately 137,000 acre-feet per year (4.1 feet per year), thereby producing a water budget deficit for Walker Lake of approximately 33,000 acre-feet per year over the 1939-1993 study period. With the exception of the 1997-98 winters, water flows into Walker Lake have been relatively small.

Since I.C. Russell took initial lake recordings in 1882, Walker Lake's surface elevation has declined by 134 feet, from approximately 4,080 feet above mean sea level (MSL) to 3,946 feet MSL presently (March 1996). This has resulted in a decline in the lake's depth from 224 feet recorded in 1882 to only 90 feet at the present time. Today, Walker Lake is only 50 percent of its 1882 surface area and 28 percent of its 1882 volume. The decline in Walker Lake's volume from an estimated nine million acre-feet in 1882 to just over two million acre-feet by 1996 has produced the most pronounced effects on the lake's water quality. Primarily as a result of this dramatic reduction in volume, Walker Lake's concentration of total dissolved solids has risen from 2,560 milligrams per liter (mg/l) reported by Russell in 1882 to nearly 13,000 mg/l presently (1996). Primary contributors to Walker Lake's salt content have been the re-dissolution of salts found in lakebed sediment layers, a groundwater inflow component, and inflows from the Walker River.



For the period of 1903-1994, the USGS estimated that approximately 30 percent of Walker Lake's total salt "load" (i.e., its total quantity of salts) has come from the re-dissolution of salts embedded in lakebed sediment layers. These salts have accumulated over time in the lake's bed due to prior desiccations of Walker Lake, as well as from salt deposition from wind-blown salts falling onto the lakebed during such dry periods. It was also estimated that groundwater inflows within the lake have accounted for approximately 20 percent of the lake's present salt load, while the remaining 50 percent of Walker Lake's total salt loading has come from the Walker River itself.

TDS concentrations within Walker Lake now stand at approximately 13,000 mg/l, a level well above TDS levels of the Walker River as it enters the lake (approximately 100-500 mg/l, depending on rate of inflow). In a 1994 water analysis of Walker Lake conducted by the USGS, which followed essentially eight years of virtually no freshwater inflows, TDS concentrations within Walker Lake were found to be 13,400 mg/l, and consisted primarily of sodium chloride, dissolved carbon, and sulfate. In terms of the ionic concentrations found within Walker Lake, sodium amounted to 4,100 mg/l (31 percent by volume), chloride amounted to 3,200 mg/l (24 percent), sulfate amounted to 3,000 mg/l (22 percent), bicarbonate 2,400 mg/l (18 percent), and carbonate 670 mg/l (5 percent).

- **Weber Reservoir**

Weber Reservoir is located on the Walker River Paiute Indian Reservation and is the only reservoir located on the main stem of the Walker River. The dam was completed in 1935 with a built-in capacity of 13,000 acre-feet; however, in 1972, the U.S. Geological Survey (USGS) estimated that sedimentation had reduced the reservoir's storage capacity to 10,700 acre-feet. Stored waters have no priority date; however, the reservation does have a priority date of 1859 for a flow rate of 26.25 cfs at the Wabuska gage (located at the north end of Mason Valley at the entrance to the reservation) which may be used to fill this reservoir, with such waters subsequently being used for the irrigation of lands on the reservation.

4.2.2 Ground Water

Mineral County stretches across parts of two of Nevada's fourteen major hydrographic regions or water basins (watersheds) with approximately the eastern half of the county located within the Central Region (Hydrographic Region 10) and the remaining western half of the county located within the Walker River Basin (Hydrographic Region 9). In addition to the two major hydrographic regions encompassing Mineral County, the county also contains, either wholly or partially, twenty-three hydrographic areas and hydrographic sub-areas. These hydrographic units typically consist of a single valley or discrete drainage area within a larger hydrographic region.

Table 4-1 shows the current groundwater basin status, permitted water rights and pending applications. Most basins in Mineral County are currently designated. The availability of groundwater is critical to future growth and development of the County. It is unlikely the

County could rely upon surface water resources for a future source of municipal and industrial supply. It is also important to note, that unlike other areas in Nevada there is very little irrigation water use in and around populated areas of Mineral County. The option to convert irrigation water to another use is not available.

Table 4-1: Mineral County Hydro Basins: 2002			
Basin	Active Pending Acre Feet	Perennial Yield	Designated
110b	2,092.96	700	No
110c	15,692.80	5,000	Preferred Mun., Irr. Denied
110a	637.40	1,500	No
111B	0	700	No
112	0	300	No
113	2,596.49	150	No
114	132.41	1,400	No
115	0	150	No
119	42.10	1,000	No
120	0	150	No
121a	3,168.72	600	All
121b	300.29	200	All
136	138.65	400	No
135	133.36	2,500	No
122	21,186.16	5,000	All
124	39.71	250	All
123	115.67	500	No
108	159,430.38	25,000	All
107	60,672.09	17,000	Portion, Con, Ind, Stk
109	20,390.39	5,500	No
116	121.00	600	No
118	1,202.37	4,000	No

Source: Nevada Division of Water Resources, 2002.

4.2.3 Water Use

In 1995 Mineral County's total water withdrawals were estimated at 19,714 acre-feet, or only 0.5 percent of estimated total water withdrawals within the State of Nevada (See Table 4.2). Total water withdrawals in 1995 were down 44.3 percent from total withdrawals in 1990 and also down 53.4 percent from total water withdrawals

estimated in 1985. These declines were due entirely too reduced levels of irrigation water use from prior periods. Of the total 1995 water withdrawals, public supplied water withdrawals (i.e., municipal and industrial water withdrawals) were estimated at 1,255 acre-feet, or 6.4 percent of total water withdrawals. As shown in Table 4-2, it may be seen that water withdrawals in Mineral County in 1995 were dominated by irrigation withdrawals (79.6 percent of total water withdrawals), while mining water withdrawals accounted for 12.8 percent of total withdrawals and domestic uses accounted for 5.8 percent of total water withdrawals in Mineral County.

More recent water data indicates that Mineral County has a per capita use rate of 446 gallons per day. This relatively high per capita use can be attributed to the number motel/hotel units relative to the local population.

Table 4-2 Mineral County Water Usage				
(Estimated Annual Water Use by Type (Acre-Feet per year))				
Water Use by Major Category	1985	1990	1995	Percent of 1995 Total Water Use
Total Water Withdrawals/Use	42,348	35,402	19,714	100.00%
Domestic Water Withdrawals	1,117	913	1,153	5.85%
Commercial Water Withdrawals	291	1,199	280	1.42%
Industrial Water Withdrawals	0	0	0	0%
Thermoelectric Water Withdrawals	0	0	0	0%
Mining Water Withdrawals	605	1,646	2,520	12.78%
Livestock Water Withdrawals	90	34	34	0.17%
Irrigation Water Withdrawals	40,123	31,364	15,682	79.55%
Public Use & Losses	123	246	45	0.023%

Notes: "Water Use" and "Water Withdrawals" are equivalent terms, but are not the same as consumptive use and do not account for return flows. Total Water Withdrawals and Domestic, Commercial, Industrial, and Thermoelectric Water Withdrawals include both public supplied and self-supplied water. Mining Water Use includes both mine consumptive use (i.e., processing) and mine dewatering. One acre-foot is equivalent to 325,851 gallons.

Source Data: U.S. Geological Survey (USGS); U.S. Department of Agriculture (USDA), Nevada Agricultural Statistics Service; Nevada State Demographer; Nevada Division of Water Planning (NDWP).

Based on 1995 water use data, along with comparable period population and employment figures, it was estimated that Mineral County's public supplied water use per person (also referred to as municipal and industrial, or M&I, water use), based only on the estimated population served by public supply water systems, was 212 gallons per person per day, compared to 224 gallons per person per day in 1985, and 342 gallons per person per day in 1990. Table 4.3 presents a number of estimated water usage rates for Mineral County for

the years 1985, 1990, and 1995 based on water use per person, per worker, or per occupied housing unit, i.e., per household.

Table 4-3: Mineral County Water Usage Rates			
(Gallons per Person, per Worker or per Household per Day)			
Water Usage Rates by Type/Sector 1985 1990 1995)	1985	1990	1995
Municipal & Industrial Water Use per Person	224	342	212
Domestic Public Supplied Water Use per Person	163	127	157
Total Domestic (Residential) Water Use per Person	161	127	157
Total Commercial & Industrial Water Use per Worker	127	543	116
Total Domestic Water Use per Household	413	322	393

Notes: "Water Use" and "Water Withdrawals" are equivalent terms, but are not the same as consumptive use and do not account for return flows. "Municipal & Industrial Water Use per Person" includes public supplied domestic, commercial, industrial and thermoelectric water withdrawals divided by the resident population served by such public supply water systems; "Domestic Public Supplied Use per Person" includes only public supplied residential water use divided by the resident population served by the public supply water system; "Total Domestic (Residential) Water Use per Person" includes both public supplied and private supplied residential water use divided by the total county resident population; "Total Commercial and Industrial Water Use per Worker" equals both public supplied and self-supplied water withdrawals divided by the county's total covered employment, excluding mining water use and mining employment; "Total Domestic Water Use per Household" includes both public supplied and self-supplied water divided by the number of occupied housing units. Households are equivalent to occupied housing units and are not the same as total housing units. One acre-foot is equivalent to 325,851 gallons.

Source Data: U.S. Geological Survey (USGS); Nevada State Demographer; U.S. Bureau of the Census; Nevada Department of Employment, Training and Rehabilitation (DETR); Nevada Division of Water Planning (NDWP).

From a 1995 survey, it is estimated that 2,900 acres were irrigated in Mineral County in that year (7,440 irrigated acres in 1985 and 5,800 irrigated acres in 1990). This amount of irrigated acreage comprised approximately 0.4 percent of the state's total 1995 irrigated acreage of 715,439 acres (843,760 acres in 1985 and 728,650 acres in 1990). The 1995 level of irrigated acreage placed Mineral County as the third lowest in terms of county irrigated acreage in Nevada at that time only ahead of Carson City and Storey County.

Based on 1995 estimates of both total irrigated acreage and total irrigation water withdrawals, the average water use (withdrawals) on irrigated acres in Mineral County was estimated at approximately 5.4 acre-feet per acre per year. Mineral County's 1995 irrigation conveyance losses were estimated at 1.6 acre-feet per acre per year, thereby leaving irrigation water available for consumptive use of approximately 3.8 acre-feet per acre per year (See Table 4-4).

Figure 4-8 shows the projected municipal and industrial water use in Mineral County based upon population projections in Table 4-4. Overall, municipal and industrial water use will rise slowly and generally will not exceed the availability of current resources.

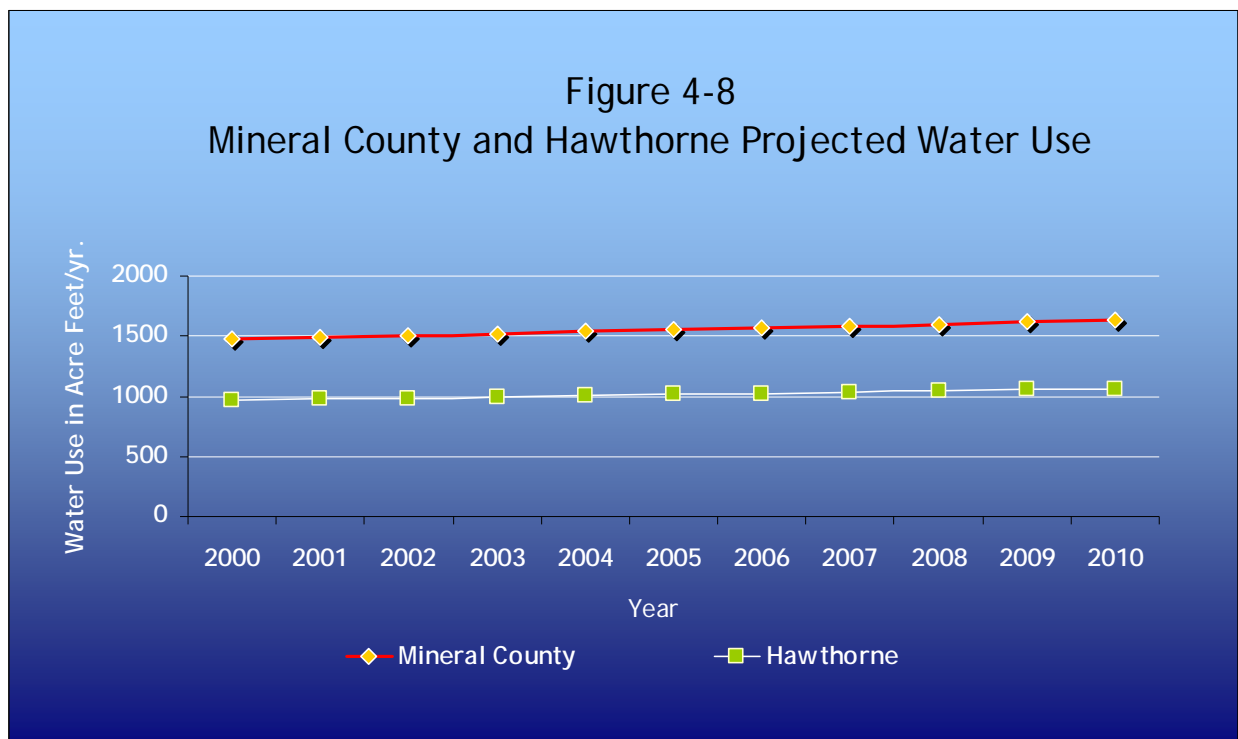


Table 4-4 Mineral County Agricultural Water Use Analysis

(Acres, Acre-Feet, Acre-Feet per Acre per Year) Agricultural-Related Measure 1985 1990 1995)			
Total County Irrigated Acreage (Acres)	7,440	5,800	2,900
Total Irrigation Water Withdrawals (Acre-Feet)	40,123	31,364	15,682
Average Irrigation Water Use (Acre-Feet/Acre/Year)	5.4	5.4	5.4
Irrigation Conveyance Losses (Acre-Feet/Acre/Year)	1.6	1.6	1.6
Water for Crop Consumptive Use (Acre-Feet/Acre/Year)	3.8	3.8	3.8
Total Farm Marketing's (Millions of Dollars)	\$0.955	\$2,228	\$2,476

Notes: Irrigated acreage is not the same as water-righted acreage and includes only that acreage estimated to have actually received irrigation water during the irrigation period. One acre-foot is equivalent to 325,851 gallons.

Source Data: U.S. Geological Survey (USGS); U.S. Department of Agriculture (USDA), Nevada Agricultural Statistics Service; U.S. Department of Commerce, Bureau of Economic Analysis (BEA), Regional Economic Information System (REIS); Nevada Division of Water Planning (NDWP).



Appendix A: Mineral County Combined Statement of Revenues and Expenditures

Revenues	2007	2006	2005	2004	2002
Taxes	\$1,952,336	\$2,165,175	\$ 2,248,021	\$1,924,252	\$1,650,706
Licenses and Permits	\$ 187,055	\$185,789	\$ 166,301	\$ 200,783	\$151,299
Intergovernmental	\$4,573,453	\$4,509,536	\$ 5,854,362	\$5,640,233	\$4,122,038
Charges of Services	\$1,288,989	\$1,354,150	\$ 1,228,440	\$1,134,302	\$887,879
Fines and Forfeits	\$ 212,583	\$253,837	\$ 205,075	\$ 293,197	\$237,604
Miscellaneous	\$ 511,628	\$566,715	\$ 652,116	\$ 272,830	\$978,966
Total Revenues	\$8,726,044	\$9,035,202	\$10,354,315	\$9,465,597	\$8,028,492
Expenditures:					
General Government	\$2,208,370	\$2,110,156	\$ 2,008,709	\$1,801,417	\$2,438,725
Public Safety	\$3,386,072	\$3,299,559	\$ 3,187,893	\$3,375,867	\$2,863,255
Judicial	\$826,585	\$777,988	\$ 736,021	\$ 657,879	\$636,527
Highways and streets	\$1,214,102	\$939,403	\$ 967,483	\$ 980,094	\$1,015,844
Health and sanitation	\$490,606	\$187,007	\$ 469,335	\$ 226,373	\$348,316
Welfare	\$153,316	\$416,280	\$ 146,469	\$ 428,738	\$285,522
Culture and Recreation	\$472,690	\$427,523	\$ 368,393	\$ 317,818	\$345,542
Community Support	\$626,524	\$697,089	\$ 2,382,984	\$1,392,971	\$362,840
Debt Service	\$59,124	\$59,124	\$ 59,123	\$ 97,611	\$46,675
Intergovernmental	\$113,951	\$145,100	\$ 75,000	\$ 17,151	\$74,490
Capital Outlay					\$54,640
Total Expenditures	\$9,551,339	\$9,059,229	\$10,450,665	\$9,295,919	\$8,472,376
Excess (Deficiency)	-\$825,295	-\$24,027	-\$96,350	\$169,678	-\$443,884
Total other financing sources (uses)	\$50,000	\$86,000	\$75,000	\$50,000	\$100,000
Total Excess (Deficiency)	-\$775,295	\$61,973	-\$21,350	\$274,678	-\$343,884
Fund Balance-Begin, July 1	\$2,898,198	\$2,856,162	\$2,877,512	\$2,255,457	\$2,599,342
Fund Balance-End, June 30	\$2,122,903	\$2,918,135	\$2,856,162	\$2,877,512	\$2,255,457

Source: Mineral County Audits.