Nevada Bureau of Mines and Geology
Special Publication MI-2008

The Nevada Mineral Industry 2008

Metals
Industrial Minerals
Oil and Gas
Geothermal

Exploration
Development
Mining
Processing

This report, the thirtieth of an annual series, describes mineral, oil and gas, and geothermal activities and accomplishments in Nevada in 2008: production statistics, exploration and development including drilling activity, discoveries of orebodies, new mines opened, and expansion of existing mines. Statistics of known gold, silver, and other metallic deposits, and directories of mines and mills are included.

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2009

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2009

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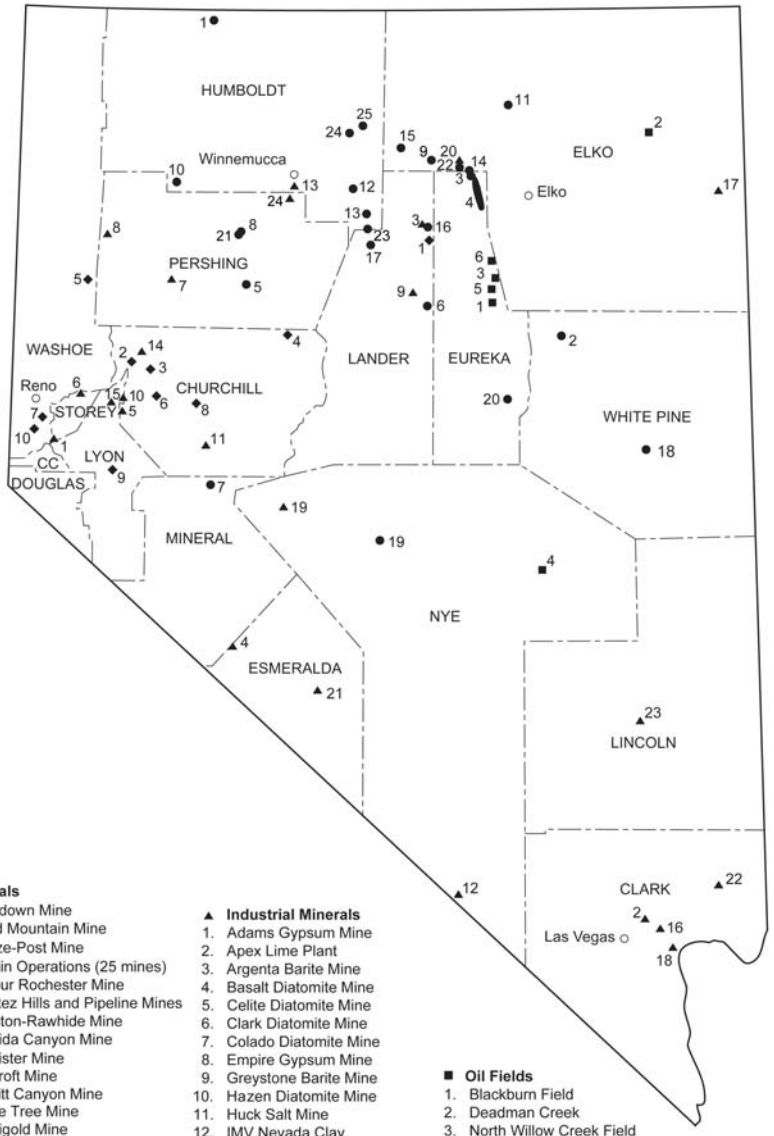

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10. Steamboat Hills

Major mines, oil fields, and geothermal plants, 2008.

Overview

by Jonathan G. Price

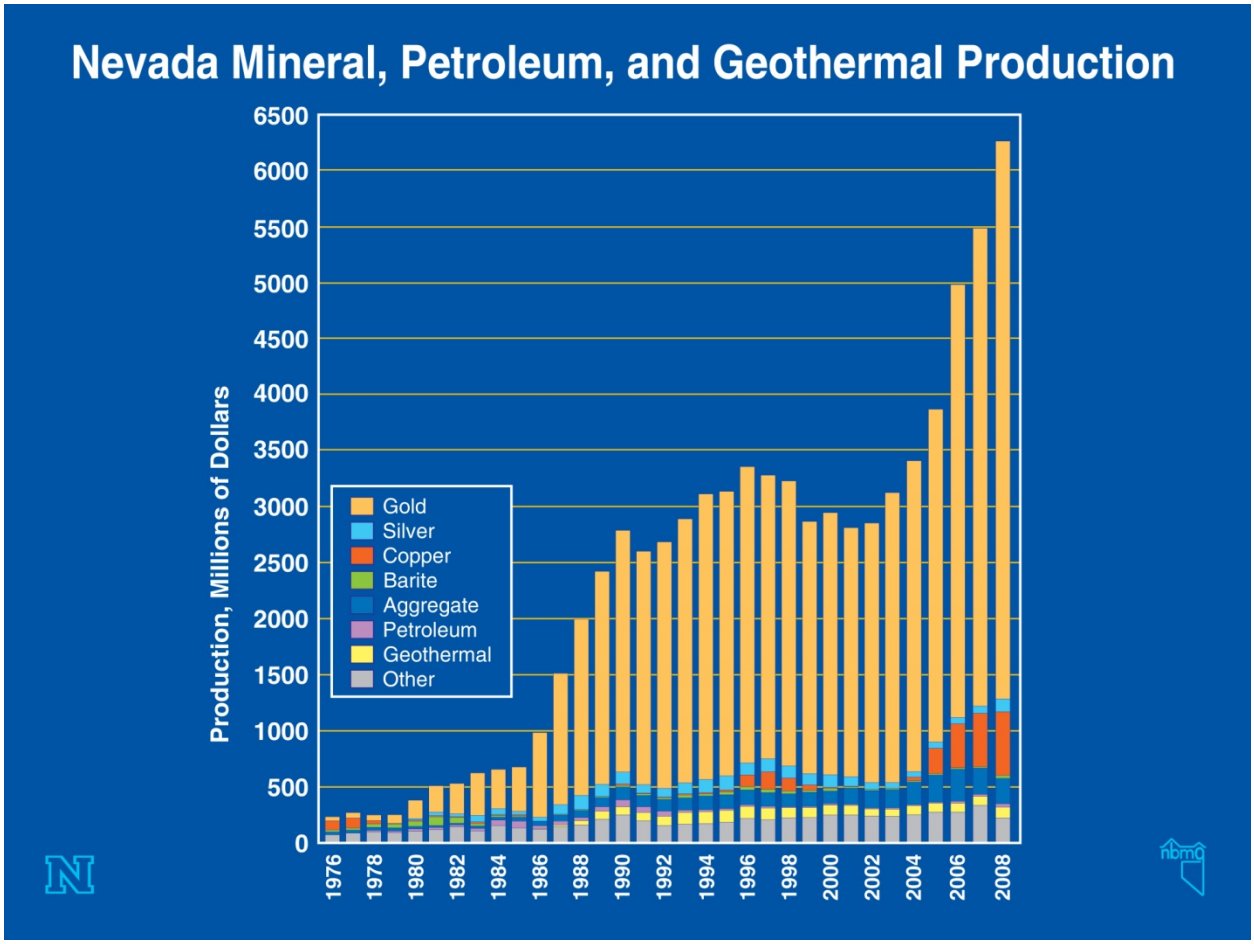
This report highlights activities through 2008 in metals, industrial minerals, geothermal energy, and petroleum. Numerous graphs and charts are incorporated for rapid inspection of trends in production and price. The value of overall mineral and energy production in Nevada reached an all-time high of $6.26 billion in 2008, primarily as a result of the increase in the price of gold. Gold production has more or less steadily decreased from a high of 8.86 million ounces in 1998 to 5.5 million ounces in 2008, but 2008 was nonetheless the 20th consecutive year with production in excess of 5.0 million ounces. Nevada led the nation in the production of gold and barite, and was the only state that produced magnesite, lithium, and the specialty clays, sepiolite and saponite. Other commodities mined and produced in Nevada in 2008 included copper, construction aggregate (sand, gravel, and crushed stone, including limestone and dolomite), silver, geothermal energy, gypsum, petroleum, lime (produced from limestone and dolomite), cement (produced from limestone, clay, gypsum, and iron ore), silica (industrial sand), diatomite, clays, molybdenum, perlite, dimension stone, salt, semiprecious gemstones (turquoise and opal), mercury (as a .byproduct of gold and silver processing), and potassium alum (kalinite). Locations of many of the sites mentioned in the text of this report are shown on NBMG map E-49, *Nevada Active Mines and Energy Producers,* which is available at www.nbmg.unr.edu/dox/e49.pdf.

MINERAL, GEOTHERMAL POWER, AND PETROLEUM PRODUCTION IN NEVADA[1]

	2007 (revised)		2008		% change from 2007 to 2008	
Commodity	**Quantity**	**Value** (millions)	**Quantity**	**Value** (millions)	**Quantity**	**Value**
Gold (thousand troy ounces)	6,037	$4,197.8	5,698	$4,968.2	-5.6	+18.4
Silver (thousand troy ounces)	8,430	112.8	7,965	119.4	-5.5	+5.8
Copper (thousand pounds)	142,794	478.4	175,538	568.7	+22.9	+18.9
Aggregate (thousand short tons)	48,700	273.5	39,980	225.0	-17.9	-17.7
Barite (thousand short tons)	573	20.8	595	26.5	+3.9	+27.2
Gypsum (thousand short tons)	1,351	18.0	1,152	15.3	-14.7	-15.0
Geothermal energy (thousand megawatt-hours)	1,243	69.4	1,383	95.1	+11.3	+37.0
Petroleum (thousand 42-gallon barrels)	408	23.5	436	33.3	+6.9	+41.8
Other minerals[2]	-----	297.7	-----	207.2	-----	-30.4
Total	-----	$5,491.9	-----	$6,258.8	-----	+14.0

[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers); compiled by the Nevada Division of Minerals and the Nevada Bureau of Mines and Geology. Products milled or processed in Nevada but mined from deposits in California are excluded. Specifically, colemanite from a mill in Amargosa Valley in Nye County and zeolite from the Ash Meadows plant in Nye County are not included in these totals.

[2]Building stone, cement, clay, diatomite, lime, lithium carbonate, magnesite, mercury, molybdenum, perlite, salt, and silica sand.



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Nevada ranked second in the United States in terms of value of overall nonfuel (excluding oil, gas, coal, uranium, and geothermal) mineral production in 2008 (according to the U.S. Geological Survey, Mineral Commodity Summaries 2009, http://minerals.usgs.gov/minerals/pubs/mcs/2009/mcs2009.pdf). Arizona retained first place because of high copper prices. Florida, the leader in phosphate production, was third. Utah, a major producer of copper and molybdenum, primarily from one mine near Salt Lake City, was fourth. California, with its large population and commensurate demands for construction raw materials, was fifth. Texas, another populous state and major producer of construction raw materials, was sixth. Minnesota, the leader in iron-ore production, was seventh, and Alaska, the nation's top producer of zinc and silver, was eighth.

Nevada's production of gold, valued at $5 billion, was 76% of the U.S. total and helped make the U.S. the second leading gold producer in the world in 2008. Nevada alone accounted for 8% of world production of gold. Only China, Australia, and South Africa produced more gold than the state of Nevada in 2008. Second to gold in terms of

Nevada's mineral value in 2008 was copper ($569 million), followed by construction aggregate ($225 million). Silver, chiefly a byproduct or co-product of gold production, ranked as the fourth leading mineral commodity in 2008, with a value of $119 million. Electrical power from geothermal energy production in Nevada in 2008 was valued at $95 million; its 37% increase in value resulted from increases in both production (11%) and price (23%).

The contributions that mining makes to the economies of Nevada and the U.S. are significant in terms of jobs, commerce, taxes, improvements to the infrastructure, and lowering of the U.S. trade deficit. Because of Nevada's production, the U.S. is a net exporter of gold, most of which is sold on the international market for bullion, jewelry, and arts, and some of which is sold for its conductive and non-corrosive qualities in computers and other electronics, for its heat-reflecting quality as a coating on windows, and for use in dental work.

The U.S. is a net exporter of few mined commodities and a net importer of many. Exports of gold from Nevada help offset the staggering U.S. trade deficit (difference between imports and exports of goods and services), which amounted to $695 billion in 2008 (according to the Department of Commerce, Bureau of Economic Analysis, www.bea.gov). Among the major products mined in Nevada, the U.S. relies upon imports for barite (79% of total U.S. consumption from imports in 2008, according to the U.S. Geological Survey, used primarily to prevent blowouts in oil and gas drilling) and silver (60%, used in photographic and other applications). The U.S. also depends on imports of copper (32%, used primarily to conduct electricity) and gypsum (27%, used in wallboard).

The local economy also benefits from mining. Construction of new homes, casinos, other businesses, schools, and roads requires local sources of sand, gravel, crushed stone, gypsum, and raw materials for cement, all of which are abundant in Nevada. The mining industry directly employed 12,198 people in 2008 (according to the Nevada Department of Employment, Training and Rehabilitation, http://www.nevadaworkforce.com/), and the industry is responsible for another 52,000 jobs related to providing the goods and services needed by the industry and its employees (D. Driesner and A.R. Coyner, 2008, Major Mines of Nevada 2008, Mineral Industries in Nevada's Economy, Nevada Bureau of Mines and Geology Special Publication P-20, 28 p.; available at www.nbmg.unr.edu/dox/mm/mm08.pdf).

Nevada and the U.S. make significant contributions to the world's production of several mineral commodities. Thanks in part to Nevada's production, the U.S. is a major producer, as well as consumer, of gypsum (with the U.S. accounting for 8% of world production in 2008) and industrial sand (24% of world production). In addition to gold, the U.S. is a leading silver producer (5% of world production). The U.S. is essentially self sufficient, as are most countries, in construction aggregate, which usually is mined from sources near where it is used. Total U.S. production of construction sand, gravel, and crushed stone in 2008 (approximately 2.4 billion metric tons, according to the U.S. Geological Survey) decreased by 16% from 2007, because of weaker demand from the residential and commercial construction industry. Net imports of aggregate account for approximately 1% of consumption. The U.S. is also self sufficient in the other major mined material, coal. According to the U.S. Energy Information Administration (www.eia.doe.gov), the U.S. produced approximately 1.06 billion metric tons of coal in 2008, a record high year. Although no coal is produced in Nevada, coal is a major source of energy for generation of electricity in Nevada and many other states.

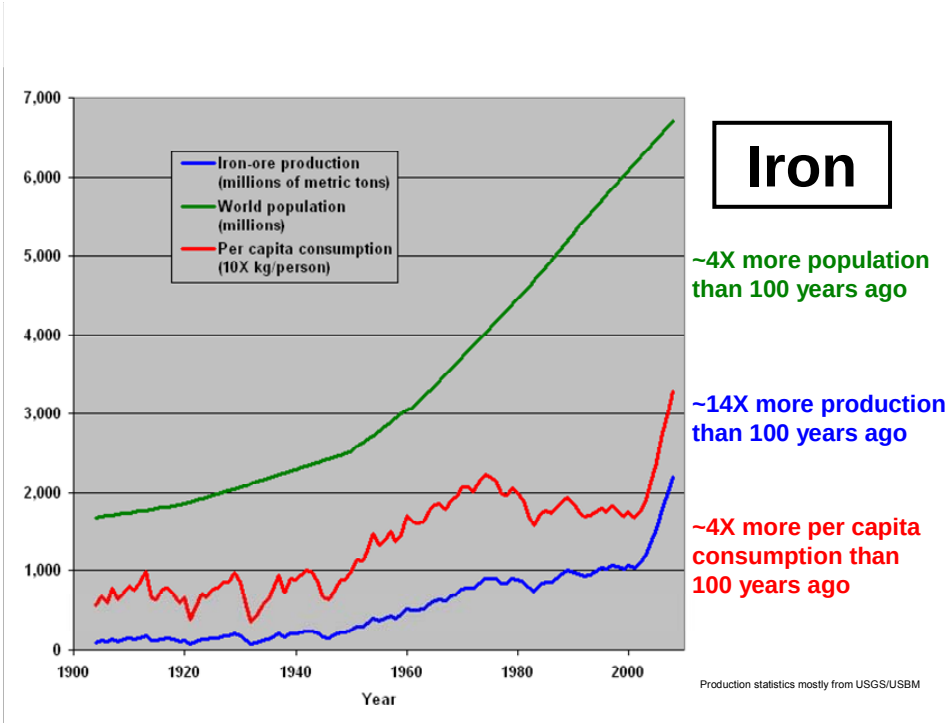
STATISTICS ON SELECTED MINERAL RESOURCES, 2008[1]

Commodity	US Import Reliance (% of US consumption)	Leading Producers (% of world mine production in 2008)
Aluminum ore	100	Australia (31%), China (16%), Brazil (12%)
Manganese	100	South Africa (21%), China (20%), Australia (16%), Gabon (11%)
Rare Earths	100	China (97%), India (2%)
Platinum	91	South Africa (77%), Russia (13%), Canada (4%), Zimbabwe (3%)
Potash	81	Canada (31%), Russia (19%), Belarus (14%), China (6%)
Tin	80	China (45%), Indonesia (30%), Peru (11%), Bolivia (5%)
Barite	79	China (57%), India (13%), US (8%), Morocco (6%)
Zinc	73	China (28%), Australia (13%), Peru (13%), US (7%)
Tungsten	61	China (75%), Russia (6%), Canada (5%), Austria (2%)
Silver	60	Peru (17%), Mexico (14%), China (12%), Chile (10%), U.S. (5%)
Chromium	54	South Africa (45%), Kazakhstan (17%), India (15%)
Nickel	33	Russia (17%), Canada (16%), Indonesia (13%), Australia (11%)
Copper	32	Chile (35%), US (8%), Peru (8%), China (6%), Australia (6%)
Gypsum	27	China (27%), US (8%), Iran (8%), Spain (7%), Thailand (6%),
Cement	12	China (50%), India (6%), US (3%), Japan (2%)
Phosphate rock	9	China (30%), US (19%), Morocco (17%), Russia (7%)
Iron ore	(US is exporter)	China (35%), Brazil (18%), Australia (15%), India (9%), US (2%)
Gold	(US is exporter)	China (12%), US (10%), Australia (9%), South Africa (9%)
Silica	(US is exporter)	US (24%), Italy (11%), Germany (7%), Austria (5%)
Molybdenum	(US is exporter)	US (29%), China (28%), Chile (21%), Peru (8%)
Diatomite	(US is exporter)	US (33%), China (22%), Denmark (11%), Japan (6%)
Beryllium	(US is exporter)	US (86%), China (11%), Mozambique (3%)

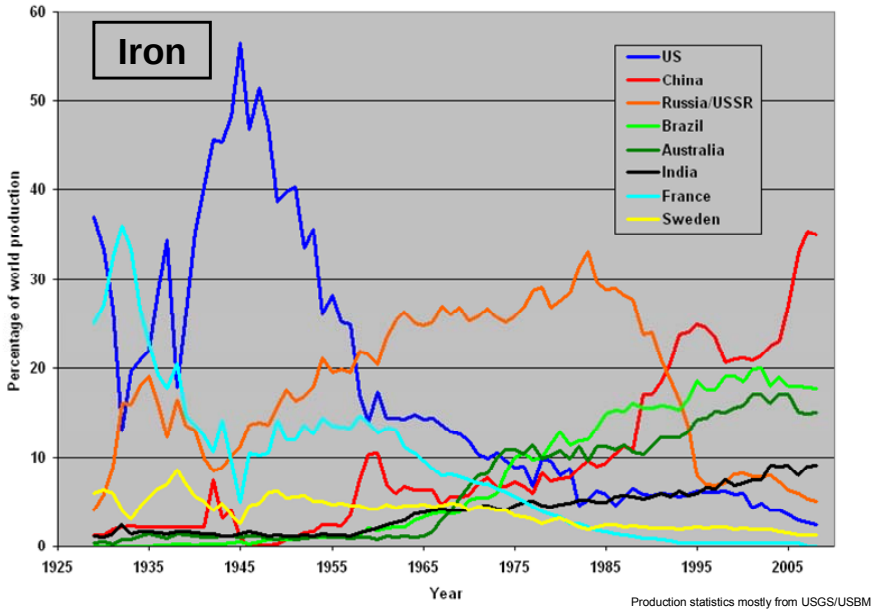
[1] Source: USGS Mineral Commodity Summaries 2009, with revisions from USGS mineral commodity experts.

Global demand for nearly every mineral (and energy) commodity has increased sharply over the last decade, and, despite the current economic recession, trends suggest heavy demand for the foreseeable future. Demand is growing partly because

world population is increasing, and partly because standards of living (measured by per capita consumption) are increasing. Annual global iron-ore production reached an all-time high of 2.2 billion metric tons in 2008. That equals approximately 0.4 km^3 of magnetite or hematite ore, or at least 1 km^3 of ore plus overburden and waste rock – the equivalent of one huge mine, per year.

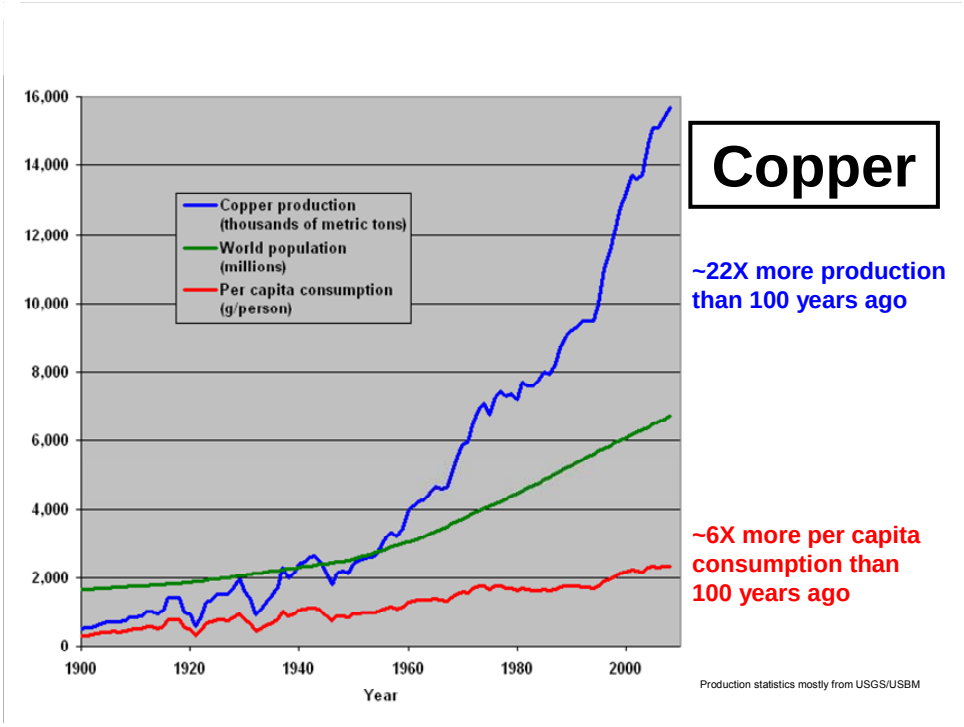


Global iron-ore production, per capita consumption (approximated as global production divided by population), and world population, 1904-2008.

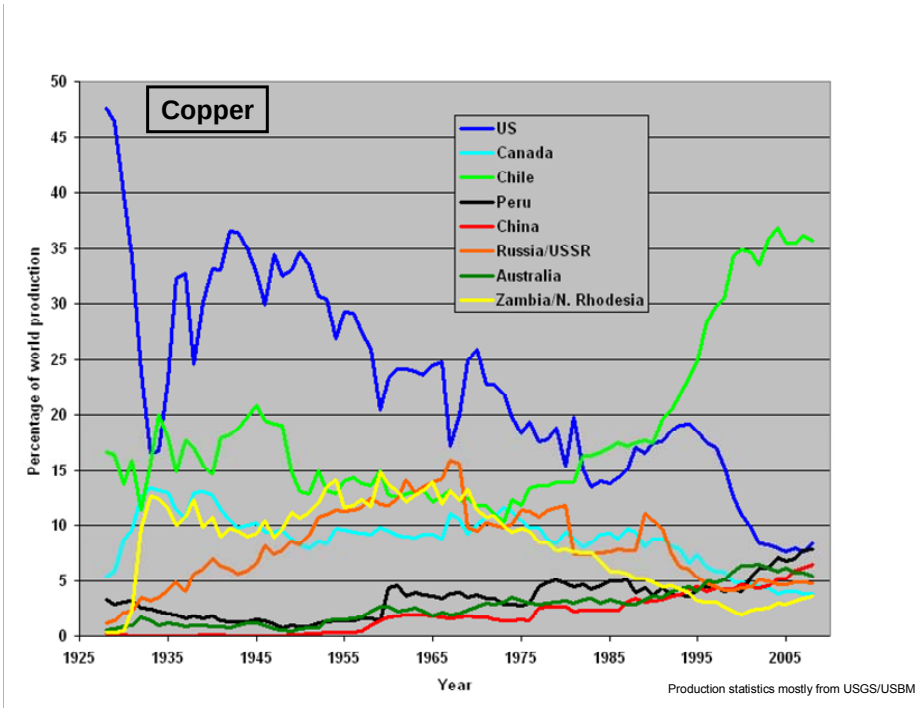


Percentage of annual global iron-ore production by country, 1929-2008.

Global copper production in 2008 (about the same as the all-time high of 15.4 million metric tons reached in 2007) nearly equaled over 100 years of production from the Bingham Canyon Mine in Utah (16.4 million metric tons).

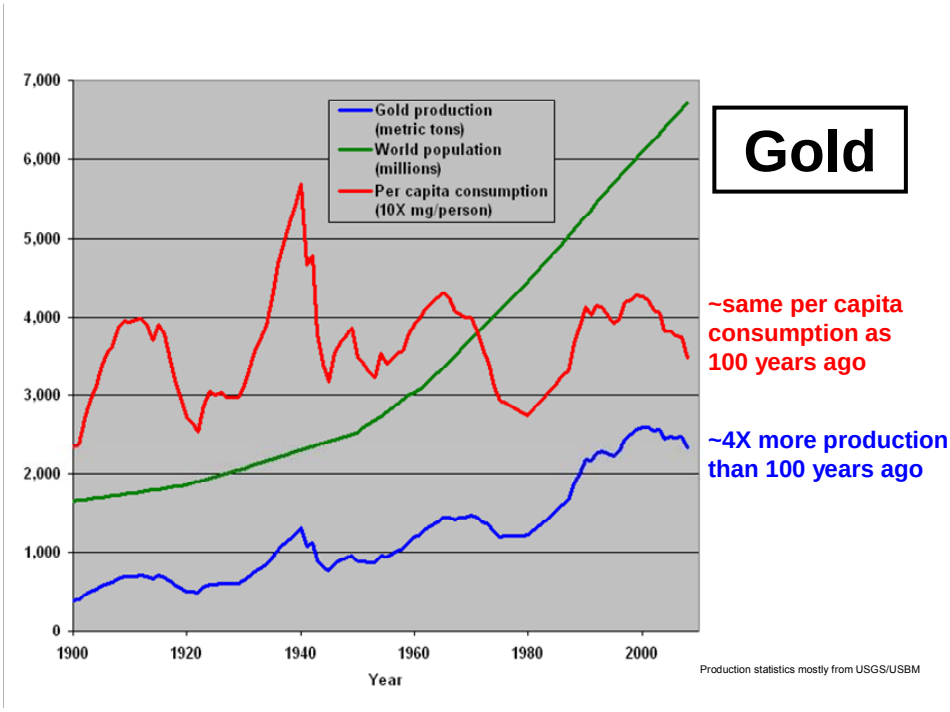


Global copper production, per capita consumption, and population, 1900-2008.

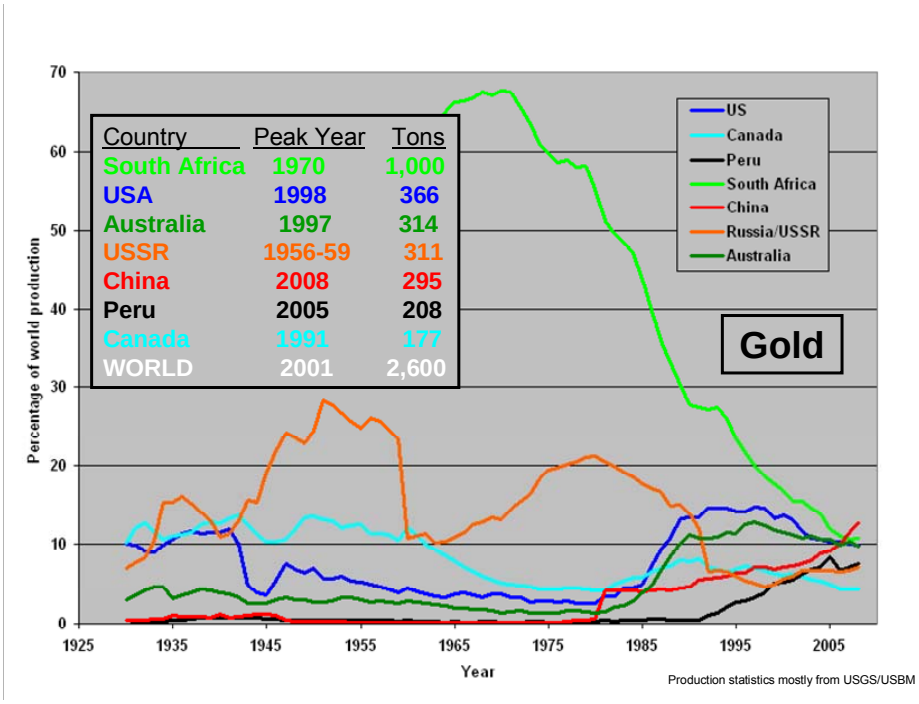


Percentage of annual global copper production by country, 1928-2008.

Global gold production in 2008 (2,280 metric tons) approximately equaled the cumulative production from the Carlin trend (2,227 tons), one of world's top gold-mining regions. Despite the rise in gold price in recent years, production has declined from the peak of 2,600 metric tons in 2001.



Global gold production, per capita consumption, and population, 1900-2008.



Percentage of annual global gold production by country, 1930-2008.

2008 Global production of selected mineral commodities (metric tons)* by country, compared to Nevada.

Country/State	Area (10^6 km^2)	Gold	Silver	Copper	Gypsum	Barite	Industrial Sand
Algeria	2.38				1,200,000	60,000	
Australia	7.68	215	250	886,000	4,200,000		5,300,000
Austria	0.08				1,000,000		2,000,000
Belgium	0.03						1,800,000
Brazil	8.51	50	30	206,000	1,800,000		2,000
Canada	9.96	95	862	609,000	7,700,000		1,990,000
Chile	0.76	39	1,940	5,330,000			1,400,000
China	9.57	285	2,700	960,000	37,000,000	4,600,000	
Egypt	1.00				2,000,000		650,000
France	0.57	2	1		4,800,000		5,000,000
Gambia	0.01						1,400,000
Germany	0.36				1,800,000	77,000	8,190,000
Ghana	0.24	81	3				
India	3.28	3	79	28,000	2,500,000	1,100,000	1,700,000
Indonesia	1.90	60	420	632,000	6,000		138,000
Iran	1.65		26	249,000	12,000,000	240,000	2,000,000
Italy	0.30				5,500,000		13,800,000
Japan	0.38	7	5		5,900,000		4,500,000
Kazakhstan	2.72	22	800	420,000		95,000	
Mexico	1.97	50	3,000	247,000	6,100,000	140,000	2,780,000
Morocco	0.45	1	195		600,000	500,000	
Norway	0.32						1,500,000
Papua New Guinea	0.46	68	51	160,000			
Peru	1.29	180	3,490	1,268,000	151,000		900,000
Poland	0.31	1	1,300	429,000	1,600,000		4,000,000
Romania	0.24		18		707,000		1,500,000
Russia	17.07	176	1,200	750,000	2,300,000	63,000	
Slovakia	0.05				110,000		2,000,000
Slovenia	0.02						200,000
South Africa	1.22	212	81	109,000	627,000		3,650,000
Spain	0.50	4	4	7,000	11,300,000		5,000,000
Thailand	0.51	3			8,600,000		
Turkey	0.78	11		83,000	770,000	150,000	1,200,000
United Kingdom	0.24				1,700,000	50,000	5,600,000
Uruguay	0.18	3			1,200,000		
Uzbekistan	0.43	85	83	95,000			
Zambia	0.75	2		546,000			
USA	9.37	233	1,260	1,300,000	17,900,000	615,000	30,400,000
Nevada	**0.29**	**177**	**248**	**79,600**	**1,050,000**	**540,000**	**449,000**
WORLD	149.90	2,280	18,000	15,400,000	151,000,000	7,770,000	121,000,000

* Production data for all areas except Nevada are from the U.S. Geological Survey (USGS) minerals information publications (http://minerals.usgs.gov/minerals/), with revisions from USGS mineral commodity specialists during their review of a draft of this report; USGS lacks data for some commodities in some countries; production data for Nevada are from Driesner and Coyner (2008), with modifications as noted in this report; USGS statistics are adjusted to be consistent with Nevada data.

Historical iron-ore production reflects significant economic changes. For example, the 20th century history of iron-ore production reflects the decline of France as a superpower, the impact of the Great Depression on the U.S. economy, and the reason Germany wanted to conquer France – in part to supply its military-industrial demands for steel.

Although China lags behind the European Union and the U.S. in gross domestic product (estimated as $7.99 trillion for China, $14.94 trillion for the EU, and $14.44 trillion for the U.S. in 2008, according to https://www.cia.gov/, China can be considered the world's dominant economic superpower today in terms of mineral production. Russia and the U.S. have declined. For gold, copper, and iron, China's domestic production reached all-time highs in 2008. India is also emerging as an economic superpower, but not at the scale of China. Of the countries listed as producers of 22 key mineral commodities in 2008, China was a significant producer (with ≥10% of world supply) of 16, and the USA was a significant producer of 6. China has also outstripped the U.S. in coal production. According to the U.S. Energy Information Administration, China overtook the U.S. as the world's leading coal-mining country in 1985, and by 2007 China's production was 40% of global production, compared with 16% for the U.S. Global coal production reached its all-time high of 6.38 billion metric tons in 2007. Statistics for 2008 are not available at this time.

China actually needs more iron than it can supply domestically. Much of the recent increase in iron-ore production in Australia and Brazil (2.1 times more in 2008 than in 1980 for both countries) is supplying demand from China. Although U.S. consumption of iron ore approximately equals domestic production, iron ore from the U.S. (Iron Mountain, Utah) will be shipped to China for steel production. The U.S. is a supplier of raw materials to an increasingly industrialized China.

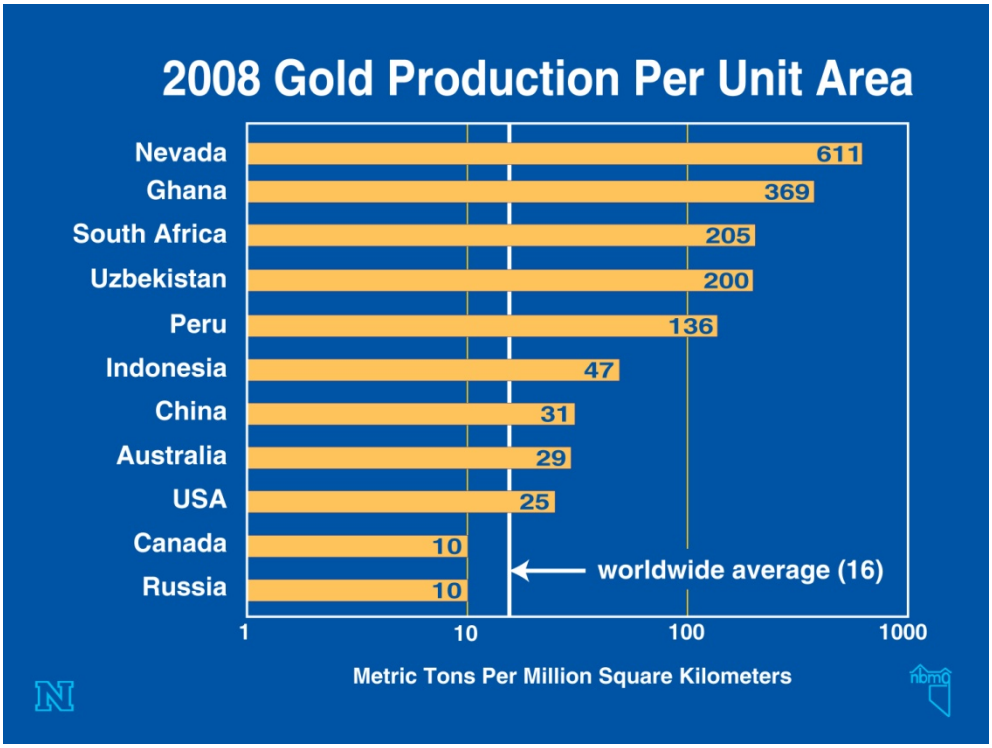
China overtook South Africa as the leading gold producer in 2007 and extended its percentage lead in 2008. South Africa, whose production peaked at 1,000 metric tons of gold in 1970, had held the lead for over 100 years. China's production reached an all-time high of 285 metric tons in 2008. The South African mines on the Witwatersrand are getting deeper and more costly to operate than ever before. Production in the USSR peaked at approximately 311 tons of gold per year in 1956-1959 and reached 304 tons in 1989. Production in the USA peaked at 366 metric tons (11.7 million troy ounces) of gold in 1998, one third of South Africa's peak. Today, China

accounts for 12% of world gold production, and South Africa, the USA, and Australia each accounts for about 9 to 10%.

For geological surveys and academia, the high level of demand for mineral resources is creating opportunities for such activities as geologic mapping and interpretation of the 4D geologic framework; geoscience sample and data preservation; and collaborations among states, universities, industry, and the federal government on mineral-resource research, information, and policy.

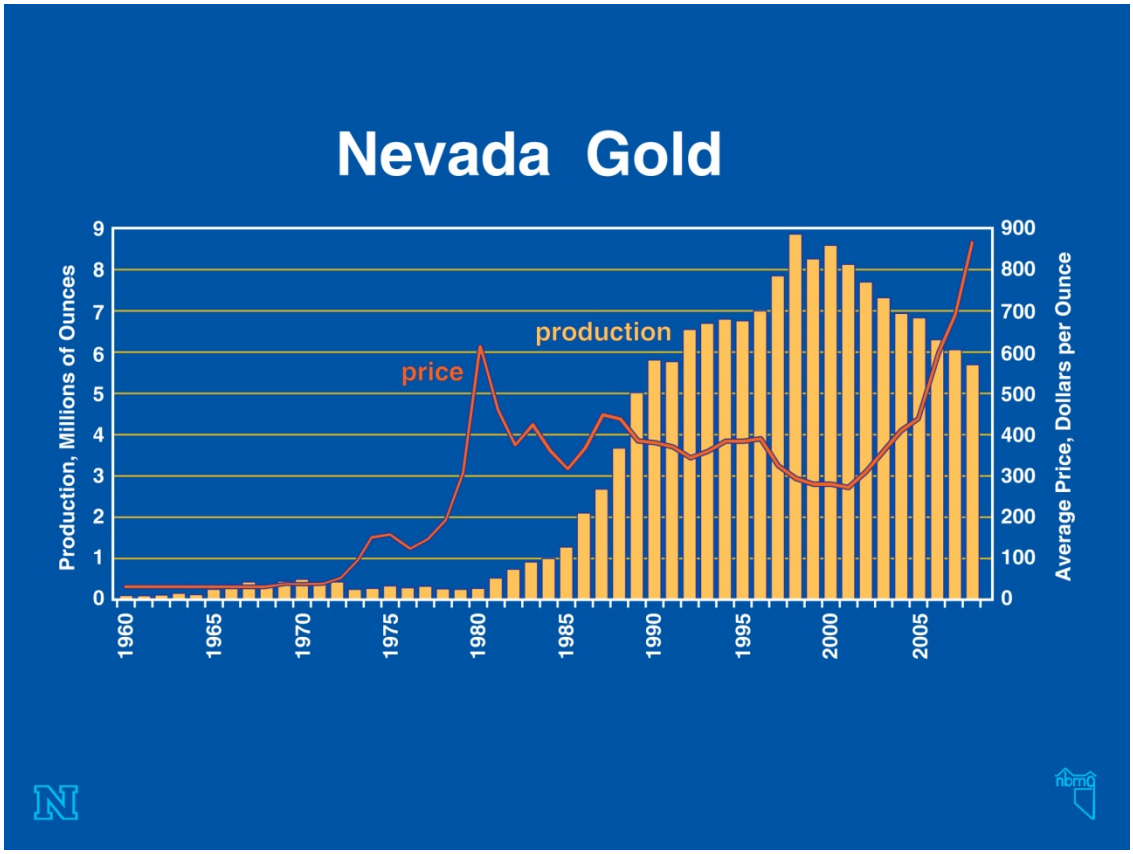
For industry, the global demand for minerals is creating opportunities for exploration both domestically and worldwide, particularly in areas with potential for large deposits. New opportunities exist for increased development and production, including new technologies for extracting metals from known deposits, and for sustainability, including the future of the environment, local and national economies, social and governmental stability, recycling, and substitutions of other minerals and products.

As a result of its favorable geology, Nevada has tremendous potential for the discovery of additional mineral deposits. Areas where prospective rocks exist beneath a cover of young, valley-filling sediments and volcanic rocks have only been explored to a limited extent, and ore deposits continue to be discovered in and near Nevada's 526 historical mining districts. Like Gauteng, the most productive region of South Africa, Nevada is a world leader in terms of gold production per unit area, as shown in the figure below.



Through a survey conducted early in 2008, the Nevada Division of Minerals (NDOM) collected data for Nevada Bureau of Mines and Geology Special Publication P-20, *Major Mines of Nevada 2008*. This publication includes, in handbook form, location maps, names and telephone numbers of operators, numbers of employees, and nonproprietary production figures for most mines in Nevada. It also contains a section on economic impacts of the industry. The full contents are available free of charge on the World Wide Web (www.nbmg.unr.edu), as are the contents of this report. The data from the NDOM survey are used in this publication and, along with information from other sources, will be used to update, revise, and check preliminary statistics collected and released by the U.S. Geological Survey.

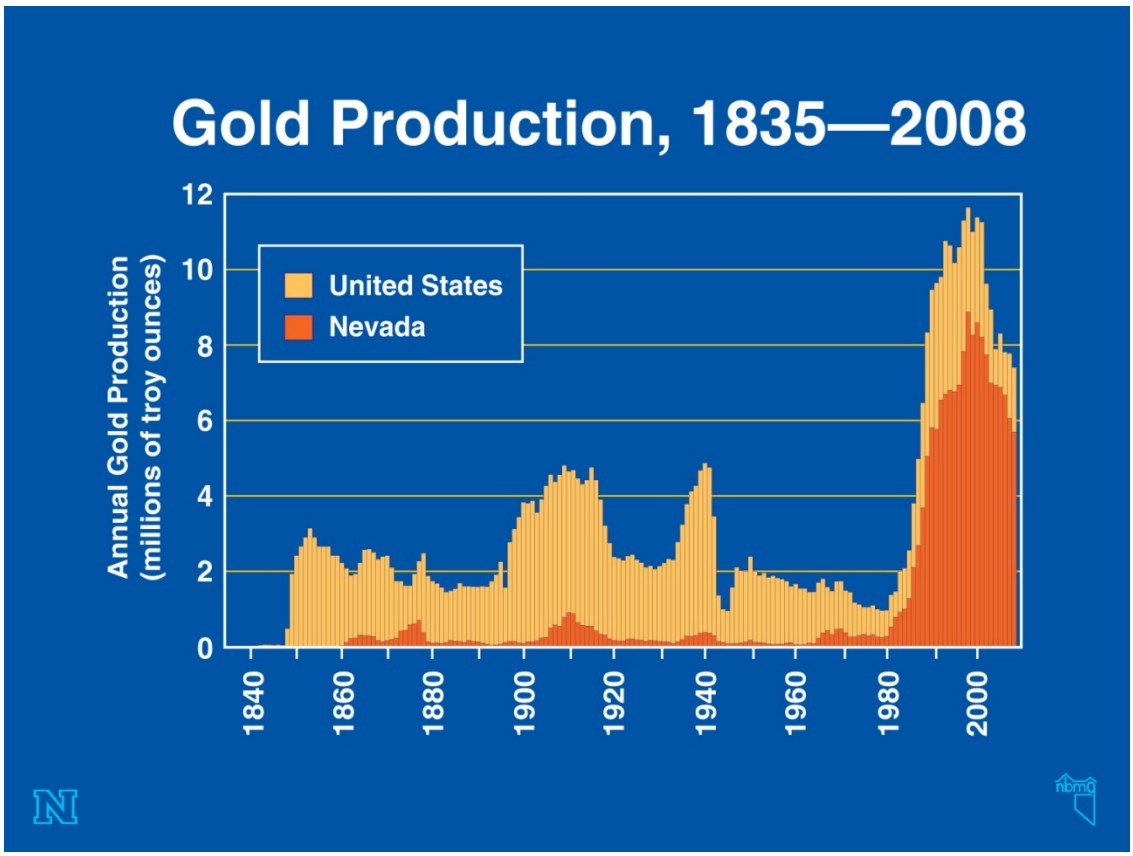
The section on **Metals** and the tables of **Major Precious-Metal Deposits** and **Other Metallic Deposits** provide details on new deposit discoveries, new mine openings, mine closures, additions to reserves, and mine expansions. As has been the case in recent years, gold has been the leading commodity produced in Nevada. Production of gold in 2008 came from 19 major mining operations. The Carlin trend in northeastern Nevada accounted for 54% of the total production. Ten additional mining operations, not on the Carlin trend, each produced over 100,000 ounces of gold from mostly multimillion-ounce deposits.



Nevada and the U.S. have produced a significant portion of world gold. The U.S. Geological Survey estimates that total world gold production, since the beginning of civilization, has been approximately 159,000 metric tons (5.1 billion troy ounces). Interestingly, about 85% of that gold is still in use (in bullion, coins, jewelry, electronics, etc.), and most gold currently being used is recycled. Through 2008, cumulative gold production in Nevada (beginning with the Comstock Lode in 1859) stands at 5,464 metric tons (181.53 million ounces). Remarkably, 87% of this total has been produced since the Carlin Mine began production in 1965; 84% of this total has been produced during the current boom from 1981 to the present; and 40% of this total has been produced in the decade from 1999 to 2008. Total U.S. production, primarily since 1835, is approximately 16,700 metric tons (537 million ounces or slightly more than 10% of total world gold production), and total Nevada production is 3.5% of total world production. The Carlin trend alone accounts for 1.4% of all the gold ever mined in the world. By the end of 2008, cumulative production from the Carlin trend reached 2,227 metric tons of gold (71.6 million ounces), assuring its place as one of the most productive gold-mining districts in the world.

We continue to be in the midst of the biggest gold boom in U.S. history, as the graph of historical U.S. gold production illustrates. The recent surge in production in the U.S. is largely the result of discoveries of Carlin-type gold deposits and other deposits in which gold occurs primarily in grains that are too small to be visible to the naked eye. These deposits are mostly in Nevada. The U.S. production so far in the current boom, the period from 1981 to 2008, has been 218 million ounces. This is significantly greater than the total U.S. production during the era of the California gold rush (1849 to 1859, with 29 million ounces, although some estimates of unreported production may bring that figure up to 70 million ounces); the Comstock (Nevada) era from 1860 to 1875 (with 34 million ounces); and the period from 1897 to 1920, when Goldfield (Nevada), the Black Hills (South Dakota), Cripple Creek (Colorado), and byproduct gold production from copper mines in Arizona and Utah contributed to cumulative production of 95 million ounces. U.S. production in the decade from 1999 through 2008 alone was 91 million ounces. The current boom is bigger than previous booms not only in terms of cumulative production but also in terms of peak annual production (11.6 million ounces in 1998 versus 4.8 million ounces in 1909, 2.6 million ounces in 1866, and 3.1 million

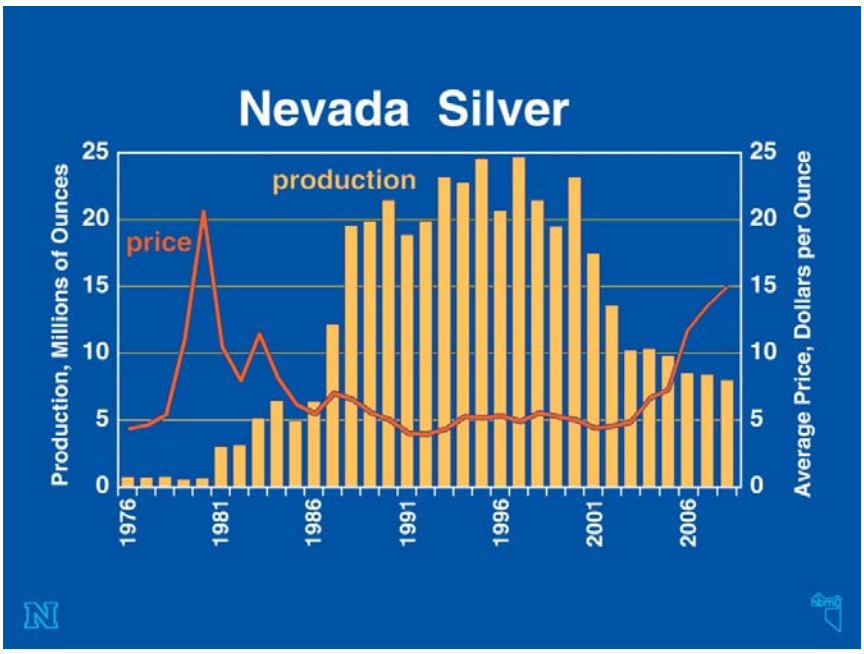
ounces in 1853) and duration (at least 29 years for the current boom versus no more than 24 years for any of the earlier booms).



In 2008, Barrick Gold Corporation's Betze-Post Mine in Eureka County produced 1.28 million ounces, making it the largest gold mine in the state, and Barrick's Meikle Mine in Elko County produced 425 thousand ounces, making it the largest underground producer. Barrick was the largest gold producing company in Nevada in 2008 both on the Carlin trend and statewide. Newmont Mining Corporation’s production on the Carlin trend totaled 1.3 million ounces, helping to make it the second largest gold producer in Nevada. Combined, Barrick and Newmont accounted for 89% of Nevada gold production in 2008.

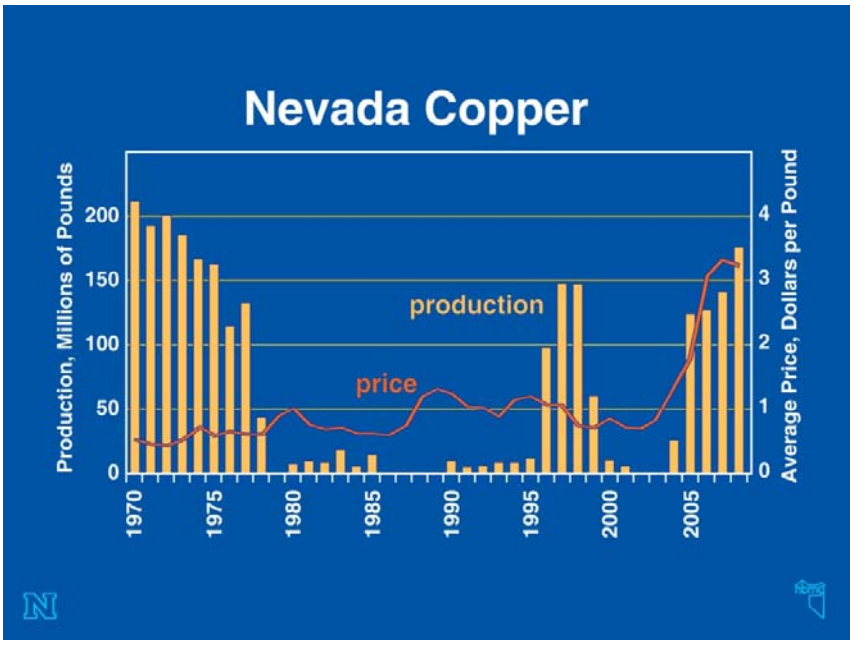
Much of Nevada's silver production in 2008, which totaled 7.96 million ounces, was a co-product or byproduct of gold mining. With a ratio of value (average price of gold to average price of silver) of 58:1 in 2008, only those deposits with more than 58 times as much silver as gold can be considered primary silver deposits. Only one such deposit operated in Nevada in 2008— the Coeur Rochester Mine in Pershing County (with a silver to gold production ratio of 144:1 and total silver production of 3.0 million ounces). This one mine produced 38% of Nevada's silver in 2008. Nevada's production in 2008 accounted for 20% of the U.S. total and 1.4% of the world total. Although the

Coeur Rochester Mine is approaching closure, and production in Alaska now makes it the leading silver producer in the country, byproduct silver production allows Nevada to



justify its nickname, the "Silver State," on the basis of both historical and present-day production.

Copper production, dominated by the Robinson copper-gold-silver mine, operated by Quadra Mining Ltd. near Ely in White Pine County, was enhanced by byproduct copper at Newmont's Phoenix project near Battle Mountain in Lander County. Golden Phoenix's molybdenum production from its Ashdown mine in northwestern Humboldt County declined in 2008, and the mine was placed on care and maintenance late in the year due to the recession and lower metal prices.

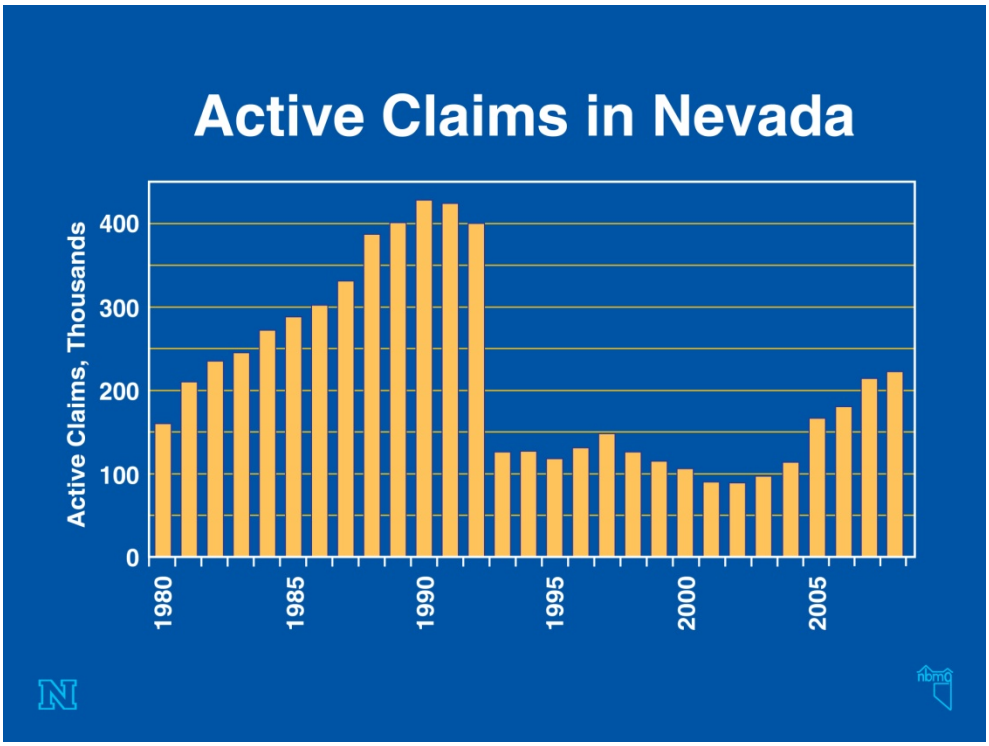


Exploration in 2008 (summarized in the section on **Metals**) included high-grade (mostly vein and breccia) targets and low-grade, large tonnage deposits, which generally become more profitable when gold prices are higher. The average gold price in 2008 was $872 per ounce, well above prices in the previous seven years ($695 in 2007, $603 in 2006, $440 in 2005, $410 in 2004, $363 in 2003, $310 in 2002, $280 in 2001). New discoveries and promising drilling results were reported in several districts. To help guide exploration for concealed deposits below alluvial or young volcanic cover, geologists are successfully employing various geophysical methods (seismic, electrical, magnetic, gravity). At least 68 companies, ranging from juniors to majors, drilled at least 123 projects in Nevada in 2008, about the same numbers as in 2007. Exploration activity, including new claims staked, was reported in most of Nevada's 17 counties. In 2008, Barrick saw its first production from the Cortez Hills deposit in Lander County, a multimillion-ounce gold deposit that was discovered in 2004. In addition, Allied Nevada Gold reopened the Hycroft Mine late in 2008, and Great Basin Gold significantly increased its production from its underground Hollister Mine.

Most exploration focused on gold and silver, which maintained high prices throughout the year. For many other commodities, prices declined in the latter part of the year due to the recession. Nonetheless, high prices earlier in the year stimulated exploration for copper, molybdenum, tungsten, iron, uranium, vanadium, zinc, and nickel. Advanced exploration projects at previously delineated deposits show promise for major developments, particularly in the Yerington district in Lyon County (at the Ann Mason copper deposit and the Lyon/Pumpkin Hollow copper-iron deposits) and at the Mount Hope molybdenum deposit in Eureka County.

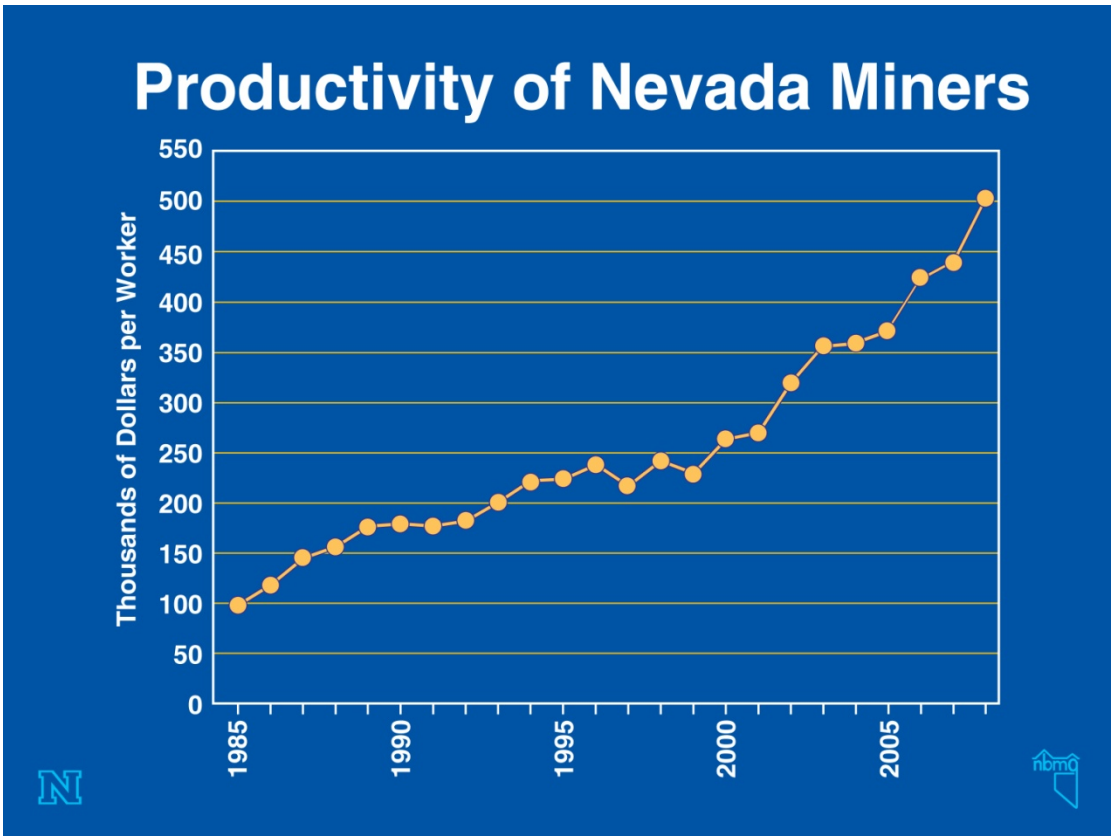
According to a survey of exploration activities by the Nevada Division of Minerals (D. Driesner and A.R. Coyner, 2008, Nevada Exploration Survey 2008, available at http://minerals.state.nv.us/), exploration activity in Nevada in 2008 declined slightly from 2007, after steadily increasing since 2001, when companies reported $51.2 million in expenditures in Nevada. The 22 companies responding to the survey reported spending $158.1 million on exploration in Nevada in 2008, somewhat less than the $167.9 million in 2007 and $164.9 million in 2006, but more than the $121.3 million reported in 2005 or the $79.7 million reported in 2004, and well above the level of $138.8 million in 1995. Perhaps as a result of the difficulty in raising funds for exploration during the recession, the companies were less optimistic about Nevada's potential than they had been in

recent years, and they reported that they planned to spend even less, $134 million in 2009. Because of its favorable geology for high-priced mineral commodities and because of its regulatory climate, Nevada continues to attract a large portion of the worldwide exploration expenditures of the companies actively exploring in Nevada. In contrast to the decrease in exploration spending, the number of active claims in Nevada rose slightly in 2008, and the number of new claims staked in 2008 was about the same as in 2007.



The announced gold resources in Nevada, including mineable reserves and perhaps some subeconomic resources (as reported in announcements by companies and compiled by the Nevada Bureau of Mines and Geology, with deductions for production), are enough to sustain gold production at multimillion-ounce levels for at least 20 years, assuming stable prices. The term “reserve” has special meaning with regard to U.S. securities laws. To be called a reserve, the deposit must be able to be mined profitably. With relatively high gold prices and continued technological improvements, some of the subeconomic resources of previous years have been upgraded to reserves. The Nevada Division of Minerals reported that the mining industry held 70.2 million ounces in gold reserves at the end of 2008, enough to sustain production at current levels for about 12 years.

Productivity of Nevada mining operations is exceptionally high. Measured simply by the value of the commodities produced divided by the number of employees, productivity of Nevada miners is outstanding. On the average, each of the 12,198 workers in the nonfuel mineral industry in Nevada produced approximately $503,000 in mined products in 2008, an all-time high.



Challenges that face the precious metal mines in Nevada include:

- Economic, safety, and environmental concerns, particularly uncertainty in metal prices
- The ability to replace mined-out reserves through “greenfield” and “brownfield” exploration, that is, in areas without and with previous mining, respectively
- Obtaining financial assurances (bonds) for reclamation and closure
- Sustaining local economies when, sometime in the future, mining ceases
- Hazards of underground mining
- Possible regulatory and mining-law changes
- The length of time that it typically takes to obtain permits
- Preservation of archaeological and ecological resources

- Treating refractory (iron sulfide and/or carbon-bearing) ores, including innovative ways to oxidize these ores and to recover gold-bearing pyrite by flotation
- Dewatering mines
- Predicting the ultimate chemical compositions of pit lakes
- Procedures for closure of heaps used for leaching gold and silver from ore
- Controlling the release of mercury, which typically was concentrated along with gold during ore formation and is concentrated along with gold during mineral processing, to the atmosphere and
- Treatment and disposal of large volumes of water, some of which may be too warm to introduce directly into streams or may contain potentially toxic elements that need to be removed

Industry is responding proactively to these challenges through research on and use of new technologies and engineering approaches, and through interaction with people in nearby communities.

The section on **Industrial Minerals** covers developments during 2008 and gives details on important commodities produced from or processed in Nevada, including aggregate, barite, cement, clays, diatomite, dimension stone, dolomite, gypsum, lime, limestone, lithium, magnesite and brucite, perlite, potassium alum (kalinite), salt, semiprecious gemstones (opal and turquoise), silica, and zeolites. Three major operations in Lander and Elko Counties combined to produce approximately 90% of the barite mined in the U.S.; production was slightly above that in 2007, in part because of higher oil prices and increased demand for barite in oil and gas drilling. Chemetall Foote Corporation’s Silver Peak lithium operation in Clayton Valley, Esmeralda County, where subsurface brines are evaporated on a playa, is the only domestic lithium producer, and Premier Chemicals’ Gabbs Mine in Nye County is currently the nation's only hard-rock producer of magnesite.

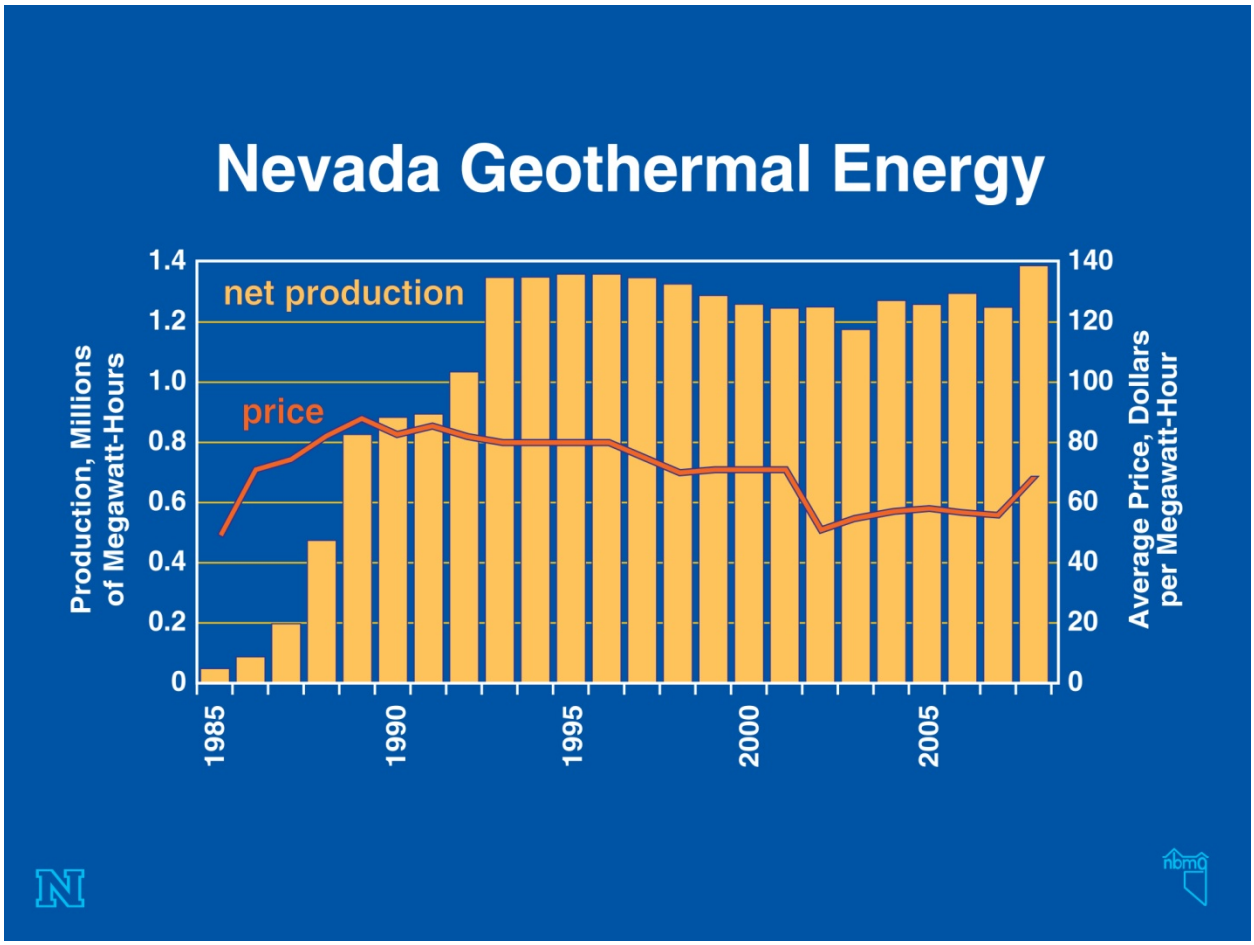
Aggregate production, which in recent years had been increasing as a result of Nevada's expanding population and need for construction materials for homes, schools, streets, highways, airports, resort hotels, and other businesses, experienced a decline of nearly 18% from 2007 to 2008 due to the economic recession. Nonetheless, demand for construction raw materials is likely to remain strong because of Nevada’s increasing population and need for highways. According to the U.S. Census Bureau (www.census.gov), Nevada’s population reached 2.6 million in 2006, up 30% from

1.998 million in the 2000 census. The booming population requires extraordinary amounts of construction raw materials. Population growth has been particularly strong in the Las Vegas metropolitan area (Clark County). Gypsum production declined in 2008, relative to 2007, in part because of the construction slowdowns in Nevada and California.

An interesting trend that is occurring in the Las Vegas area as well as nationwide is the combination of aggregate quarries with landfill operations. Planning for the eventual uses of quarries is vital in areas where urban expansion encroaches on the mineral resources. Aggregate is mined locally to reduce transportation costs and related concerns regarding highway safety. Post-mining land uses include suburban developments, landfills, and recreation areas. Gypsum mines near the urban growth areas of Las Vegas are now being considered as sites for housing developments.

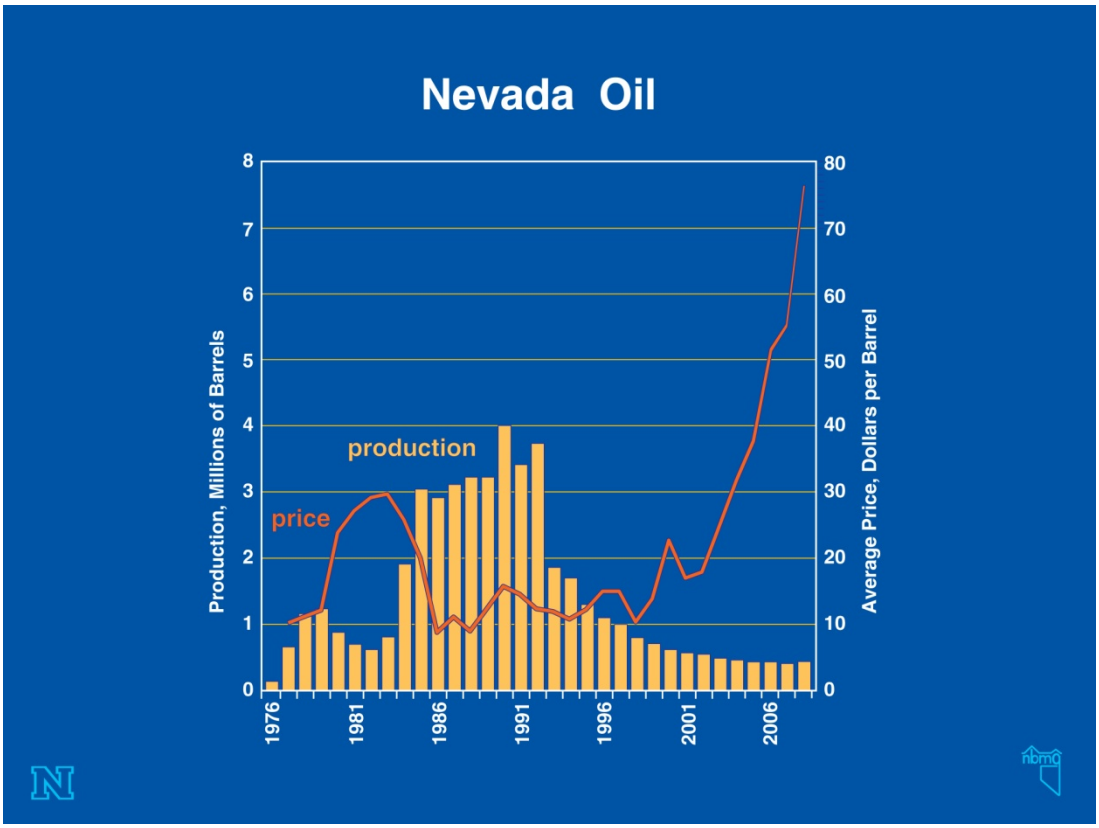
Developments in the geothermal industry are covered in the section on **Geothermal Energy**. Electric power production and sales increased substantially from 2007 to 2008 (11% and 37%, respectively), and production capacity increased to 336.6 megawatts. Approximately 16 plants operating at nine sites sold $95 million in electricity. Additionally, geothermal energy is used at numerous places in Nevada for space heating, domestic warm water, recreation, dehydrating vegetables, and other agricultural applications. Programs in the U.S. Department of Energy, energy bills passed by the Nevada and California legislatures, and activities of the Great Basin Center for Geothermal Energy at the University of Nevada, Reno are stimulating geothermal development in Nevada. Two new plants went into production in 2009, and several new plants are planned to meet Nevada's renewable energy portfolio standard. Nevada Bureau of Mines and Geology Map 141, *Nevada Geothermal Resources*, available online at http://www.nbmg.unr.edu/dox/m1412.pdf,shows the locations of geothermal plants, direct-use locations, hot and warm springs and wells; it demonstrates the fact that Nevada has considerable potential for geothermal development. Nevada Bureau of Mines and Geology Open-File Report 09-10, *Preliminary Geothermal Potential and Exploration Activity in Nevada*, provides regional information for assessing the potential for high-temperature (>150ºC) geothermal systems. Considerable information on geothermal energy resources in Nevada is provided on the Web at: www.nbmg.unr.edu/geothermal/gthome.htm.

At a 2005 meeting of a task force set up by the Western Governors' Association to assess geothermal resource potential, geothermal energy experts estimated that by 2025 Nevada could add approximately 1,500 to 2,900 megawatts of geothermal power-generating capacity. If this potential were realized, and if energy prices continue to rise, geothermal power could become a billion-dollar per year business in Nevada. According to the Nevada Division of Minerals, production capacity should exceed 400 megawatts in 2009.



Nevada has great potential for renewable energy (particularly geothermal, wind, and solar energy for electricity). Approximately 84% of Nevada's electricity currently is generated by power plants that burn fossil fuels, with 58% from natural gas and 26% from coal (2007 statistics from the Energy Information Administration, Table S8, http://www.eia.doe.gov/). In 2007, hydroelectric dams accounted for 6.5%, geothermal power plants accounted for 8.7%, and solar power plants accounted for about 0.1% of electricity generated in Nevada. New solar plants are being constructed, primarily in southern Nevada.

Developments in the Nevada petroleum industry are covered in the section on **Oil and Gas**. Oil is produced primarily in two areas—Railroad Valley in Nye County and Pine Valley in Eureka County. Total annual oil production from Nevada (valued at $33.3 million in 2008) is a minor part of U.S. production. The amount of Nevada oil production increased slightly from 2007, although no new fields were discovered in 2008. Small amounts of co-produced natural gas are used to fuel equipment used for oil production. The value of Nevada oil production increased from 2007 to 2008 largely as a result of higher oil prices.



In 2005, the U.S. Geological Survey released its assessment of undiscovered oil and gas resources of the Eastern Great Basin (available at http://energy.cr.usgs.gov/oilgas/noga/index.htm), an area that includes the eastern portion of Nevada, western Utah, and part of southeastern Idaho. The U.S. Geological Survey estimates mean figures of 1.6 billion barrels of oil and 1.8 trillion cubic feet of natural gas remaining to be found in this region.

Exploration for oil in Nevada is encouraged by the cumulative production from the two premier fields in Railroad Valley: Grant Canyon and Trap Spring (21 million and 14 million barrels, respectively). Historically, few exploration wells have been drilled in the state (fewer than 1,000 wells, or fewer than one well per 111 square miles or 286

square kilometers). With so much area unexplored, even discounting areas underlain by high-grade metamorphic and granitic rocks, Nevada has the potential for discovery of more multimillion-barrel fields. Eight new exploration wells were spudded and 13 wells were permitted in 2008. In part because of high prices for oil and gas, and in part because of Nevada's small production relative to fields in California, Utah, and elsewhere, operators in Nevada have been unable to find the rigs needed for drilling that has been permitted.

Additional information about the Nevada mineral industry and the U.S. gold industry, including the contents of selected publications, is readily available on line through the World Wide Web from the Nevada Bureau of Mines and Geology (www.nbmg.unr.edu/) and the Nevada Division of Minerals (http://minerals.state.nv.us/). Useful national and international data on nonfuel minerals can be obtained from the U.S. Geological Survey (http://minerals.usgs.gov/minerals/), and the U.S. Energy Information Administration (www.eia.doe.gov/) provides data on oil and gas, geothermal, and other energy sources. The Nevada Bureau of Mines and Geology supports several interactive maps on the Web that are backed by periodically updated databases on mineral and energy resources and potential, exploration activity, land ownership and restrictions, and other geographic information.

CONVERSION FACTORS

1 metric ton = 1.1023113 short ton = 1,000 kilograms = 2,204.6226 pounds = 32,150.7 troy ounces.

31.1035 metric tons = 1 million troy ounces (31.1035 grams = 1 troy ounce).

453.592 grams = 1 pound (avoirdupois) = 16 ounces (avoirdupois) = 14.5833 troy ounces.

34.2857 grams per metric ton = 34.2857 parts per million by weight = 1 troy ounce per short ton.

Metals

by John L. Muntean

PRODUCTION

Nevada produced 5.698 million ounces of gold, 7.965 million ounces of silver, 175.5 million pounds of copper and 0.28 million pounds of molybdenum in 2008. Gold production was down 338,826 ounces, a 5.6% decrease from 2007. The decrease marked the eighth consecutive year of declining production. Nineteen mines in Nevada reported gold production in 2008. Fifty-four percent of production came from mines on the Carlin trend.

Barrick Gold Corp. and Newmont Mining Corp. once again dominated Nevada's gold production, accounting for 89% of production in 2008. Barrick produced the most gold, with production from its Goldstrike, Bald Mountain, Ruby Hill, Cortez, and Turquoise Ridge Mines (75% share), plus its 50% share of the Round Mountain Mine's production and 33% share of the Marigold Mine's, amounting to 2,841,943 ounces of gold, a 3.5% increase from 2007. In early 2008, Barrick Gold Corp. purchased Kennecott Explorations Ltd.'s (subsidiary of Rio Tinto plc) 40% interest in the Cortez property, which includes the Pipeline and Cortez Hills Mines, for a total cash consideration of $1.695 billion. Newmont produced 2,217,053 ounces, reporting production from its Carlin trend mines and from its Twin Creeks, Lone Tree, Phoenix, and Midas, plus its 25% share of the Turquoise Ridge Mine.

Barrick reported its first production from the Cortez Hills Mine in 2008, and Allied Nevada Gold Corp. began production from the reopened Hycroft open pit mine late in 2008. Furthermore, Newmont is waiting on permits to put the Emigrant deposit into production. Old mines awaiting permits to reopen and begin production in the near future include the Reward Mine (Atna Resources Ltd.), the Relief Canyon Mine (Firstgold Corp.), and the Sterling Mine (Imperial Metals Corp.). On the other hand, the Jerritt Canyon Mine (Yukon-Nevada Gold Corp.) closed in August, 2008, but intends to reopen in 2009. From its startup late in 2007, Great Basin Gold Corp. increased its production from the underground Hollister Mine.

Coeur d'Alene Mines Corp. produced 3,033,720 ounces of silver, entirely from its Rochester Mine. Coeur d'Alene ceased mining activity at Rochester in 2007, although leaching and silver recovery will continue until approximately 2014. Newmont was the

second largest silver producer, producing 2,973,256 ounces, primarily from its Midas and Phoenix Mines.

Quadra Mining Inc.'s Robinson Mine produced 91% of Nevada's copper in 2008, amounting to 159,684,092 pounds. Newmont's Phoenix Mine made up the balance, producing 15,853,706 pounds. Golden Phoenix Minerals produced 202,597 pounds of molybdenum from its underground Ashdown Mine; however, it closed down the mine in November, 2008. Quadra's Robinson Mine, the only other molybdenum producer in Nevada, yielded 78,855 pounds of molybdenum.

EXPLORATION

Exploration in Nevada continued at a great pace in 2008, but slowed considerably in the fall due to the international financial crisis. Nevada county recorders registered 221,858 claim filings in 2008, a 4% increase from 2007. These included new claims and annual maintenance of existing claims. The pattern of active claims, as of the end of 2008, is shown in Figure 1. The U.S. Bureau of Land Management (BLM) listed 20,751 new claims that were located in 2008 (Fig. 2), a 51% decrease from 2007. Companies that staked the most claims in 2008 were Pediment Gold LLC – a wholly owned subsidiary of Nevada Exploration Inc. (1,241 claims), Hycroft Resource and Development – a wholly owned subsidiary of Allied Nevada Gold Corp. (1,057 claims), Fronteer Development Group Inc. (958 claims), Newmont Mining Corp. (912 claims), and Agnico-Eagle Mines Ltd. (867 claims). At least 123 projects were drilled in 2008. Fifty-eight different junior companies drilled 88 of these projects, with the remainder drilled by 10 major or mid-tier companies[1] (Fig. 3). More projects were likely drilled, especially small drill programs carried out by major or mid-tier companies, because these companies only occasionally release information on such projects. The main exploration objective in Nevada continued to be gold. Fifteen of the 123 projects drilled in 2008 targeted metals other than gold.

[1] The classification of companies into major, mid-tier, or junior in this section of the report is arbitrarily based on gold production and market capitalization. The loose criteria are as follows: 1) major companies produce greater than 1 million ounces of gold worldwide, and have market capitalizations of over $3 billion, 2) mid-tier companies produce between 50,000 and 1 million ounces of gold and/or have market capitalizations less than $3 billion but more than $500 million, and 3) junior companies produce less than 50,000 of gold and/or have market capitalizations less than $500 million.

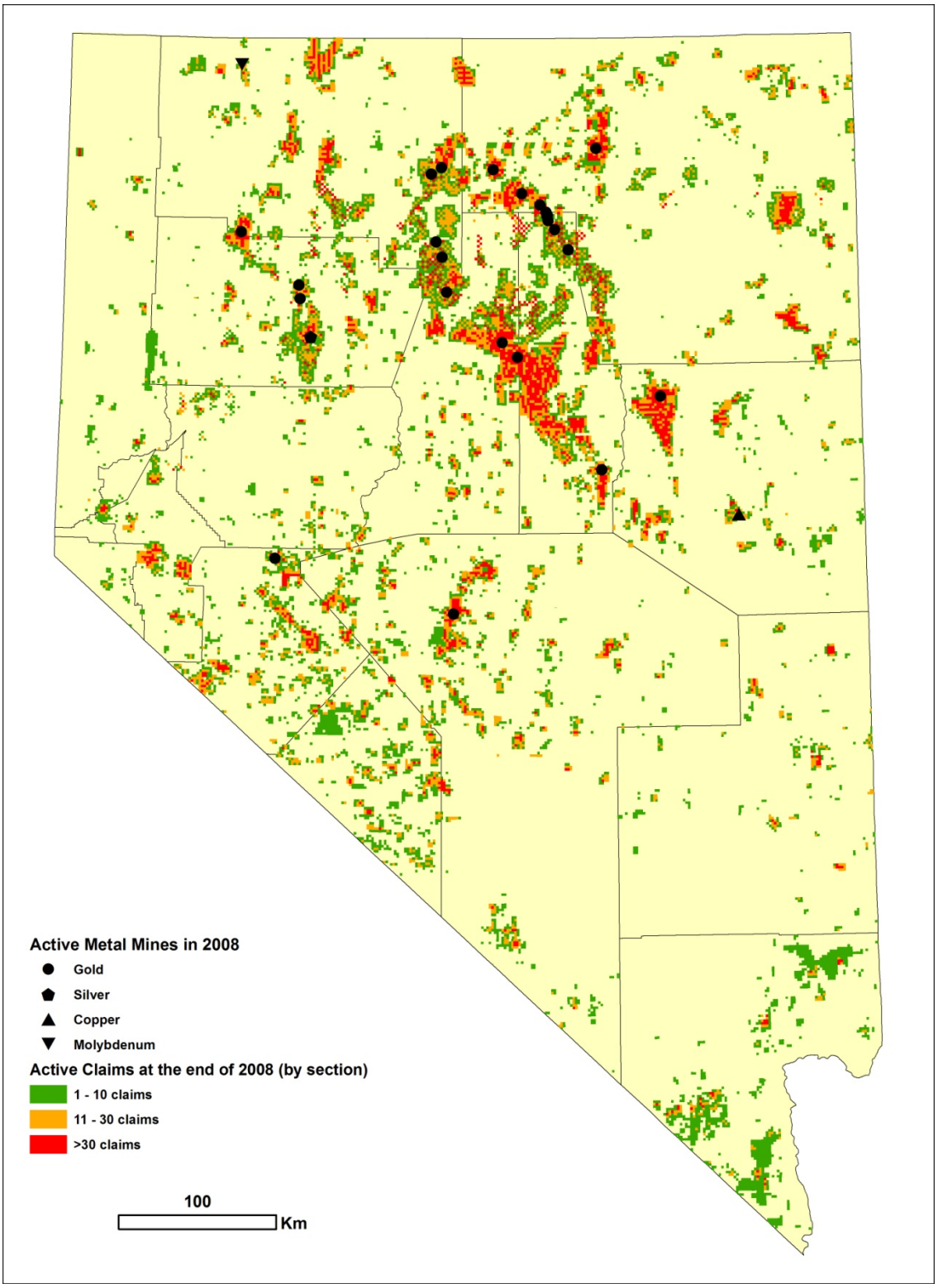


Figure 1. Map showing distribution of active mining claims by section at the end of 2008. Source of data is: Causey, J.D., 2008, Mining claim activity on federal land in the United States, v 2.1: U.S. Geological Survey DS-290.

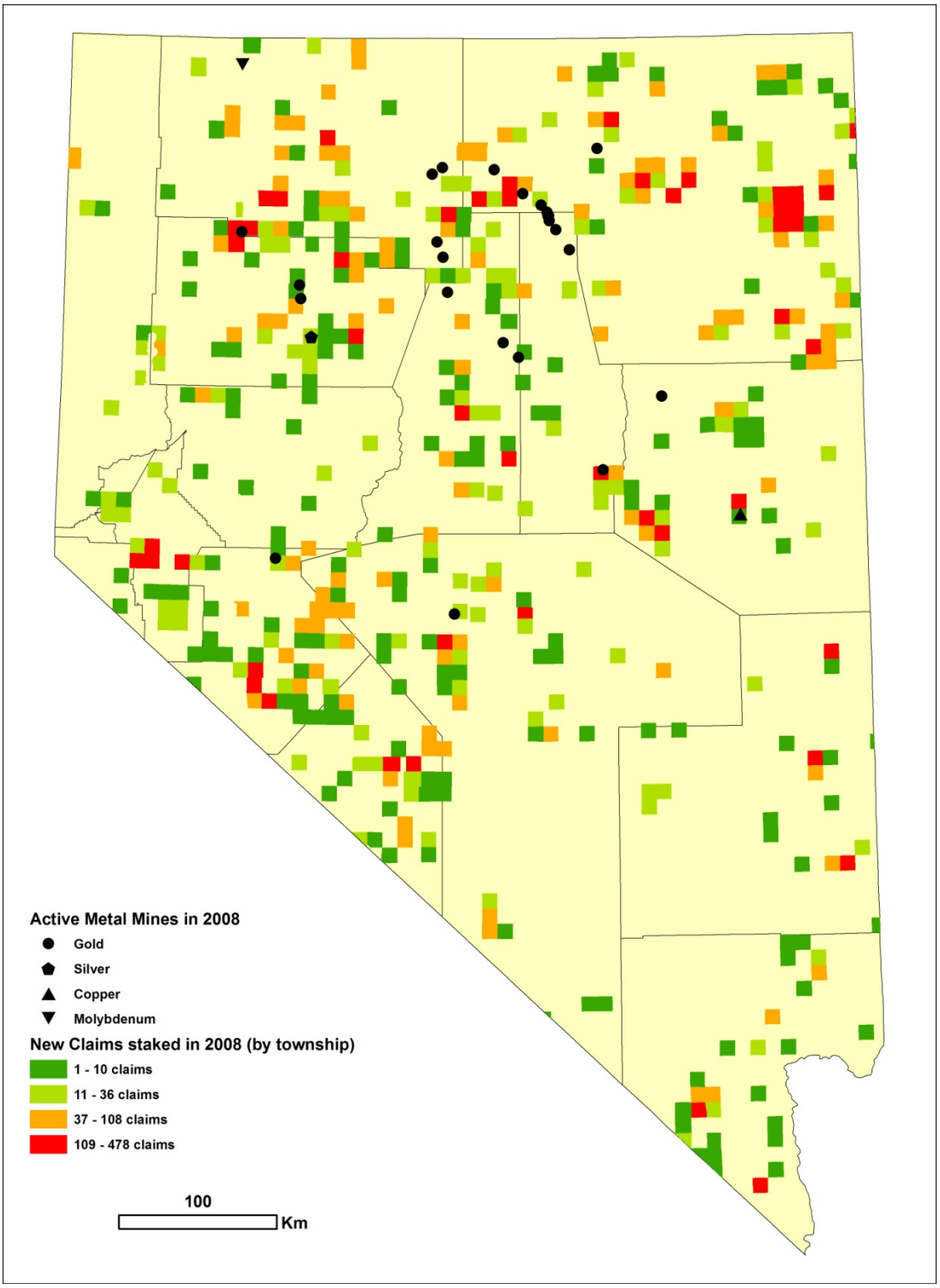


Figure 2. Map showing distribution of new mining claims by township staked in 2008. Source of data is the U.S. Bureau of Land Management's LR 2000 database.

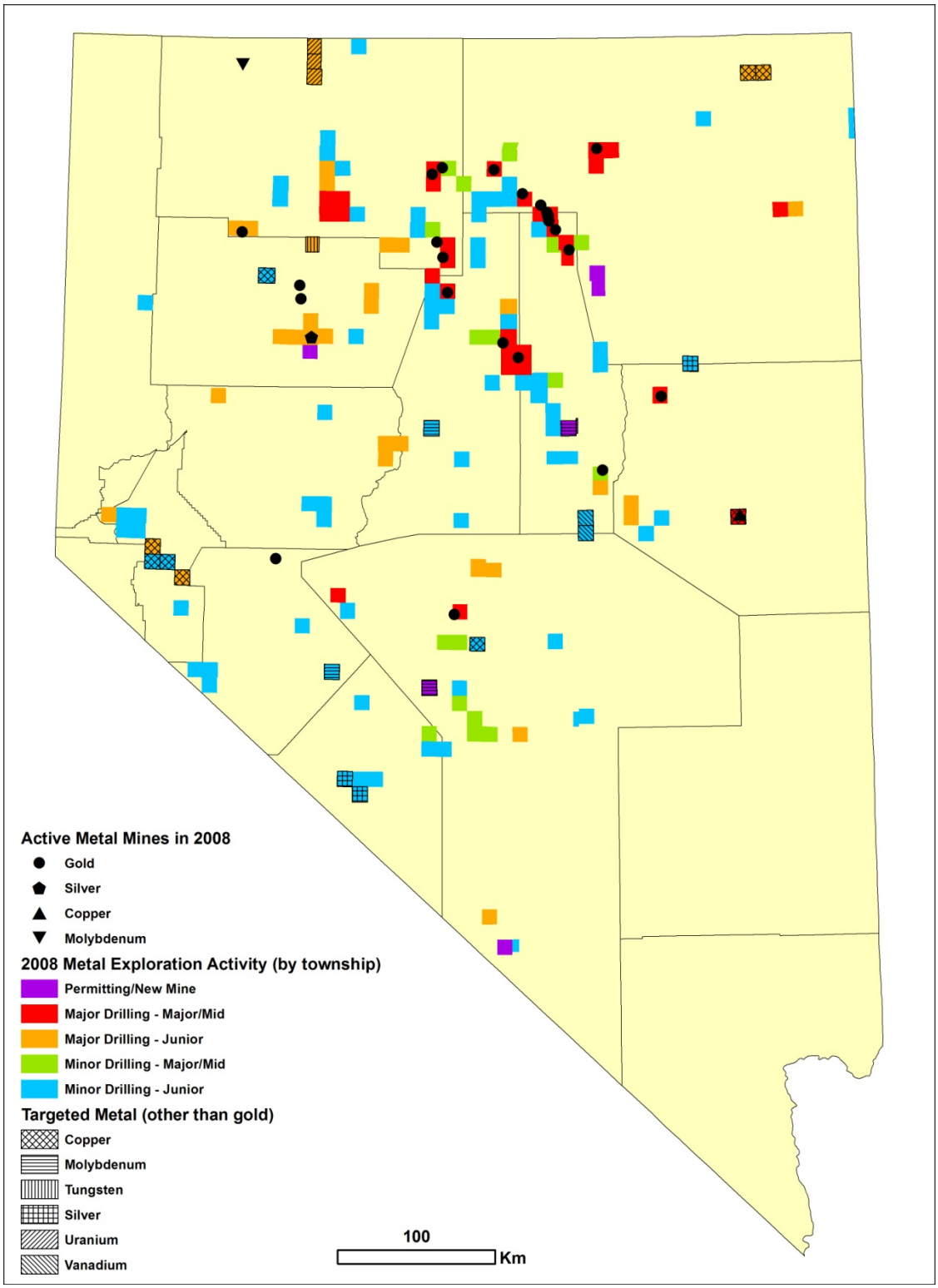


Figure 3. Map summarizing drilling and mine development activity by township in 2008.

GOLD

As in the last several years, companies focused their exploration in and around their active mines in 2008. On the Carlin trend, Barrick continued to carry out major drill programs in and around its Goldstrike Mine, both on the surface and underground. At the north end of the Carlin trend, Barrick continued its feasibility study of the South Arturo deposit (60% Barrick, 40% Goldcorp), adjacent to which it made a new discovery at West Button Hill that is reportedly higher grade than South Arturo. Barrick also carried out major programs at its Cortez, Bald Mountain, and Turquoise Ridge (75% Barrick, 25% Newmont) mines. At Cortez, most of the work concentrated on the Cortez Hills deposit, where an important milestone was reached in November when the BLM issued a Record of Decision, allowing construction and pre-stripping to commence. Full-scale gold production is projected to begin in early 2010. Production in the first five years from Cortez Hills is expected to be nearly one million ounces of gold per year. Barrick also reportedly made a discovery located about 4 miles southeast of Cortez Hills. Newmont carried out large drill programs at its surface and underground mines along the Carlin trend and at its Twin Creeks, Midas, and Phoenix mines. Other active mines with major drill programs in 2008 were Marigold (67% Goldcorp, 33% Barrick), Jerritt Canyon (Yukon-Nevada Gold Corp.) prior to its closure, Robinson (Quadra), and Round Mountain (50% Kinross Gold Corp., 50% Barrick).

Substantial drill programs carried out by major or mid-tier companies targeting gold outside active mine areas include Sandman, Buffalo Valley, Pinson, West Pequop, and Gabbs. Newmont carried out major drill programs at Sandman and Buffalo Valley. At Pinson, Barrick spent the required $30 million and earned back a 70% interest in the property from Atna Resources Ltd. Agnico-Eagle (joint venture with AuEx Ventures Inc.) continued to drill high-grade, oxidized gold mineralization at two separate areas at its West Pequop project near Wells, and Newcrest Mining Ltd. continued to drill at its Gabbs property near the old Paradise Peak and Sullivan Mines.

Much of the drilling for gold by junior companies in 2008 occurred around known, unmined deposits or inactive mines, commonly with old resource estimates. In addition to expanding a given resource beyond its margins, an important objective of many of these drill programs was to upgrade the resource estimate with infill and confirmation drilling in order to produce a new resource estimate that is compliant with current

security and exchange regulations. Examples, in decreasing order of the amount of drilling completed in 2008, included the following projects:

Hycroft (Allied Nevada Gold Corp.)
Fire Creek (Klondex Mines Ltd.)
Pan (Midway Gold Corp.)
Wilco (Rye Patch Gold Corp.)
Sterling (Imperial Metals Corp.)
Lewis (Madison Minerals Inc.)
North Bullfrog (International Tower Hill Mines)
Robertson (Coral Gold Resources Ltd.)
South Eureka (Stacatto Gold Resources)
Jessup (Rye Patch Gold Corp.)
Independence (General Metals Corp.)
Gold Pick (US Gold Corp.)
New Pass (Bonaventure Enterprises Inc.)
Wind Mountain (Fortune River Resource Corp.)
Santa Fe (Gateway Gold Corp.)
Monte Cristo (Gold Summit Corp.)
Chert Cliff (Platte River Gold Inc.)
Toiyabe (Golden Oasis Exploration Corp.)
Davis (Molycor Gold Corp.)
Mount Hamilton (Ely Gold and Minerals)
Dixie Comstock (Royal Standard Minerals Inc.)

New resource estimates were released for Hycroft, Fire Creek, North Bullfrog, Golden Arrow, Jessup, Independence, Gold Pick, Mount Hamilton, Pine Grove (Lincoln Gold Corp.), Sleeper (X-Cal Resources Ltd.), and Borealis (Gryphon Gold Corp). Junior company-controlled projects with underground development in progress or in the process of being permitted and financed include Goldwedge (Royal Standard), Sterling (Imperial), Fire Creek (Klondex) and Midway (Midway).

AuEx's claim blocks in the Pequop Mountains and Midway's Spring Valley project in the Humboldt Range remained the most exciting "grassroots" projects in 2008. AuEx's joint venture partners continued to drill high-grade, oxidized gold mineralization on its Pequop properties near Wells. Agnico-Eagle's encouraging results at West Pequop were mentioned above. At Long Canyon, on the east side of AuEx's Pequop property, its joint venture partner, Fronteer, continued to expand the deposit and released the first resource estimate for Long Canyon in early 2009 – 363,000 ounces of gold from oxidized material grading 0.069 opt. Midway expanded its Spring Valley deposit with a major drill program in 2008, and in early 2009 released a new resource estimate of 1.8 million ounces, an 85% increase from its last resource estimate. In October, Midway took on Barrick as a joint venture partner at Spring Valley. Barrick will fund future exploration and can earn a 60% interest in Spring Valley by spending $30 million over the next 5 years.

On the heels of success in the Pequops and at Spring Valley, junior companies drilled more "grassroots" projects in 2008, compared to the last few years. A notable example was Rye Patch Gold Corp.'s drilling of high-grade intercepts (e.g., 25 feet grading 2.2. opt gold) at its Lincoln Hill project located southwest of Spring Valley in the

Humboldt Range. Equally exciting are the efforts to find Carlin-type gold deposits in lesser explored areas off the main trends. Notable examples include Columbus Gold's Bolo project in the Hot Creek Range and Fronteer's aggressive grassroots program in northeastern Nevada. Other examples of drilling early-stage projects by junior companies include Evolving Gold Corp.'s drilling in Boulder Valley, the Sheep Creek Range, and the pediment between Sleeper and Sandman, and Nevada Exploration Inc.'s drilling its pediment projects at Hot Pot, Bull Creek, and Fletcher Junction, which were generated based on groundwater geochemistry.

OTHER METALS

High prices for all metals continued to bring more companies to Nevada to look for metals other than gold in 2008. Most of the projects, which are being carried out exclusively by junior companies, are focused on areas with historical resources. Some companies were proceeding with feasibility studies, permitting, and financing with plans to put mines into production in the near future. However, again, the international recession and financial crisis that took hold in the second half of 2008 put a major damper on those plans as well as on exploration.

In addition to Quadra's active Robinson Mine near Ely, the Yerington district was the focus of intense copper exploration in 2008. At Pumpkin Hollow, which contains significant byproduct gold, Nevada Copper Corp. completed a $9 million development program, mostly aimed toward infill and step-out drilling but also on permitting and metallurgical, hydrological, and geotechnical studies necessary for planned production. Also in the Yerington district, Quaterra Resources Inc. completed a major drill program and released a resource estimate that amounted to 274 million pounds of copper from oxide- and chalcocite-bearing material grading 0.239% copper. Also, near Yerington, Pacific Magnesium Corp. continued to drill the Ann Mason resource area and nearby skarn targets. Elsewhere, in the Contact district in northeastern Nevada, International Enexco completed a major drill program and pre-feasibility study and released a proven and probable reserve of 197 million pounds of copper from material grading 0.293% copper. Other copper projects were explored at Majuba Hill (Minterra Resources Corp.) about 40 miles north of Lovelock and in the Belmont district (Nevoro Inc.).

In addition to Golden Phoenix's production of molybdenum from the now-closed, underground Ashdown Mine and Quadra's production of byproduct molybdenum from its Robinson Mine, General Moly Inc. (formerly Idaho General Mines) continued to permit and secure financing for its giant Mount Hope porphyry molybdenum deposit northwest of Eureka. General Moly also finished a pre-feasibility study of the Hall-Tonopah deposit, which it now calls Liberty. The estimated proven and probable reserves at Liberty are 432,951,000 tons grading 0.071% molybdenum and 0.070% copper. In addition to General Moly's advanced projects, drilling for primarily molybdenum occurred at the Pine Tree project (Mosquito Consolidated Gold Mines) near Mina and the Ravin project (MAX Resource) northwest of Austin.

Despite the high price of silver, only two projects were drilled primarily for silver in 2008. Silver Standard Resources Inc. drilled around a known resource at Maverick Springs in the Maverick Springs Range, and Silver Reserve Corp. drilled its Nivco and Silver Queen projects located near Silver Peak.

At its Springer tungsten project, Golden Predator Mines, Inc. spent approximately $21 million rehabilitating the mill and delineating near-surface tungsten mineralization. Until the economic crisis in September, 2008, the project was on-track and within budget to treat tungsten ores and start operations by January, 2009. Currently, the project is on care and maintenance, but operations could start within 6 months of securing necessary financing.

Western Energy Development Corp. continued to explore for uranium at its Kings Valley project along the east side of the McDermitt caldera in northern Humboldt County. Additionally, Rocky Mountain Resources Corp. carried out a drill program to confirm vanadium mineralization and collect samples for metallurgical testing at the known vanadium resources in the Gibellini district, located south of Eureka.

Exploration activity is summarized below by county and district. Projects that were drilled in 2008 are emphasized. Production, reserves and resources of gold and silver are updated in the section "Major Precious-Metal Deposits." Recent production, reserves, and resources from projects producing or targeting other metals are listed in the section "Other Metallic Deposits."

CHURCHILL COUNTY

Chalk Mountain District

Stingaree Valley. Inter-Rock Minerals Inc. drilled three reverse circulation holes, totaling approximately 2000 feet, in Stingaree Valley between the Chalk Mountain and Westgate mining districts. They targeted a coincident induced polarization (IP)/gravity anomaly, interpreted to be a bedrock high. The anomaly was near an old hole with reportedly significant gold assays that was drilled by Simplot in the early 1970s. A thin silver/lead-bearing vein was intersected in one of the holes, but no gold values higher than 0.001 opt were encountered in the drill program. (Inter-Rock Minerals Inc. press release, 2/12/2009, 6/4/2009)

Dixie Valley District

Dixie Comstock. Royal Standard Minerals Inc. drilled 8 core holes to test the extension of known mineralization. The drilling did not identify additional gold mineralization of mineable grade. (Royal Standard Minerals Inc. press release, 5/28/2008)

Gold Basin District

Middlegate. Terraco Gold Corp. completed an eight-hole reverse circulation drill program at its project 5 miles southwest of Middlegate. The geology of the project area is characterized by a thick sequence of latitic, varibably welded lithic tuffs that have been apparently folded into a broad north-south antiform. Chalcedonic sinter breccia containing cinnabar and faulted breccia-vein zones are exposed on the surface. Six of the eight holes intersected several intervals containing anomalous gold and silver. The best intercept was 5 feet grading 0.028 opt gold at a depth of 965 feet. However, a metallic screen fire assay of that interval returned 0.736 opt gold for the coarse fraction versus 0.006 opt for the fine fraction, indicating relatively coarse, free gold. Many of the samples re-run by metallic screen fire assay techniques returned gold values in the coarse fractions that were many times greater than the fine fractions from the same

samples. (Terraco Gold Corp., press releases, 11/30/2007, 10/23/2008; Terraco website, www.terracogold.com)

Jessup District

Jessup. Rye Patch Gold Corp. drilled 45 reverse circulation holes totaling 16,840 feet, located in the following target areas: 11 holes at San Jacinto, five at Central Jessup, four at Tosh Hill, five at the north end of the property, two at Gold King and 19 at North Jessup. Better intercepts included 150 feet grading 0.046 opt gold at San Jacinto (hole JR-08-002, 140-290 feet) and 25 feet of 0.268 opt gold at North Jessup (hole JR-08-039, 115-140 feet). The San Jacinto deposit remains open to the northeast and along its southern margin. The drilling at North Jessup extended mineralization to the north and west along mapped fault zones. North Jessup has significant silver as well. For example, hole JR-08-041 intercepted 45 feet averaging 1.8 opt silver, which included 5 feet of 11.8 opt. At Tosh Hill, the drilling intersected 25 feet grading 0.084 opt gold, which included 5 feet of 0.300 opt gold (hole JR-08-041, 205-230 feet). A new resource estimate was released in 2009 that included the results from the 2008 drill program. The measured resource is 8,571,000 tons grading 0.015 opt gold and 0.255 opt silver. The indicated resource is 13,936,000 tons grading 0.012 opt gold and 0.209 opt silver. The measured and indicated resource contains 300,000 ounces of gold and 5,090,000 ounces of silver. (Rye Patch Gold Corp., press releases 10/22/2008, 11/12/20089, 6/2/2009; Rye Patch Gold website, www.ryepatchgold.com)

New Pass District

New Pass. Bonaventure Enterprises Inc. (joint venture with US Gold Corp.) completed a 25-hole drill program, totaling 12,220 feet in three core holes and 22 reverse circulation holes. Highlights included hole NP-0813 that intersected 160 feet averaging 0.053 opt gold. The drilling expanded the mineralization in the northwest portion by drill hole NP-0817, which intersected 75 feet grading 0.048 opt gold. The core holes indicate the bulk of the mineralization is hosted by breccias in karstified limestone. (Bonaventure Enterprises Inc. press release, 1/6/2009; Bonaventure website, www.bonaventure.us)

ELKO COUNTY

Bootstrap District

REN. Centerra Gold Corp.'s exploration program consisted of property maintenance, data compilation and site reclamation work. No drilling was carried out in 2008. (Centerra website, www.centerragold.com)

South Arturo. Drilling by Barrick Gold Corp. increased the indicated resource at South Arturo (60% Barrick, 40% Goldcorp Inc.) to 1.645 million ounces of gold. Drilling continued on the Hinge and Button Hill zones, parallel north-south deposits, located northeast of South Arturo. A new discovery was made in the West Button Hill that is significantly higher grade than South Arturo. (Barrick Gold Q3 2009 Earnings Call Transcript; Barrick Gold website, www.barrick.com)

Storm. Barrick Gold Corp. acquired Yamana Gold Inc.'s 40% interest in the underground Storm Mine for $29 million. (Barrick Gold 2008 Annual Report)

Burner District

Claim staking. Newmont Mining Corp. carried out a major staking program in the Burner Hills at the northwest end of the Tuscarora Mountains. (BLM LR2000 database)

Carlin District

Dixie Flats. Staccato Gold Resources Ltd. drilled three reverse circulation holes, totaling 1,500 feet, on the Evans Mine portion of its Dixie Flats project. The Evans claims are immediately adjacent to Newmont Mining Corp.'s Emigrant Springs deposit. One of the primary targets was the dolomitic sandstone of the Devonian Oxyoke Canyon Formation. Decarbonatization, iron oxide staining, and argillic alteration were observed associated with faults, breccia zones, and dikes in all three holes. The highest gold assay was 0.0037 opt; however, values up to 1,400 ppm arsenic and 4 ppm mercury were encountered. In December Staccato announced it had dropped the

property. (Staccato Gold Resources Ltd. press releases, 3/10/2008, 7/16/2008; 11/20/2009. 12/5/2009)

Emigrant. In November Newmont Mining Corp. submitted an environmental impact statement to the BLM proposing an open pit mine at its Emigrant deposit. (Nevada State Clearinghouse, http://budget.state.nv.us/clearinghouse/Notice/2009/E2009-153.pdf)

Rain. Newmont Mining Corp. carried out a drill program in and around its inactive Rain gold mine. (R. Vance, Newmont Mining Corp., oral commun., December, 2008)

Contact District

Contact. International Enexco completed a pre-feasibility study showing the Banner deposit contains a proven and probable reserve of 33,578,000 tons grading 0.293% copper and a measured and indicated resource of 89,551,000 tons of 0.268% copper. The reserve and resource calculations include 133 core holes totaling over 106,000 feet, which Enexco drilled between January 2007 and September 2008. The Banner deposit consists of 3 principal zones of quartz veining in granodiorite of Jurassic age. The mineralization occurs mainly as copper oxides. (Enexco website, www.enexco.ca)

Gold Circle District

Clover. Yamana Gold Inc. (joint venture with Atna Resources Ltd.) drilled 10 reverse circulation holes totaling over 8,000 feet. The best intercept was 35 feet grading 0.321 opt gold (hole CV006). The Clover project is a low-sulfidation, vein-hosted, epithermal gold prospect located adjacent to the Midas trough within the Northern Nevada Rift. (Atna Resources press release, 3/31/2009)

Midas. Newmont Mining Corp. continued to explore its Midas Mine, drilling both underground and from the surface. Three new veins were discovered in 2008 – the Gold Crown South Extension vein, the GP vein, and the Charger Hill vein on the north end of the property. (R. Vance, Newmont Mining Corp., oral commun., December, 2008)

Independence Mountains District

Jerritt Canyon. The Jerritt Canyon Mine and its operator, Yukon-Nevada Gold Corp., experienced a tumultuous year in 2008. In March, the mine received a Stop Order from the State of Nevada's Division of Environmental Protection (NDEP), which shut down the roasters at Jerritt Canyon. The Stop Order, according to the NDEP, stemmed from a failure by Yukon-Nevada to address issues involving the installation and maintenance of instrumentation necessary to monitor mercury emissions. The company then shut down the mine and exploration in August and laid off 400 employees. Yukon-Nevada spent the rest of 2008 working on the roasters to meet NDEP's requirements for compliance. Prior to the shutdown, exploration drilling focused on the Mahala Basin between the SSX and Smith underground mines, where drilling potentially extended the Mahala West ore zone 4,000 feet westward. Significant drilling also occurred in the Steer and Pattani zones on the west side of SSX, where better intercepts included 35 feet averaging 0.735 opt gold and 42 feet of 0.513 opt gold. Away from the SSX-Mahala Basin-Smith-Dash area, approximately 30 holes were drilled at Starvation Canyon, 20 near Winters Creek, 15 east of Alchem, and three in Burns Basin along the Sb fault. (Yukon-Nevada Gold press releases, 3/12/2008, 4/23/2008, 4/28/2008, 4/29/2008, 8/21/2008, 4/1/2009; Yukon-Nevada Gold website, www.yukon-nevadagold.com; Mining Quarterly/Elko Daily News)

Ivanhoe District

Hollister. Great Basin Gold Ltd. commenced trial mining at its Hollister underground mine in May and mined 50,161 tons of ore, resulting in production of a total of 80,305 gold-equivalent ounces. From that production, 33,830 tons of ore were hauled to Newmont's nearby Midas operation, from which Great Basin recovered 38,465 gold equivalent ounces as per its tolling agreement with Newmont. An amended Plan of Operations to approve full production was submitted to the BLM, who then determined that an Environmental Impact Statement is required. Because the terms and conditions of the tolling agreement with Newmont would impose unacceptable costs, Great Basin purchased Metallic Ventures Gold Inc.'s Esmeralda processing plant located near Hawthorne for $2.4 million, where it will process the ore once full production

commences. The Esmeralda plant is located 290 road miles from Hollister; transport costs are estimated to be $60 per ton. Great Basin continued to delineate mineralization along the Gwenivere and Clementine vein systems. A total of 17,204 feet of underground development, directed at exposing the veins, was completed in 2008. Total development by the end of 2008 was 22,132 feet. It completed 49,460 feet of underground delineation and exploration drilling (~66 holes) on the two vein systems. Based on the work completed to the end of 2008, it released a new reserve estimate in March 2009. Proven and probable reserves are 1,234,342 tons grading 0.844 opt gold and 4.32 opt silver for a total of 1,041,823 ounces of gold and 5,331,814 ounces of silver. In addition, Great Basin drilled approximately 25 surface core holes that totaled 32,652 feet. Most of the surface drilling was focused on the Hatter Graben target located about 3,300 feet to the east of the underground workings. A zone of narrow high-grade quartz veins that is about 4,600 feet long and 1,300 feet wide has been delineated. The best intercept was 5 feet grading 1.075 opt gold. (Great Basin Gold Ltd. press releases 6/23/2008, 8/13/2008, 11/10/2008, 12/8/2008, 1/29/2009, 2/3/2009, 2/23/2009; Great Basin Gold 2008 Year End Management's Discussion and Analysis; Great Basin Gold Revised Hollister Technical Report, February 27, 2009; Great Basin Gold website, www.greatbasingold.com)

Sheep Creek. Evolving Gold Corp. drilled six core holes on their large Sheep Creek property, following up drilling in 2007. Several narrow intervals of greater than 0.003 opt gold were intercepted in Tertiary volcanic rocks. The best intercept was 13 feet of 0.05 opt gold, starting at depth of 1,138 feet. Local isolated silver grades up to 67 opt were encountered. One hole intersected several narrow epithermal quartz veins that assayed between 0.3 and 3 opt silver. Evolving Gold staked an additional 544 claims. (Evolving Gold Corp. press releases, 12/12/2008; BLM LR 2000 database)

Squaw Creek. Bonaventure Enterprises Inc. (joint venture with US Gold Corp.) drilled a core hole (SC-0801) totaling 1,358 feet to test the down-dip extension of a fault zone in rhyolite porphyry that was intersected by a hole (SC-0702) it drilled in 2007. Hole SC-0702 contained a 70-foot interval that averaged 0.030 opt gold. Hole SC-0801 intersected 120 feet that graded 0.031 opt gold. The silver-to-gold ratio is less than one.

The dip of the fault zone appears to shallow with depth. (Bonaventure Enterprises Inc. press release, 12/30/2008)

Larrabee District

Claim staking. Newmont Mining Corp. staked a large claim block in the Larrabee District south of the Pony Creek gold deposit in the Piñon Range. (BLM LR2000 database)

Maverick Springs

Maverick Springs. Silver Standard Resources Inc. drilled five core holes to follow up its 2006 drill program in which 140 feet grading 7.65 opt silver were encountered. Highlights of the 2008 drilling include hole MR-182, which intersected 180 feet averaging 8.1 opt silver and 0.009 opt gold (745-925 feet). The intercept included 25 feet that graded 51.6 opt silver and 0.012 opt gold. Hole MR-183 intersected 95 feet averaging 2.8 opt silver and 0.022 opt gold (645-740 feet), which included 55 feet grading 4.3 opt silver and 0.032 opt gold. The mineralization is disseminated and occurs in Permian carbonates. It occurs in a zone that is 8,000 feet long and 2,500 feet wide with an average thickness of about 200 feet. (Silver Standard Resources Inc. press release, 12/11/2008)

Owyhee Plateau

Star Lake. Altan Rio Ltd. completed extensive gravity, CSAMT, and soil surveys over the large claim block at its Star Lake project. Results suggest a large area of buried Paleozoic bedrock that is about 600-700 feet below the surface. (K. Cluer, Altan Rio Ltd., oral commun., December, 2008; Altan Rio Ltd. press release, 1/18/2009)

Pequop District

Long Canyon. In 2008 Fronteer Development Group Inc. (joint venture with AuEx Ventures Inc.) drilled 55 core holes and 119 reverse circulation holes, totaling

approximately 80,800 feet. Total expenditures were about $6.9 million. The drilling extended the mineralization along a northeast trend across multiple zones. The overall zone of mineralization is now 6,500 feet long and 1,300 feet wide. Mineralization continues to be oxidized and relatively shallow. Better intercepts in 2008 included 125 feet grading 0.134 opt gold that included 15 feet averaging 0.368 opt gold (hole LC085, 250-375 ft) and 240 feet grading 0.049 opt gold that included 10 feet that averaged 0.389 opt gold (hole LC113, 245-485 feet). Mineralization mainly occurs in carbonates along a boudinaged, karsted contact between Cambrian Notch Peak Formation and the overlying Ordovician Pogonip Group. Based on the drilling completed to the end of 2008, Fronteer released a resource estimate in March, 2009. The indicated resource at a cut-off grade of 0.008 opt gold is 5,300,000 tons grading 0.069 opt gold for a total of 363,000 ounces. Importantly, when the cut-off grade is increased to 0.030 opt gold, the resource is 2,750,000 tons of 0.117 opt gold for a total of 322,000 ounces. Thus, higher cut-off grades only modestly reduce the number of contained ounces, while significantly increasing the average grade of the resources. The positive correlation reflects the high-grade nature of the deposit. At the end of 2008, the deepest hole was only 885 feet. The drilling depths have been limited to elevations above nearby Johnson Springs, a water source for the towns of West Wendover and Wendover. Fronteer is in the process of identifying and drilling supplemental wells for drinking water in Northern Goshute Valley. Once completed, deeper drilling can commence. (AuEx Ventures Inc. press releases, 3/13/2009; AuEx 2008 Annual Report; AuEx website, www.auexventures.com; Fronteer Development Group Inc. 2008 year-end Management Discussion and Analysis; Long Canyon Technical Report, April, 2009; Fronteer website, www.fronteergroup.com)

Summit. Agnico-Eagle Mines Ltd. (joint venture with Columbus Gold Corp.) drilled seven reverse circulation holes at its Summit project located 4,000 feet north of Fronteer Development Group Inc.'s Long Canyon project. One hole intercepted multiple, thick sections (up to 100 feet) of anomalous gold and arsenic in the Joanna Limestone, Pilot Shale and Guilmette Formation. The highest assay was 0.006 opt gold. This is the only known hole to have tested these stratigraphic horizons in the northern Pequop Mountains. Three holes tested surface geochemical anomalies near a thrust fault that places Guilmette Formation over Permian sedimentary rocks. Two of the holes intercepted weakly anomalous gold and lead grades. The remaining three holes were

located along the range front and were targeted on the northeast projection of mineralization at Long Canyon. These holes cut lower Paleozoic formations with scattered zones of weakly anomalous gold grades. (Columbus Gold Corp. press release, 2/5/2009)

West Pequop. Agnico-Eagle Mines Ltd. (joint venture with AuEx Ventures Inc.) drilled 40 reverse circulation and core holes totaling over 38,000 feet at its West Pequop project, located directly west of the Long Canyon project. The drilling was conducted in the Section 34, Mountain Top, Acrobat/Juggler and Range Front target areas. The results expanded the zone of mineralization at Section 34 and Mountain Top and established the presence of gold mineralization at the Range Front target. The best intercept at Section 34 was 44.3 feet grading 0.366 opt gold (hole WNC-139, 531.7-576 ft). At Mountain Top, hole WNC-135, which was drilled over 300 feet from the Mountain Top discovery hole, intercepted 61.7 feet grading 0.255 opt gold (230-291.7 feet). Hole WNC-144 confirmed those results by intersecting 141 feet grading 0.238 opt gold. The Mountain Top mineralization is open in all directions. Gold mineralization at West Pequop has now been found in several distinct stratigraphic positions within limestones and dolomites of the Cambrian Notch Peak formation and the Ordovician Pogonip Group. The mineralization is oxidized and is commonly associated with faulting, felsic dikes, and solution collapse breccias. In addition in 2008, Agnico-Eagle staked 867 claims in the Pequop Mountains. (AuEx Ventures Inc. press releases, 10/8/2008, 11/10/20087, 1/22/2009; AuEx 2008 Annual Report; AuEx website, www.auexventures.com; BLM LR2000 database)

Proctor District

Claim staking. Fronteer Development Group Inc. staked a large claim block in the Toano Range, east-southeast from its Long Canyon deposit, which is located in the Pequop Mountains to the west. (BLM LR2000 database)

Scraper Springs District

Scraper. Newmont Mining Corp. (joint venture with Columbus Gold Corp.) drilled 3 reverse circulation holes at its Diatreme Vent target. The holes were about 2,500 feet away from previously identified gold mineralization. All three holes intersected advanced argillic alteration for the first 200 feet and cut a diorite intrusion that had potassic alteration overprinted by sericitic alteration. No significant gold values were intercepted. Newmont terminated its agreement with Columbus Gold. (Columbus Gold Corp. press release, 2/5/2009)

Snake Mountains District

Willow Creek. Piedmont Mining Company Inc. (joint venture with Carlin Gold Corp.) completed a small drill program totaling about 5,000 feet at its Willow Creek project. No results were reported. The project covers about 5 miles of strike length along the Roberts Mountain thrust fault that has placed Ordovician Valmy Formation over the Devonian-Silurian Roberts Mountain Formation. Rocks along the thrust are strongly altered and contain anomalous gold, arsenic, antimony, thallium and mercury. Eocene age felsic dikes occur on the property. (Piedmont Mining Company Inc. press release, 9/4/2088; Carlin Gold website, www.carlingold.com)

Tecoma District

Tecoma. Fronteer Development Group Inc. drilled three reverse circulation holes at its KB project. KB was last explored 20 years ago. Previous work includes approximately 40 holes that outlined a zone of gold mineralization, the limits of which are unknown. Highlights of the 2008 program include an intercept of 55 feet grading 0.020 opt gold (hole FKB004, 280-335 feet) within the zone of previously outlined mineralization. Hole FKB005, which was drilled almost 3 miles south of the zone of known mineralization, intercepted 10 feet averaging 0.015 opt gold. Fronteer staked several hundred claims at KB in 2008. (Fronteer Development Group Inc. press release, 9/4/2088; Fronteer website, www.fronteergroup.com; BLM LR2000 database)

Twin Buttes

Claim staking. Barrick Gold Corp. staked 201 claims near Twin Buttes, located north of Deeth. It was the largest claim block staked by Barrick in 2008. The claim block is located about half way along a west-northwest-trending line that connects Jerritt Canyon with Long Canyon. The Roberts Mountain allochthon is exposed in parts of the claim block. (BLM LR2000 database)

ESMERALDA COUNTY

Divide District

Tonopah Divide. Centerra Gold Corp. (joint venture with Tonogold Resources Inc.) drilled 15 angled reverse circulation holes on five different targets for a total of 13,695 feet. The principal host rock that was targeted was the Siebert Formation, but a number of intercepts were in the underlying Fraction Tuff. Gold and silver mineralization was encountered in all 15 holes. The best results were from holes TD08-007 and TD08-015, which were located about 400 feet apart. TD08-007 encountered 30 feet grading 0.085 opt gold including 10 feet of 0.197 opt gold and 3.06 opt silver. TD08-015 intercepted 25 feet at 0.027 opt gold and 45 feet grading 0.029 opt gold, the latter including 10 feet of 0.115 opt gold and 16.0 opt silver. (Tonogold Resources Inc. press release, 2/18/2009)

Gilbert District

Monte Cristo. Gold Summit Corp. (joint venture with International Bethlehem Corp.) drilled seven core holes. The first four were drilled on the Northern Flats target, which could be the northern extension of the McLean Lode. The best intercept was 10 feet grading 0.007 opt gold. The last three holes were drilled to fill large gaps within the existing drill pattern on the McLean Lode. All three holes intersected mineralization. Importantly, hole MCC-63 intersected the lode 165 feet to the north of the existing resource, where it encountered 11.5 feet grading 0.353 opt gold (238-249.5 feet). (Gold Summit press release, 4/23/2008, 5/21/2008, 6/17/2008)

Klondyke District

Klondike North. AuEx Ventures Inc. (joint venture with Eldorado Gold Co.) drilled 12 reverse circulation holes, totaling about 8,400 feet, on its Klondike North project, a low-sulfidation epithermal system located about 10 miles south of Tonopah. The best intercept was 5 feet grading 1.37 opt gold at a depth of 300 feet. (AuExVentures Inc. press release, 10/24/2008, 2/20/2009)

Red Mountain District

Nivco. Silver Reserve Corp. (a wholly owned subsidiary of Infrastructure Materials Corp.) drilled five reverse circulation holes on its claim block located just east of the Nivloc Mine, which produced ore from veins grading 0.05 opt gold and 11 opt Ag from 1937 to 1943. Hole NL3 encountered 15 feet grading 1.9 opt silver and 0.034 opt gold (130-150 feet). Hole NL5 intersected 30 feet grading 2.5 opt silver and 0.033 opt gold (75-105 feet). NL5 also intercepted 15 feet averaging 8.5 opt silver that included 5 feet of 21 opt silver (375-390 feet). The intersections appear to be the extension of the Nivloc veins. The main shaft of the Nivloc Mine is located 2,900 feet to the west of Silver Reserve's drill intersections. (Silver Reserve Corp. press release, 4/23/2008; Silver Reserve website, www.silverreservecorp.com)

Silver Queen. Just west of its Nivco project, Silver Reserve Corp. (a wholly owned subsidiary of Infrastructure Materials Corp.) drilled four reverse circulation holes testing northeast-trending veins between the Silver Queen and Mohawk Mines. No results were reported. (Silver Reserve Corp. press release, 6/30/2008; Silver Reserve website, www.silverreservecorp.com)

Silver Peak District

Mineral Ridge. Golden Phoenix Minerals Inc. completed 8,000 of drilling at its idle Mineral Ridge Mine. Of particular interest was an intercept of 5 feet grading 0.15 opt gold in an extension of the Mary Limestone, which is a major host to ore in the district. (Golden Phoenix Minerals Inc. press release, 6/3/2008)

EUREKA COUNTY

Antelope District

Gold Pick. US Gold Corp. completed 14,375 feet of drilling. Nineteen holes were drilled in and around the Gold Pick gold deposit; one hole was drilled at the Cabin Creek deposit. Based on this and previous drilling, it released a resource estimate for the Gold Pick, Gold Ridge North, Cabin Creek, and Hunter deposits. The measured and indicated resource now stands at 25,100,000 tons grading 0.031 opt gold for a total of 772,600 ounces. (US Gold Corp. press releases 10/30/2009; 4/28/2009; US Gold 2008 annual report filed with the U.S. Securities and Exchange Commission (Form 10-K); US Gold website, www.usgold.com)

Chert Cliff. Platte River Gold Inc. (joint venture with Columbus Gold Corp.) drilled seven reverse circulation holes totaling 5,140 feet. The holes range in depth from 300 feet to 1,420 feet. All the holes were drilled outside the Chert Cliff resource defined by ASARCO in the 1980s. The drilling by Platte River encountered additional mineralization in the Webb Formation, but also new mineralization in the Denay Formation, about 600 feet north of the ASARCO resource. The best intercepts were 180 feet grading 0.013 opt gold in the Denay (hole C-4, 170-350 feet) and 190 feet averaging 0.020 opt gold in the Webb (hole C-1, 0-190 feet). (Columbus Gold Corp. press release, 2/5/2009)

Cortez District

Red Hill/Lower Horse Canyon. Barrick Gold Corp. apparently made a discovery in 2007 on their Cortez claim block near Red Hill in lower Horse Canyon about 4 miles southeast of Cortez Hills. According to the transcript of Barrick management's third quarter earnings conference call in 2007, it had drill intercepts of 120 feet grading 0.3 opt gold and 60 feet averaging 0.48 opt gold. Barrick reported drilling there in 2008, and websites report lots of drill activity in 2008. (Barrick Gold Corp.'s December 31, 2008 SEC Form 40-F; Barrick website, www.barrick.com; Barrick Gold Corp. Barrick Gold Q3

2007 Earnings Call Transcript; www.explorationinsights.com; Society of Economic Geologists July 2009 Newsletter)

Eureka District

East Archimedes/Ruby Hill. Barrick Gold Corp. carried out a small drill program in 2008. (E. Cope, Barrick Gold Corp., oral commun., December, 2008)

South Eureka. Staccato Gold Resources Ltd. completed nearly 25,000 feet of combined reverse circulation and core drilling on their large South Eureka claim block. All of the drilling was completed outside the existing Lookout Mountain resource area. Seven holes were drilled at South Adit, seven at South Pinnacle Peak, five at Triple Junction, six at North Lookout Mountain, and four in and around the old Windfall open pit. Drilling at South Adit, which is located 2 miles south of Lookout Mountain, extended known mineralization 200 feet down dip and 650 feet along strike. The best intercept was 90 feet grading 0.027 opt gold (hole BHSE-005, 385-475 feet). Drilling at North Lookout Mountain followed up on historical intercepts drilled in the 1990s and encountered 125 feet of 0.028 opt gold (hole BHSE-021, 275-400 feet). The intercept was beneath historical drill holes, and targeted northerly striking structures that occur east of the main Lookout Mountain-Ratto Ridge structural zone. Drilling at Windfall targeted a north-striking, ore-controlling fault below the Windfall open pit. Based on historical data, areas of known mineralization were targeted to confirm the presence of gold, define the gold grade, and test the depth extent of mineralization. All four holes at Windfall intersected strong mineralization over significant thicknesses, including 75 feet grading 0.153 opt gold that was encountered 300 feet below the bottom of the pit in hole BHWF-04. (Staccato Gold Resources Ltd., press releases, 11/20/2008, 1/21/2009)

Gibellini District

Gibellini. Rocky Mountain Resources Corp. drilled seven shallow core holes, mainly to confirm the vanadium mineralization and collect samples for metallurgical testing. Six of the holes were drilled at the Rich Hill target and one within the known Gibellini resource. All the holes encountered significant intercepts that averaged greater than 0.15% V_2O_5.

The best intercept was 66 feet grading 0.776% V_2O_5 at Rich Hill. Both Rich Hill and Gibellini are hosted in Devonian shale enriched in vanadium. Mineralization lies above the water table. Heap leaching is being contemplated for processing. (Rocky Mountain Resources Corp. press release, 8/25/2008)

Lone Mountain District

South Lone Mountain. Bravo Venture Group Inc. drilled one reverse circulation hole that attempted to test the contact between the Goodwin and Ninemile Formations adjacent to altered exposures of the Antelope Valley limestone, which directly overlies the Ninemile. The hole remained in the Antelope Valley limestone over its entire length of 1,000 feet, apparently due to structural thickening. No significant gold values were encountered. (Bravo Ventures Group Inc. Management's Discussion and Analysis, January, 2009; Bravo Ventures website, www.bravoventuregroup.com)

Lynn District

Boulder Valley. Evolving Gold Corp. drilled six reverse circulation and three core holes at various targets at its Boulder Valley project on the northern Carlin trend. All holes failed to reach their target depths due to poor ground conditions. A follow-up IP survey indicated these holes appear to have failed in a gravel horizon lying between volcanic cover and underlying sedimentary rocks at depths of 1,000 to 1,300 feet. (Evolving Gold Corp. press release, 12/12/2008)

Northern Carlin Trend. Newmont Mining Corp. carried out another extensive drill program on its properties in the northern Carlin Trend, focusing in and around known deposits. It plans on mining in the Genesis open pit again, and permitting with BLM is ongoing. Newmont expects permission to mine in 2010. Open pit mining was ongoing at the Lantern deposit. Newmont also expects to develop the Turf deposit, located about a half mile northwest of the underground Leeville Mine, where significant underground drilling continued in 2008. (Mining Quarterly/Elko Daily News)

Goldstrike. Barrick Gold Corp. carried out another extensive drill program on its Goldstrike property in the northern Carlin Trend. The program focused on the Banshee underground reserve delineation with positive results. The Banshee surface drill tests for northerly extensions will require more drilling in 2009. Additional surface drill testing for resource additions in the West Pit area had positive results below the Screamer and Latite footwall, but there was no access for reserve delineation drilling. Underground drilling was planned for Deep Post North, but the underground drill drift was not sufficiently completed to allow drilling. A total of 55,265 feet of drilling was completed in 2008. (E. Cope, Barrick Gold Corp., oral commun., December, 2008; Barrick's December 31, 2008 SEC Form 40-F; Barrick website, www.barrick.com)

Maggie Creek District

Dry Gulch. Redstar Gold Corp. drilled one vertical reverse circulation hole to a depth of 1,500 feet and one combined reverse circulation-core hole to a depth of 1,565 feet. Neither hole intersected anomalous gold values. The two holes were located two miles apart. The Dry Gulch project is located 6 miles northeast of the Gold Quarry open pit. Thinly bedded carbonates of the Roberts Mountain allochthon are exposed. (Redstar Gold Corp. press release, 12/18/2008; Redstar Gold website, www.redstargold.com)

Gold Quarry. Newmont Mining Corp. carried about a major development and exploration drill program in and around Gold Quarry in advance of a planned major layback that is currently being permitted for the west side of the open pit. (Mining Quarterly/Elko Daily News)

Richmond Summit. Redstar Gold Corp. drilled five reverse circulation holes totaling 4,680 feet and three core holes totaling 3,868 feet on its Richmond Summit property located four miles northwest of Newmont Mining Corp.'s Mike deposit. Drilling encountered rocks of the Roberts Mountain allochthon and intersected altered dikes with anomalous gold up to 0.020 opt gold and 2600 ppm arsenic. (Redstar Gold Corp. press release, 12/18/2008; Redstar Gold website, www.redstargold.com)

Mount Hope District

Mount Hope. General Moly Inc. continued its efforts at permitting and financing the development of the Mount Hope porphyry molybdenum deposit. (General Moly Inc. website, www.generalmoly.com)

Northern Simpson Park Mountains

Coal Canyon. Queensgate Resources Corp. (joint venture with Miranda Gold Corp.) drilled two reverse circulation holes totaling 1,950 feet. The best intercept was 10 feet grading 0.011 opt gold that was within a thick zone of anomalous gold values. The holes intercepted mainly Roberts Mountains and Hanson Creek formations. (Miranda Gold Corp. press release, 9/22/2008; Miranda Gold website, www.mirandagold.com)

Red Hill. Barrick Gold Corp. (joint venture with Miranda Gold Corp.) drilled two deep holes 1,000 feet to the southeast and 2,450 feet to the west of hole BRH-013, which in 2006 intercepted 45 feet grading 0.237 opt gold (1,920-1,965 feet). No significant gold intercepts were encountered in the two holes. Barrick terminated its agreement with Miranda. (Miranda Gold Corp. press release, 10/17/2008; Miranda Gold website, www.mirandagold.com)

Tonkin Springs. US Gold Corp. drilled nine core holes (1,550 feet) and five reserve circulation holes (5,235 feet). The objective of the 2008 program was to explore for high-grade roots to the known mineralization in the Mine Corridor, and to test new targets adjacent to known mineralization identified through three-dimensional modeling. Significant thicknesses of anomalous gold mineralization (~0.001-0.006 opt gold) were encountered in three of the holes. In addition, US Gold carried out metallurgical testing. Newmont Mining Corp.'s N2TEC patented technology showed the best gold recoveries, with initial results significantly higher than those experienced using traditional flotation methods. (US Gold Corp. press release, 8/6/2008; US Gold 2008 annual report filed with the U.S. Securities and Exchange Commission (Form 10-K); US Gold website, www.usgold.com)

Trend. Calibre Mining Corp. (joint venture with New Dimension Resources Ltd.) drilled four core holes totaling 5,000 feet on the alluvium-covered pediment near Garden Gate Pass. Three of the holes intersected bedrock that was chert and argillite of the Roberts Mountain allochthon, which contained local zones of anomalous gold, silver and zinc. Calibre terminated its agreement with New Dimension. (New Dimension Resources Ltd. press release, 11/10/2008; New Dimension Resources website, www.newdimensionresources.com)

Union District

Gryphon Summit. In late 2007/early 2008, Bell Resources Corp. (joint venture with Golden Gryphon Explorations Inc.) drilled about 3,000 feet in two holes. No results were released. (Bell Resources Corp. 2008 Quarterly Management's Discussion and Analysis reports, Bell website, www.bellcopper.net)

HUMBOLDT COUNTY

Awakening District

Awakening. In May, Columbus Gold Corp. announced it had acquired property on the east side of the Slumbering Hills near the Alabama Mine, where gold had been produced from quartz veins. In addition to staking claims, Columbus Gold leased claims. The leaseholder excavated a series of trenches and drilled six holes totaling 1,520 feet in January 2008, prior to the deal with Columbus Gold. The best intercepts from that drilling was 5 feet grading 0.702 opt gold (hole ABZN, 95-100 feet) and 55 feet averaging 0.049 opt gold (hole ABZD, 365-420 feet). In the summer of 2008, Columbus followed up those results and drilled 12 reverse circulation holes totaling 6,265 feet on the pediment to the east of the Alabama Mine. Gold mineralization in the tested area occurred in a 400-foot-thick bed of gently dipping, Mesozoic sandstone with sheeted quartz veins and stockworks parallel to bedding. The mineralized sandstone was covered by 90 to 200 feet of barren shale and was not exposed at the surface. Drilling encountered anomalous gold throughout the sandstone with intervals up to 25 feet averaging 0.038 opt gold. Occasional narrow zones of gold mineralization up to 0.250

opt gold over 5 feet were also encountered. (Columbus Gold Corp. press releases, 5/2/2008, 6/25/2008, 10/2/2008; Columbus Gold 2008 Annual report; Columbus Gold website, www.columbusgoldcorp.com)

Awakening. Through its subsidiary Pediment Gold LLC, Nevada Exploration Inc. staked about 250 claims directly north of X-Cal's Sleeper property in 2008 based on analyses of gold and other trace element in groundwater, which it collected. Nevada Exploration Inc. then drilled five holes, but none were completed to their target depths because of difficult ground conditions. No results were reported. (Nevada Exploration Inc. press release, 4/2/2009; BLM LR2000 database)

Siesta. Evolving Gold Corp. drilled 34 reverse circulation holes, ranging in depth from 330 to 1,000 feet, on their Siesta property that covers about 14,500 acres of pediment over three townships along the west side of the Slumbering Hills. The claims, which Evolving Gold staked in 2007, adjoin Fronteer Development Group Corp.'s Sandman property at the south end and X-Cal Resources Ltd.'s Sleeper property at the north end. The goal of the drill program was to test geophysical targets over the extensive property in order to identify areas underlain by favorable host rocks. Six of the holes in the southeast and central portions of the property encountered similar volcanic and sedimentary rocks to those at Sandman at depths of 80 to 260 feet. Clay-bearing alteration and minor silicification were encountered in four of the holes. The highest gold assay was 0.007 opt gold. Five holes drilled at the north end of the property near Gabica Butte were terminated when they encountered water-saturated sands at depths of about 525 feet. (Evolving Gold Corp. press release, 8/5/2008; Evolving Gold website, www.evolvinggold.com)

Sleeper. X-Cal Resources Ltd. released a resource estimate within the Facilities area east of the Sleeper pit and the West Wood area southwest of the pit based on drilling completed to the end of 2007. The estimated indicated resource is 29,718,000 tons grading 0.025 opt gold for a total of 750,000 ounces. (X-Cal Resources Ltd. press release, 9/26/2008; X-Cal Resources website, www.x-cal.com).

Battle Mountain District

Marigold. Goldcorp Inc. carried out a major drill program at its Marigold Mine (67% Goldcorp., 33% Barrick Gold Corp.). Exploration on the property focused on the hanging wall of the Trout Creek fault. All of Marigold's ore reserve areas have been located in the footwall of this fault. Two resource additions resulted from this program – the Red Dot deposit adjacent to the Target 3 reserve and the Lil' Gun deposit adjacent to the Antler open pit. Development drilling focused on the Basalt pit area where significant mineralization was encountered outside the limits of the open pittable reserve. (Goldcorp 2008 Annual report, Goldcorp website, www.goldcorp.com)

Buffalo Mountain District

Hot Pot. At its Hot Pot project located east of Treaty Hill and north of Marigold, Nevada Exploration Inc. drilled 10 reverse circulation holes along three lines to test small segments of steeply-dipping fault zones identified by seismic and gravity surveys it completed in 2007. The holes ranged in depth from 165 to 575 feet for a total of 3,565 feet. The shallow holes encountered hydrothermally altered rock that contained anomalous gold and other trace elements, which confirmed previous groundwater geochemistry surveys. In addition in 2008, Nevada Exploration Inc., through its subsidiary Pediment Gold LLC, staked nearly 300 claims in the vicinity of its Hot Pot project. (Nevada Exploration Inc. press release, 4/2/2009; Nevada Exploration website, www.nevadaexploration.com; BLM LR2000 database)

Stonehouse. Barrick Gold Corp. carried out a small drilling program on its Stonehouse property north of the Lone Tree Mine. A drill rig was observed from Interstate 80. (E. Cope, Barrick Gold Corp., oral commun., December, 2008)

Disaster District

Kings Valley. Western Uranium Corp continued to explore for uranium at its Kings Valley project along the west side of the McDermitt caldera in northern Humboldt County. Twenty-eight core holes were drilled for a total of 20,750 feet. All but one of the holes tested a number of uranium targets on the north half of the property, including the

Bull Basin, Old Man Springs, and Albisu areas. The drill program identified uranium mineralization in several of the targets. The drilling in Bull Basin showed elevated values of uranium occur at or near the contact between the overlying sedimentary units and the underlying volcanic rocks. Several holes also intercepted elevated uranium values within the moat sediments and along the contact and well into the underlying basalt. (Western Uranium Development Corp. press releases, 12/22/20087; Western Uranium website, www.westernuraniumcorp.com)

Gold Run District

Adelaide. Golden Predator Mines Inc. drilled 32 reverse circulation holes, totaling 16,145 feet, at its Adelaide project. The program was designed to test for potential high-grade shoots along 1.6 miles of strike length of the mineralized Adelaide fault zone. The best intercepts occurred below and along strike from the historical open pit and underground mines in the area. Highlights include 25 feet grading 0.781 opt gold (hole GPA019, 485-510 feet) and 30 feet averaging 0.799 opt gold (hole GPA027, 80-110 feet). Hole GPA027 is located 2,800 feet due north of hole GPA019. Both of these intercepts have limited drilling along strike and are open down-dip. Newmont Mining Corp. retains a one-time option to enter into a joint venture with Golden Predator whereby Newmont would hold a 51% interest. (Golden Predator Royalty and Development Corp. press releases, 7/24/2008, 7/29/2008, 9/23/2009; Golden Predator website, www.goldenpredator.com)

Iron Point District

Iron Point. White Bear Resources Inc. (joint venture with Miranda Gold Corp.) drilled three reverse circulation holes totaling about 4,500 feet. Results have not been released. (Miranda Gold website, www.mirandagold.com)

Jungo District

Bull Creek. Nevada Exploration Inc. drilled 18 reverse circulation holes at its Bull Creek project that is located on the alluvium-covered pediment between the Jackson

Mountains and the Jungo Hills, about halfway between the Hycroft and Sleeper Mines. The property was staked based on groundwater analyses collected by Nevada Exploration that showed anomalous gold and other trace elements. The holes ranged in depth from 300 feet to 1000 feet. The drilling defined shallow bedrock, which ranged in depth from 50 feet to 300 feet, along the eastern margin of the property. Although the drilling encountered thick intervals (>650 feet) of hydrothermally altered and geochemically anomalous volcanic rocks, no potentially ore-grade gold values were intercepted. (Nevada Exploration Inc. press release, 2/23/2009; Nevada Exploration website, www.nevadaexploration.com)

Opalite District

Cordero Gallium. Gold Canyon Resources Inc. suspended its pre-feasibility study aimed at extracting gallium. (Gold Canyon press release, 10/10/2008)

Cordero Gold. Nevgold Resource Corp. drilled 13 reverse circulation angle holes, totaling 9,465 feet, aimed at testing for deep high-grade gold-silver veins below the historical workings of the old Cordero mercury mine. Four target areas along a strike length of 2,250 feet were tested. Elevated gold values (>0.003 opt) were encountered in all 13 holes. The best intercept was 10 feet grading 0.031 opt gold. (Nevgold Resource Corp. press release, 3/31/2009; Nevgold website, www.nevgoldcorp.com)

Potosi District

Pinson. From August 2007 through December 2008, Barrick Gold Corp. completed 163 surface and underground drill holes totaling 112,578 feet (91,892 surface drilling, 20,686 feet underground drilling) as part of its earn-in obligations with Atna Resources Ltd.. Total reverse circulation footage was 50,721 feet and core footage totaled 61,857 feet. In early 2009 Barrick notified Atna that it had completed the expenditure requirement of $30 million at to earn its 70% equity position at Pinson, and the two companies formed a joint venture. Much of the drilling was in-fill drilling in the upper Ogee and Range Front resource zones. In addition, geophysical targets outside the

resource areas were tested. (Atna Resources Ltd. press releases, 8/5/2008, 10/1/2008, 1/15/2009, 4/9/2009; Atna website, www.atna.com)

Turquoise Ridge. Barrick Gold Corp. continued underground development and drilling on the High Grade Bullion zone at the north end of Turquoise Ridge (75% Barrick, 25% Newmont Mining Corp.). Results were very encouraging. Surface drilling also occurred between the Getchell and Turquoise Ridge deposits and elsewhere on the property. (E. Cope, Barrick Gold Corp., oral commun., December, 2008; Barrick 2008 Annual and Quarterly reports, Barrick website, www.barrick.com)

Twin Creeks. Newmont Mining Corp. carried out a significant drill program at Twin Creeks in 2008. (R. Vance, Newmont Mining Corp., oral commun., December, 2008)

Sulphur District

Hycroft. In 2008, Allied Nevada Gold Corp. reopened the Hycroft Mine in July by hauling waste and then ore from the Brimstone pit. It produced 1,000 ounces of gold and 3,000 ounces of silver in December and is targeting a production rate of 90,000 ounces of gold per year by July, 2009. Capital expenditures were estimated at $57.4 million. A new leach pad and refinery were completed as well. Between August 2007 and the end of 2008, Allied Nevada drilled a total of 391 holes for a combined 296,164 feet. Of these, 135 holes, for a combined total of 75,227 feet of drilling, were directed towards the oxide reserve expansion. A combined total of 4,125 feet were drilled to evaluate the metallurgy of material on the Crofoot leach pad. A combined total of 15,672 feet were drilled to condemn the region of the expanded Brimstone leach pad. The remaining drilling (192 holes) targeted both near-surface oxide mineralization and sulfide mineralization at depth. Much of this drilling has been to an average depth of 1,050 feet and spaced about 500 feet apart. Drill targets that were tested include the Brimstone, Central, Bay Area, and Silver Camel zones, plus testing of a geophysical anomaly known as the Vortex zone that is located to the south of Brimstone. Intercepts averaging greater than 0.015 opt gold over hundreds of feet were common. Intercepts grading as high as 0.448 opt gold over 5 feet, 9.2 opt silver over 25 feet, and 33.3 opt silver over 5 feet were reported. The drill results and historical geological information

suggest that gold and silver mineralization is hosted along north-south trending zones of approximately 14,000 feet in length. In October, a proven and probable reserve of 73,169,000 tons grading 0.016 opt gold for a total of 1,143,178 ounces was released. In addition, Allied Nevada staked 1,057 claims in 2008 around the mine and to the southwest of the mine. (Allied Nevada Gold Corp. press releases, 3/6/2008, 3/27/2008, 4/22/2008. 6/25/2008, 7/29/2008, 8/21/2008, 1/6/2009; Allied Nevada 2008 Annual and Quarterly reports; October 2008 43-101 Report; Allied Nevada website, www.alliednevada.com; January/February 2009 Engineering and Mining Journal; BLM LR2000 database)

Tenmile District

Pansy Lee. Silver Resource Corp. drilled three angled core holes to depths of 800 feet below the existing underground workings at the old Pansy Lee Mine in the Krum Hills. Silver Resource believes it intercepted the Swede vein in all three holes. (Silver Reserve Corp. website, www.silverreservecorp.com)

Sandman. Newmont Mining Corp. (joint venture with Fronteer Development Group Inc.) continued to delineate near-surface, high-grade, oxide gold mineralization at Sandman in 2008 by drilling 37 holes totaling 9,200 feet. Newmont is focused on the Southeast Pediment, Silica Ridge, Abel Knoll, and North Hill deposits for the purposes of: 1) confirming the character of near-surface gold mineralization, 2) obtaining bulk samples for mill grade and potential heap leach metallurgical tests, and 3) improving the understanding of the geology and controls on gold mineralization. Wide intervals of gold mineralization with high-grade zones such as 0.075 opt gold over 86 feet (hole NSM-04, 56-142 feet, Southeast Pediment), which included 0.752 opt gold over 5.5 feet, were encountered in the drilling. (Fronteer Development Group Inc. press release, 12/8/2008; Fronteer website, www.fronteergroup.com)

Vicksburg District

Ashdown. After less than two years of production, Golden Phoenix Minerals Inc. (joint venture with Win-Eldrich Mines Ltd.) closed its underground Ashdown Mine in

November in response to the sharp reduction and demand for molybdenum worldwide. (Golden Phoenix press release, 11/11/2008)

LANDER COUNTY

Battle Mountain District

Independence Mine. In 2008, General Metals Corp. drilled 52 reverse circulation holes totaling 15,580 feet on its Independence project located just south of Newmont Mining Corp.'s Phoenix deposit. It has identified a large body of near-surface oxide mineralization over a strike length of more than 3,000 feet and discovered the new Hill Zone. Mineralization is open at depth and along strike to the north, which could be amenable to open pit mining and heap leaching techniques. General Metals reported a drill-inferred, 43-101 non-compliant "global estimate" of 39,089,939 tons of mineralized oxide material, containing 569,347 ounces of gold and 11,327,160 ounces of silver. (General Metals Corp. press release, 3/10/2009; General Metals website, www.generalmetalscorporation.com)

Lewis. Madison Minerals Inc. (joint venture with Great American Minerals Inc.) drilled 17 core holes totaling 12,647 feet and 33 reverse circulation holes totaling 18,264 feet at their Lewis project located immediately to the north and west of Newmont Mining Corp.'s Phoenix gold-copper mine. The drilling targeted the central portion of the Virgin fault zone and consisted of both in-fill and step-out holes using 100 foot spacings. Highlights of the 2008 program include 20 feet grading 0.209 opt gold (hole DDH-145) and 30 feet averaging 0.073 opt gold (hole DDH-143). The drilling expanded the Virgin zone by 330 feet down-dip and 1,000 feet along strike. Significantly higher silver grades were encountered in the 2008 drilling. For example, 20 feet grading 0.035 opt gold and 13.4 opt silver was intersected in hole DDH-145. The Virgin zone remains open along strike to the north and south and down-dip to the west and has been defined over a minimum strike length of 2,460 feet. (Madison Minerals Inc. press releases, 3/19/2009; Madison website, www.madisonminerals.com)

Modoc. Golden Predator Mines Inc. drilled five reverse circulation holes totaling 5,140 feet as offsets to gold mineralization intersected by previous operators in the Modoc project area, which is located just west of Newmont Mining Corp.'s Phoenix property. The best intercept was 70 feet grading 0.025 opt gold (hole NMD-001, 485-555 feet) in a zone of quartz stockwork. The intercept included 20 feet of 0.076 opt gold. Work to date, including 12,000 feet of drilling from previous operators, has outlined a 1,500-foot by 300-foot zone of mineralization associated with bodies of quartz stockwork within the a biotite granodiorite intrusion and a breccia along the intrusive contact. The zone follows an east-northeast trend along the northern and northwestern margin of the intrusion. The mineralization remains open in all directions. (Golden Predator Mines, Inc. press release, 5/12/2008; Golden Predator website, www.goldenpredator.com)

Phoenix. Newmont Mining Corp. carried out another major drill program at its Phoenix gold-copper mine. It had success at its Sonderman Canyon target, where an intercept of 354 feet grading 0.020 opt gold was drilled (hole DDH-1332). The intercept included 1.8 feet of 1.29 opt gold and 1.36 opt silver. However, reserves had to be revised downward in 2008, primarily due to issues surrounding metallurgy, geology, and modeling. (R. Vance, Newmont Mining Corp., oral commun., December, 2008; Newmont 2008 Quarterly and Annual Reports; Newmont website, www.newmont.com)

Buffalo Valley District

Buffalo Valley. Newmont Mining Corp. (joint venture with Fairmile Goldtech Inc.) continued to explore and drill its Buffalo Valley project. (R. Vance, Newmont Mining Corp., oral commun., December, 2008).

Bullion District

Fire Creek. Klondex Mines Ltd. drilled 40 holes totaling 55,933 feet in 2008, which included both reverse circulation and core drilling. The program was mainly closely spaced in-fill and step-out drilling. The drilling showed good continuity of veining at 150- to 200-foot spacings at the Far North and New North zones. The Main South zone was extended 325 feet southward. A new high-grade vein was discovered under an IP

geophysical anomaly located between the Northeast and Far North Veins zones. The best intercept was 20 feet grading 0.361 opt gold, which extended the New North Veins zone 330 feet northward. In early 2009, Klondex released an updated resource estimate that included 180 holes, totaling 245,469 feet that it drilled from 2004 to the end of 2008. The indicated resource, using a cut-off grade of 0.233 opt gold, is 2,654,650 tons grading 0.479 opt gold for 1,271,392 ounces. In 2009 Klondex anticipates receiving permits necessary to commence work on a decline to carry out underground drilling. (Klondex Mines Ltd. press releases, 7/8/2008, 10/14/2008, 3/2/2009, 4/1/2009; Klondex 2008 Quarterly and Annual Reports; Klondex website, www.klondexmines.com)

Gold Acres Window. In early 2008, Barrick Gold Corp. purchased Kennecott Explorations Ltd.'s (subsidiary of Rio Tinto plc) 40% interest in the Cortez property, which includes the Pipeline and Cortez Hills Mines, for a total cash consideration of $1.695 billion. Barrick carried out a major drilling program in the Gold Acres window near the Pipeline open pit. On its entire Cortez claim block, Barrick completed approximately 225,555 feet of drilling. Of this drilling, 21% was directed at the Pipeline complex, 27% at the Cortez Hills Complex, and 52% at other targets. Approximately 2.4 million ounces of gold reserves were added at the Crossroads deposit, located adjacent to Pipeline. The addition was primarily conversion of resources to reserves. Barrick completed a sale of non-core royalties to Royal Gold Inc. for $150 million in cash and a significant reduction in future royalties payable to Royal Gold on the Crossroads deposit. (E. Cope., Barrick Gold Corp., oral commun., December, 2008; Barrick's December 31, 2008 SEC Form 40-F; Barrick 2008 Annual and Quarterly reports; Barrick website, www.barrick.com)

Hilltop/Slaven. Victoria Gold Corp. (joint venture with Newmont Mining Corp.) began a deep core hole (HT-7) in July on the eastern flank of the Northern Shoshones in the Colorback area within its Hilltop/Slaven project. The hole was terminated in rocks of the Roberts Mountains allochton at a depth of 2,874 feet. No significant gold grades were intercepted. (Victoria Gold Corp. press releases, 8/14/2008, 10/2/2009; Victoria 2008 Year-End Management's Discussion and Analysis; Victoria website, www.victoriaresourcecorp.com)

Horse Mountain. Newcrest Resources Inc. (joint venture with Miranda Gold Corp.) drilled nine reverse circulation holes totaling 18,240 feet. Newcrest's program was designed to vector into higher-grade portions of the Horse Mountain system in part by offsetting previous gold intercepts. Additionally, some gold-in-soil anomalies were tested north of the previously intercepted mineralization. Only six of the nine holes reached their targets due to poor ground conditions. The best intercept was 10 feet grading 0.038 opt gold. Newcrest terminated its agreement with Miranda. (Miranda Gold Corp. press releases, 3/26/2009, 5/4/2009)

Robertson. Coral Gold Resources Ltd. drilled 33 reverse circulation holes totaling 22,385 feet, which partially extended areas of mineralization in several zones. The holes were located on the Altenberg Hill, South Porphyry, 39A, and Distal zones. Highlights of the drill program included hole CR08-13, which intersected 100 feet grading 0.075 opt gold and included 25 feet grading 0.17 opt gold. (Coral Gold Resources Ltd. press releases, 2/4/2009, 2/10/2009)

Utah Clipper. Barrick Gold Corp. (joint venture with Columbus Gold Corp.) drilled two reverse circulation holes totaling approximately 6,000 feet that targeted potentially mineralized rocks in the lower plate of the Roberts Mountain thrust fault. No results were released. (Columbus Gold Corp. press release, 12/1/2008).

Cortez District

Cortez Hills. Barrick Gold Corp.'s Cortez Hills project reached an important milestone in November when the BLM issued a Record of Decision, allowing construction and pre-stripping to commence. Full-scale gold production is projected to being in early 2010. The project is in-line with its $500 million pre-production capital budget. Soon after the BLM's Record of Decision, a number of opponents of Cortez Hills filed suit in the U.S. District Court in late 2008 seeking to overturn BLM's approval of the Cortez Hills project on environmental and religious grounds. The plaintiffs unsuccessfully sought to stop construction for the project pending consideration of their claims. The District Court's denial of the requested injunction is currently being appealed. As of November 2008, the reported proven reserve was 15,620,000 tons grading 0.127 opt gold and the

probable reserve was 128,150,000 tons grading 0.074 opt gold. Extensive underground drilling at Cortez Hills in 2008 increased the underground resource from 1.1 million to 2.0 million ounces of gold. (E. Cope., Barrick Gold Corp., oral commun., December, 2008; Barrick Gold Corp. 2008 Annual and Quarterly reports; Barrick website, www.barrick.com; November 14, 2008 issue of Mining Journal)

Kingston District

Gilman. American Goldfields Inc. drilled one hole in early 2008 to test a zone of quartz veins along the range front. No results were reported. Jasperoid and quartz veins that locally contain pyrite, arsenopyrite, base metal sulfides and anomalous gold, silver, and copper occur along the range front fault zone. (American Goldfields Inc. SEC Form 10-K 2008 Annual Report)

McCoy District

Cove. Victoria Gold Corp. drilled eight deep core holes in the Helen zone located northwest of the old Cove open pit mine. Better intercepts from the 2008 drilling include 130 feet grading 0.344 opt gold (hole NW-6a) and 97 feet of 0.489 opt gold (hole NW-13a). Mineralization occurs at depths of greater than 1300 feet in decarbonatized dolomite of the Home Station Formation and limestone of the Favret Formation and, locally, in illite-altered felsic dikes. High-grade mineralization appears to be localized where a wide north-northeast-trending fault zone intersects the northwest-trending Cove anticline. (Victoria Gold Corp. press releases, 7/14/2008, 9/8/2008, 10/2/2009, 12/1/2008; Victoria Gold 2008 Year-End Management's Discussion and Analysis; Victoria Gold website, www.victoriaresourcecorp.com)

North Battle Mountain District

Rimrock. Gold Reef International Inc. (joint venture with Newmont Mining Corp.) drilled six core holes, totaling 8,281 feet, at its Rimrock project located near Stony Point at the southwest end of the Sheep Creek Range. The holes intercepted hydrothermally altered

rocks of the Roberts Mountains allochthon, but no significant gold values. (Gold Reef International Inc. 2008 Year-End Management's Discussion and Analysis)

Ravenswood District

Ravin. Following up a 5-hole program in 2007, MAX Resource drilled three core holes and five reverse circulation holes targeting molybdenum-tungsten mineralization at its Ravin project northwest of Austin. Hole DDH-08-04 encountered 36.8 feet grading 0.0983% molybdenum (109.6-146.4 feet) and 1.2 feet grading 1.397% molybdenum (292-295 feet), demonstrating near-surface, high-grade molybdenum mineralization. Hole RC-08-03 intercepted 200 feet of 0.055% molybdenum from the surface. Copper intercepts as high as 0.185% were encountered in the program. The property was drilled for molybdenum and tungsten in the 1970s and 1980s by Union Carbide, Houston Oil and Minerals, and Freeport Exploration. (MAX Resource Corp. website, www.maxresource.com)

Reese River District

Cottonwood. Bonaventure Enterprises Inc. attempted to drill a core hole that targeted the footwall contact of an interpreted subsurface sill at its Cottonwood project located north of Austin. The hole failed due to poor ground conditions. (Bonaventure Enterprises Inc. press release, 12/30/2008)

Toiyabe Mine Area

Toiyabe. In 2008 Golden Oasis Exploration Corp. completed a six-hole reverse circulation drilling program totaling 3,250 feet that targeted expansion of the Courtney B Fault mineralization and interpreted northwest-trending fault zones in the Courtney West area. Drill holes T-801 and T-802 intersected the first high-grade gold discovered along the Courtney B Fault zone. T-801 intercepted 5 feet grading 0.427opt gold and T-802 encountered 5 feet averaging 0.268 opt gold. Drill holes T-803 through T-806 identified major offsets in the stratigraphy and several gold intercepts greater than 0.01 opt gold

that are interpreted as being associated with high-angle faults. (Toiyabe 43-101 Technical Report, November 2008; Golden Oasis website, www.goldenoasis.ca)

LYON COUNTY

Como District

Blackrock. New Dimension Resources drilled 12 reverse circulation holes totaling 2,650 feet at its Blackrock project in the Como district in the Pine Nut Mountains. The Blackrock project contains a previously untested, east-dipping epithermal quartz vein system with a strike length of 3,300 feet and widths up to 50 feet. Drilling focused on the southernmost 1,000-foot segment of the vein. All the holes encountered strong vein material with strongly anomalous gold values. The best intercept was 5 feet grading 0.187 opt gold (hole BR-07, 55-60 feet) and 105 feet averaging 0.021 opt gold (hole BR-06). (New Dimension Resources press release, 4/9/2008; New Dimension website, www.newdimensionresources.com)

Como. Silver Resource Corp. drilled 11 holes targeted on surface alteration and geochemical anomalies within the Pony Meadows fault zone. All 11 holes encountered intercepts up to 30 feet wide containing anomalous gold with individual assays ranging up to 0.03 opt gold. (Silver Reserve Corp. press release, 4/23/2008).

Hercules. In March, American Goldfields Inc. completed a 24-hole drill program, totaling 7,415 feet, which started in late 2007. No results were released. (American Goldfields Inc. SEC Form 10-K 2008 Annual Report; American Goldfields website, www.americangoldfields.com)

Wilson District

Pine Grove. Lincoln Gold Corp. drilled four large-diameter core holes, mainly for metallurgical testing purposes. In late 2008, they released a resource estimate based mainly on drilling done by Teck Resources in the late 1980s. The inferred resource (at a 0.01 opt gold cut-off grade) for the Wilson area is 2,738,000 tons grading 0.025 opt gold

for 69,744 ounces, and the inferred resource for the Wheeler area is 3,321,000 tons grading 0.075 opt gold for 250,236 ounces. (Lincoln Gold Corp. Technical Report on the Pine Grove Project, December 2008)

Yerington District

Ann Mason. PacMag Metals Ltd. continued their drilling assessment at Ann Mason and surrounding targets including three resource and resource extension targets and six high-grade copper skarn targets within close proximity to the Ann Mason deposit. In 2008, one hole was completed at Ann Mason; five holes were completed in the Blue Hills area; two at Casting Copper; two at Casting West; three at the Ludwig Mine; and three at the Minnesota Mine (Douglas County). Two holes at Blue Hills, located northwest of the Ann Mason deposit, encountered thick sections of significant copper sulfide mineralization. Hole BH08001 intersected 1,726.5 feet grading 0.23% copper (499-2225 feet), which included 240 feet of 0.40% copper and 0.017% molybdenum. Hole BH08003 intersected 330 feet of 0.32% copper (1570-1900 feet). Shallow copper oxide mineralization was also encountered at Blue Hills. Hole BH08006 intersected 70 feet of 0.46% copper, which is similar to intercepts in nearby holes drilled previously by the Anaconda Mining Company. The best intercepts in the area of the Casting Copper skarn deposit was 27 feet grading 0.55% copper, which was about 330 feet below the historical workings. At the Ludwig quartz-pyrite replacement vein, the best intercept was 30 feet of 2.26% copper, which occurred as copper oxides. (PacMag Metals Ltd. 2008 Annual and Quarterly Reports, Pacific Magnesium website, www.pacmag.com.au)

MacArthur. Quaterra Resources Inc. drilled 82 reverse circulation holes and five core holes in 2008. Based on 449 Quaterra and Anaconda drill holes totaling 134,255 feet, 173 holes and 80,137 feet of which were drilled by Quaterra in 2007 and 2008, a new resource estimate was released in early 2009. The measured and indicated resource for copper oxide and chalcocite-bearing material, at a cut-off grade of 0.18% copper, is 57,365,000 tons grading 0.239% copper for 274 million pounds of copper. A 50- to 150-foot thick blanket of mixed oxide-chalcocite mineralization remains open to the north, west and south of the drilled area. Some of the best mineralization was encountered along the northern limits of drilling where hole QM-040 intercepted 260 feet of chalcocite

mineralization averaging 0.38% copper at a depth of 140 feet, including 20 feet assaying 1.48% copper. The 2008 drilling program not only expanded the defined oxide and chalcocite copper resources but also may have identified related primary copper mineralization. Deep holes in the Gallagher area to the southwest have partially delineated a zone of chalcopyrite mineralization over a north-south distance of 2,500 feet, with a width of 500 feet, and extending to a depth of approximately 650 feet. Primary copper mineralization has also been identified north of the pit at the North Porphyry target where a chalcopyrite zone (partially enriched with chalcocite) in hole QM-068 averaged 1.15 % copper over a drilled thickness of 115 feet, starting at a depth of 470 feet. In addition in 2008, Quaterra staked nearly 450 claims north of Nevada Copper Corp.'s Pumpkin Hollow project. (Quaterra Resources Inc. press release, 1/26/2009; Quaterra website, www.quaterraresources.com)

Pumpkin Hollow. Nevada Copper Corp. completed a $9 million development program at its Pumpkin Hollow copper project in 2008, which included drilling 73 holes totaling 87,300 feet. The infill and step-out program focused on the existing historical resources at Pumpkin Hollow, including the East Deposit, E-2 deposit, North deposit, Northwest deposit, South deposit, and Southeast deposit. The 2008 drilling expanded the limits of most of those deposits. Several high-grade intercepts of tens of feet to a couple hundred feet of >1% copper were encountered during the 2008 drill program. Nevada Copper also assayed or re-assayed nearly 40,000 feet of available historical drill core and rejects for copper, gold, silver, and molybdenum. In addition, Nevada Copper continued permitting and carried out metallurgical, hydrological and geotechnical studies and activities to support feasibility. (Nevada Copper press releases, 4/17/2007, 4/24/2007, 5/8/2007, 5/31/2007, 6/14/2007, 6/22/2007, 7/26/2007, 9/14/2007, 10/9/2007, 11/2/2007, 1/14/2008, 3/17/2008; Nevada Copper website, www.nevadacopper.com)

MINERAL COUNTY

Aurora District

Fletcher Junction. Nevada Exploration Inc. drilled 13 reverse circulation holes following up strongly anomalous gold in groundwater anomalies at the northwest end of Aurora Crater. The drilling indicates a large area of covered hydrothermally altered volcanic rocks that appear similar to those that host gold mineralization at nearby Aurora. Anomalous gold and trace elements were intercepted. Nevada Exploration believes the system strengthens to the southeast and has submitted a revised plan of operations to the Forest Service to test this target concept. (Nevada Exploration Inc. press release, 12/18/2008, Nevada Exploration website, www.nevadaexploration.com)

Borealis District

Borealis. Gryphon Gold Corp. released a new resource estimate for its Borealis project. The measured and indicated resource for combined oxide, mixed, and sulfide material is 29,560,000 tons grading 0.045 opt gold for a total of 1,327,500 ounces. Much of that resource is sulfide material contained in the Graben deposit. The measured and indicated resource for just the combined oxide and mixed material is 8,546,000 tons grading 0.028 opt gold for a total of 243,150 ounces of gold. Gryphon Gold did not carry out any exploration drilling in 2008. (Gryphon Gold Corp. press release, 4/28/2008; Gryphon Gold 2008 Quarterly and Annual Reports; Gryphon Gold website, www.gryphongold.com)

Pilot Mountains District

Pine Tree. Between 2005 and 2008 Mosquito Consolidated Gold Mines Ltd. drilled 21 core holes totaling 25,252 feet on its Pine Tree porphyry copper-molybdenum project in the Pilot Mountains near Mina. Mineralization is hosted in complexly deformed sedimentary rocks of the Triassic Luning and Jurassic Dunlap Formations. The mineralization is believed to be associated with Mesozoic intrusions common in the area. The Pine Tree deposit was originally discovered in the 1950s and was held by the

same group (Continental Mining and Bear Creek Mining) until recently when it was re-staked by Mosquito. The drill program has shown that mineralization starts with copper-rich skarn, then, with depth, is increasingly overprinted by molybdenite-bearing quartz veins. The grade and thickness of the molybdenum part of the system increases toward the north and is still open. The northernmost hole, PT07-12, intersected 1299 feet grading 0.062% MoS_2. Also, late gold-silver-base metal veins occur. For example, hole PT08-19 intersected 44 feet of 0.835% copper and 28.3 opt silver. (Mosquito Consolidated Gold Mines Ltd. website, www.mosquitogold.com)

Santa Fe District

Santa Fe. Gateway Gold Corp. (joint venture with Barrick Gold Corp.) drilled eight holes in 2008, primarily targeting a sulfidic breccia pipe exposed in the southeast corner of the Santa Fe open pit. The breccia pipe had never been drilled out in the past and is open laterally and at depth. Better intercepts from the 2008 drilling include 465 feet grading 0.060 opt gold and 1.46 opt silver (hole SF 08-06) and 135 feet averaging 0.108 opt gold and 2.14 opt silver (hole SF 08-04). In October of 2008, Gateway Gold was taken over by Victoria Gold Corp. (Gateway Gold Corp. press releases, 5/6/2008, 8/12/2008, 9/25/2008; Victoria Gold press release, 10/1/2008; Victoria Gold website, Victoria Gold website, www.victoriaresourcecorp.com)

Whiskey Flat District

Claim staking. Through its subsidiary Pediment Gold LLC, Nevada Exploration Inc. staked about 270 claims in Whiskey Flat. (BLM LR2000 database)

NYE COUNTY

Arrowhead District

Needles. Excalibur Resources Ltd. drilled 22 core holes totaling 5,039 feet at its project near the old Arrowhead Mine in the Reveille Range. The drill program targeted portions of the Arrowhead Lineament, a north-northwest-trending fault zone, which extends for

about 2 miles on the property. Drilling was primarily conducted in four target zones along the fault zone, including the Gladius, Arrowhead, Argenta, and Whopper Junior zones. The best intercept was in the Arrowhead Mine area, where hole N-63 encountered 14.1 feet grading 0.068 opt gold and 21.0 opt silver (82.9-97 feet). The intercept lies in a previously untested area directly beneath a fault with intense argillic alteration within felsic volcanic/intrusive rocks that exhibit pyrite/argentite stringers and narrow quartz veinlets. (Excalibur Resources Ltd. press releases, 3/11/2008, 5/6/2008; Excalibur website, www.excaliburresources.ca)

Bare Mountain District

Reward. Canyon Resources Corp. merged with Atna Resources Ltd. in early 2008, with Atna Resources Ltd retaining its name. By the end of 2008, Atna reported it was in the final stages of permitting the currently inactive Reward Mine. The proven reserve estimate is 1.1 million tons grading 0.029 opt gold for 32,200 ounces. It will be a heap leach operation producing 30,000 ounces a year at an estimated cash cost of $410/ounce and a capital cost of $24.3 million. (W. Stanley, Atna Resources Ltd., oral commun., December 2008; Atna website, www.atna.com)

Sterling. Imperial Metals Corp. conducted an underground drill program to define and expand the 144 zone. A total of 52 holes totaling over 13,000 feet was completed. Positive results received included confirmation of high grade mineralization within the 144 zone, discovery and definition of the east extension of the 144 zone, discovery of an open mineralization trend on the west side of the 144 zone, and recognition of the potential of the latite dike, which divides the main 144 zone from the east extension, to host gold mineralization. Highlights from the drilling included hole SU08-11, which was drilled into the core of the 144 zone and encountered 153.5 feet grading 0.14 opt gold, which included 7.5 feet of 0.540 opt gold. Hole SU08-15 extended the 144 zone eastward past the latite dike by intersecting 264 feet grading 0.07 opt gold. Hole SU08-17 was drilled along the eastern margin of the latite dike that previously was the eastern limit of the 144 zone. It intersected 47 feet averaging 0.148 opt gold that included 5 feet of 0.415 opt. Hole SU08-27 was drilled perpendicular to the dike and intersected 176.7 feet grading 0.063 opt gold, which included 30 feet averaging 0.107 opt gold within a

176.7 foot interval of 0.063 opt gold. The mine site has been permitted and bonding has been put in place to allow for restarting of mine operations. (Imperial Metals Corp. press releases, 3/13/2008, 5/21/2008, 8/29/2008; Imperial Metals 2008 Annual Report; Imperial Metals website, www.imperialmetals.com)

Belmont District

Monarch. Nevoro Inc. drilled two reverse circulation holes at its Monarch project, but both were abandoned far short of their target depths due to bad ground conditions. The project occurs in a belt of serpentinites containing local gossans. Nevoro is targeting copper-nickel-zinc mineralization. Surface samples have yielded values as high as 8,490 ppm copper, 2,400 ppm zinc, 186 ppm cobalt, 2,700 ppm nickel, as well as elevated vanadium, selenium, gold, and silver. (Nevoro Inc. press release, 9/3/2008: Nevoro 2008 Year End Management's Discussion and Analysis; Nevoro website, www.nevoro.com)

Bullfrog District

North Bullfrog. International Tower Hill Mines Ltd. (joint venture with Redstar Gold Corp.) drilled 35 reverse circulation holes totaling 27,630 feet. Twenty-four of the holes were drilled in the Mayflower resource area. The results showed the Mayflower mineralization is hosted in a steep 165 to 200 foot-wide northwest-trending fault zone, where broad zones of low-grade mineralization are associated with silicification and adularia-bearing alteration. Zones of high-grade mineralization are associated with quartz-calcite veinlets and fault breccias. Broad zones of mineralization are located where the fault zone intersects favorable volcaniclastic rocks. The mineralization is low in sulfides and characterized by deep pervasive oxidation. The best intercept was 170 feet grading 0.059 opt gold (hole NB-08-10, 215-385 feet), which included 30 feet of 0.209 opt gold. In August the company released a new resource estimate based on the 2008 drilling and previous drilling, including 167 holes drilled by Barrick Gold Corp. in 1995 and 1996. The estimated indicated resource is 2,020,000 tons grading 0.026 opt gold for a total of 57,086 ounces. The 2008 drilling also encountered broad zones of mineralization in the Air Track Hill, Sierra Blanca, and Pioneer Prospect areas.

(International Tower Hill Mines Ltd. August 2008 and August 2009 Management Discussion and Analysis, August 2008 North Bullfrog Technical Report for International Tower Hill Mines Ltd; International Tower Hill Mines website, www.ithmines.com)

Danville District

Claim staking. Newmont Mining Corp. staking about 270 claims in the Danville district in the Monitor Range. The claim block was the largest that Newmont staked in 2008. (BLM LR2000 database)

Fairplay District

Davis. Molycor Gold Corp. drilled seven core holes, totaling 2,945 feet at its Davis property located about 8 miles south of Gabbs. The property has a historical resource drilled out by U.S. Mining and Smelting Company in the 1980s that totals 33,000 ounces of gold and 270,000 ounces of silver. The 2008 drilling confirmed the presence of this gold mineralization, known as the Davis zone. The best intercept was 14 feet grading 0.102 opt gold (hole DM-08-001, 286.8-300.8 feet). (Molycor Gold Corp. press releases, 11/14/2008, 3/3/2009; Molycor Gold website, www.molycor.com)

Gabbs. Newcrest Mining Ltd. carried out a drill program around its Lucky Strike porphyry copper-gold target near the old Paradise Peak and Sullivan Mines. (Newcrest Mining Ltd. June and September 2008 Quarterly Reports, Newcrest Mining website, www.newcrest.com.au)

Golden Arrow District

Golden Arrow. Nevada Sunrise Gold Corp. drilled five core holes and 28 reverse circulation holes. Most of those holes (27) were drilled within and very near the existing Gold Coin and Hidden Hill resources. Highlights included hole GA08-307 that intercepted 30 feet grading 0.446 opt gold and 6.791 opt silver (310-340 feet) and hole GA08-311 that intersected 9 feet of 0.571 opt gold and 3.50 opt silver (408-417 feet). Both holes were drilled in the Gold Coin zone. Based on this drilling and previous drilling

by Homestake, Westgold, Independence, Coeur d'Alene, Kennecott, Tombstone, and Pacific Ridge, Nevada Sunrise released a new resource estimate in early 2009. The total measured and indicated resource, including both oxidized and unoxidized material is 12,172,000 tons grading 0.024 opt gold for 296,500 ounces. The reported measured and indicated resource of just the oxidized material is 6,736,000 tons grading 0.019 opt gold for 129,200 ounces. (Nevada Sunrise Gold Corp. press releases, 1/14/2009, 4/1/2009; May 2009 Golden Arrow Technical Report for Nevada Sunrise Gold; Nevada Sunrise Gold website, www.nevadasunrise.com)

Hannapah District

Thunder Mountain. In early 2008, Midway Gold Corp. drilled four reverse circulation holes totaling 1,120 feet on its Thunder Mountain project located 6 miles southeast of its Midway project. Drilling in 2007 and 2008 by Midway intercepted two veins. The best intercept was in a 2008 hole, TM08-09, which intersected 17.5 feet (true thickness) grading 0.134 opt, starting at a depth of 40 feet. The intercept included 5.5 feet averaging 0.389 opt gold in a vein, now known as the Beckie vein. In July Midway entered into a joint venture agreement with Kinross Gold Corp. In late 2008, Kinross drilled seven reverse circulation holes totaling 3,440 feet. Assay results of that drilling were not released. (Midway Gold Corp. press releases, 5/1/2008, 7/16/2008, 1/21/2009; Midway Gold website, www.midwaygold.com)

Manhattan District

East Manhattan. Fortune River Resource Corp. drilled 12 reverse circulation holes, totaling 6,860 feet, that tested five of several quartz veins located on its claim block on the eastern end of the Manhattan district. Many of holes intersected gold mineralization. The best intercept was 24 feet grading 0.041 opt gold (hole EM08002, 165-189 feet), which included 4 feet that assayed 0.184 opt gold. The veins primarily occur in Tertiary volcanic rocks along the margin of the Manhattan caldera. (Fortune River Resource Corp. press release, 6/5/2008; Fortune River website, www.fortuneriver.ca)

Goldwedge. Royal Standard Minerals Inc. continued underground bulk sampling and processing of mined material along with stockpile material through its onsite gravity plant. In 2008, Royal Standard produced 406 ounces of dore. Some underground drilling was completed as well. The underground test work, which included additional drifting within one of the higher grade gold zones on the property, was slowed by higher than expected groundwater conditions. (Royal Standard Minerals Inc. press releases, 9/23/2008, 10/14/2008, 2/18/2009; Royal Standard 2008 Year-End Management's Discussion and Analysis; Royal Standard website, www.royalstandardminerals.com)

Manhattan. In 2008, Kinross Gold Corp. (joint venture with Barrick Gold Corp.) drilled various gold targets on its property holdings in the Manhattan district. (J. Ellis, Kinross Gold Corp., oral commun., September 2009).

Manhattan Pediment. In 2007 and 2008, Newmont Mining Corp. carried out a small drill program on its claim block on the pediment west of Manhattan. (J. Ellis, Kinross Gold Corp., oral commun., September 2009).

Northumberland District

Northumberland. Fronteer Development Group Inc.'s 2008 exploration and development drill program consisted of 27 holes that totaled 17,642 feet of reverse circulation and 11,278 feet of core drilling. The program was focused on exploration for additional shallow oxide gold mineralization adjacent to one of the historical pits and on exploration for additional high-grade sulfide mineralization. Hole FNU009 extended the Zanzibar deposit both deeper and farther west by intersecting 210 feet grading 0.080 opt gold (2088-2298 feet), which included 5 feet grading 0.394 opt gold. The best oxide intercept was 30 feet grading 0.050 opt gold (hole FNU003, 70-100 feet). Fronteer also drilled six metallurgical core holes and two water-level monitoring wells. (Fronteer Development Group Inc. press release, 11/20/2008; Fronteer 2008 Year-End Management's Discussion and Analysis; Fronteer website, www.fronteergroup.com)

Round Mountain District

Round Mountain. Kinross Gold Corp. (50% Kinross, 50% Barrick Gold Corp.) completed a drill program in and around the open pit. Permitting continued on a major pit expansion. Grades at Round Mountain decreased in 2008 as the pit expansion shells were mined. Lower grades and the decline in the performance of the aging leach pads resulted in lower gold production in 2008 compared to 2007. (Kinross Gold Gold Corp. 2008 Third Quarter Report; Kinross Gold website, www.kinross.com)

Rye Patch District

Midway. Midway Gold Corp.'s initial mining plans were submitted to the BLM and NDEP for an underground decline providing access for collection of a bulk sample and high-grade verification at its Midway Project. Drilling for hydrology and geotechnical testing was completed on 12 reverse circulation holes and nine core holes. While drilling these holes, two new high-grade veins were discovered, one of which assayed 0.226 opt gold over 5 feet. The drill program showed that the known Spruance, Midway, Rochefort and Nimitz veins have greater vertical and horizontal lengths than anticipated. The best intercepts were 6.3 feet grading 3.6 opt gold in the Nimitz vein and 1.1 feet averaging 2.5 opt gold within 10 feet grading 0.4 opt in the Midway vein. Five holes were drilled to test waste rock storage sites. No gold was noted in the tests and the waste sites will be used as needed. Hydrologic testing suggests that pumping up to 2,000 gallons per minute may be required to dewater the underground project. Midway is negotiating a plan to properly dispose of this water with the Town of Tonopah and the State Water Engineer. Metallurgical test work showed up to 94% gold recovery using gravity and cyanide methods on a 73-pound composite sample of Discovery vein material grading 0.188 opt gold. Without using cyanide, a gravity and flotation process could achieve 86.7% gold recovery and 66.3% silver recovery, based on a 242-pound composite sample, grading 0.662 opt gold and 0.475 opt silver. (Midway Gold Corp. press releases, 1/18/2008, 4/21/2008, 5/14/2008; Midway Gold 2008 Annual Report; Midway Gold website, www.midwaygold.com)

San Antone District

Liberty. In early 2008, General Moly Inc. completed a pre-feasibility study on the Hall-Tonopah porphyry molybdenum project, which it now calls Liberty. The estimated proven and probable reserves are 432,951,000 tons grading 0.071% molybdenum and 0.070% copper. The anticipated molybdenum cash costs, inclusive of copper byproduct copper credits are $6.21 per pound over the first five years. Initial capital expenditures are estimated to be $492 million. At a molybdenum price of $20/pound, the after-tax net present value (NPV) at a 8% discount is $1,006,000,000, and the internal rate of return (IRR) is 30.1%. However, at a molybdenum price of $10/pound, the NPV is negative $116,000,000. General Moly intends on putting Mount Hope into production first before spending additional significant resources on Liberty. (General Moly press release, 4/29/2009; General Moly website, www.generalmoly.com)

South Monitor Range

South Monitor/Monitor Flats. Kinross Gold Corp. (joint venture with Golconda Resources Ltd.) drilled 21 reverse circulation holes totaling 12,945 feet. Anomalous gold values were encountered in most of the holes. Better intercepts included 135 feet grading 0.025 opt gold (hole KSM08-12) and 35 feet averaging 0.018 opt gold (hole KSM08-17). (Golconda Resources Ltd. press release, 12/4/2008; Golconda Resources website, www.golcondaresources.com)

Tybo District

Bolo. Columbus Gold Corp. drilled nine reverse circulation holes totaling 5,625 feet. Hole BL-23 intersected 100 feet of silicified Cambrian-Ordovician limestone and siltstone grading 0.069 opt gold. The 2008 program concentrated on the south and central zones of the Mine Fault and a covered target near the East Fault. Hole BL-23 was a west-directed angle hole drilled through the southernmost part of the Mine Fault. The mineralized zone that was intercepted was 185 feet below the surface and is open in all directions. All other eight holes intersected thick zones of hydrothermal alteration

containing anomalous gold values (≤0.008 opt gold). (Columbus Gold Corp. press release, 10/2/2008; Columbus Gold website, www.columbusgoldcorp.com)

PERSHING COUNTY

Antelope District

Majuba Hill. Minterra Resources Corp. drilled five reverse circulation holes totaling 4,465 feet. Utilizing specialized equipment from Lang Exploratory Drilling, Minterra drilled four out of the five drill holes as horizontal and near-horizontal holes. Due to the very steep hill slopes, this allowed the holes to drill across the targets for long lengths. The holes were mainly targeted on IP anomalies that were interpreted to be a supergene chalcocite blanket. The drilling did intercept broad zones of greater than 0.1% copper; however, the IP anomaly is probably related to pyrite. Hole MH-13, which was drilled at the main Mylar copper target, intersected 40 feet grading 0.16% copper. Holes MH-10 and MH-11 were drilled on the Section 35 target located northeast of the Mylar target. Significant zinc and silver values were intersected in both holes, including 10 feet grading 9.7% zinc and 10 feet grading 2.3 opt silver. Hole MH-11 also intersected 5 feet grading 0.2 opt gold. Holes MH-12 and MH-14 tested the Line Drive target located southeast of the Mylar target. The best intercept was 5 feet grading 1.3 opt silver. (Minterra Resources Corp. press release, 5/12/2008; Minterra website, www.minterra.ca)

Antelope Springs District

Relief Canyon. Firstgold Corp. received the necessary permits to begin construction of the processing facilities and heap leach pads. At least one new pad was completed in 2008. Its permits also allow it to crush material from the old pads and place it on the new pads, which it did in late 2008. It expected to have all the permits for full mining operations by the end of 2009. An unknown amount of drilling was completed in 2008. Firstgold has yet to release a reserve estimate for Relief Canyon. (Firstgold Corp. 2008 Annual Report; Firstgold website, www.firstgoldcorp.com)

Goldbanks District.

Goldbanks. Desert Gold Ventures Inc. (joint venture with Kinross Gold Corp.) drilled 33 holes that included 8,502 feet of core drilling and 16,050 feet of reverse circulation drilling. Much of the drilling was done at the north end of the property in and around the KW zone, which is the northernmost, previously defined resource area. In the KW zone, the 2008 drilling confirmed the lateral and vertical continuity of a major northwest-trending structure known as the KW fault zone. The drilling demonstrated mineralization can be traced at least 1,200 feet along strike of the fault in a zone up to a couple hundred feet wide. The KW Fault zone is intensely brecciated, contains abundant dikes, is pervasively silicified, and contains vuggy, banded epithermal quartz veins exhibiting boiling textures and containing pyrite and limonite. Better intercepts along the KW fault zone included 19 feet grading 0.161 opt gold (hole GB08-02, 755-774 feet), which included 3.5 feet averaging 0.521 opt gold. Hole GB08-07 encountered 81 feet grading 0.070 opt gold (724-805 feet). The 2008 drilling in the Main zone, the principal resource at the south end of Goldbanks, was designed to define the geometry of the numerous high-grade veins that form the roots of the resource. The best intercept was 27 feet grading 0.176 opt gold (hole GB08-08, 493-520 feet), which included 5 feet averaging 0.875 opt gold. (Desert Gold Ventures Inc. press releases, 12/16/2008, 1/21/2009, 2/2/2009; Desert Gold website, www.desertgold.ca)

Indian District

Moonlight. Terraco Gold Corp. drilled 13 reverse circulation holes at its Moonlight property located about 3 miles north of Midway Gold Corp.'s Spring Valley project. Ten of the holes were drilled near the Phlueger Mine/Cottonwood Creek area. The best intercept was 80 feet grading 1.03 opt silver (hole TML-27, 165-245 feet), which included 5 feet averaging 6.14 opt silver. (Terraco Gold Corp. press release, 9/4/2008)

Kennedy District

Granite. In April 2008, Fronteer Development Group Inc. entered into a lease for the Granite Property in the Kennedy district. It completed a small drill program based on

results of an IP/Resistivity survey. The drilling results were negative and Fronteer terminated the lease. (Fronteer 2008 Year-End Management's Discussion and Analysis; Fronteer website, www.fronteergroup.com)

Mill City District.

Springer Mine/Mill. Golden Predator Mines Inc. spent approximately $21 million rehabilitating the Springer mill. By the end of 2008, the crushing circuit, sample preparation and analytical facilities were fully operational. Until September 2008, the project was on track and within budget to treat tungsten ores and start operations by January 2009. However, because of the economic crisis, non-essential employees were laid off and the project was put on care and maintenance. All required permits are in hand, and operations could start within six months of securing necessary financing. Before September, Golden Predator drilled approximately 180 holes aimed at delineating near-surface tungsten mineralization. Highlights included 11.4 feet grading 1.00% WO_3 (hole SMC-171) from the George Bed area and 4.6 feet averaging 2.24% WO_3 (hole SMC-052) from the South Sutton area. Also from the South Sutton area, an assay of 3.62% MoS_2 from a two foot interval was received, highlighting potential molybdenum mineralization. In December, Golden Predator Mines Inc. split into two companies. Golden Predator Royalty and Development Corp. will manage the gold and silver assets, and EMC Metals Corp. will manage the tungsten, molybdenum, uranium, and vanadium assets. (Golden Predator Mines Inc. press release, 12/19/2008; Golden Predator 2008 Quarterly Reports; EMC Metals Corp. website, www.emcmetals.com)

Rochester District

Lincoln Hill. Rye Patch Gold Corp. drilled 25 reverse circulation holes totaling 11,550 feet. All of the holes had significant gold intercepts. The best intercept was 70 feet grading 0.792 opt gold (hole LR-013, 75-145 feet), which included 25 feet averaging 2.2 opt gold. Another notable intercept was 55 feet grading 0.069 opt (hole LR-018, 75-130 feet), which included 15 feet averaging 0.196 opt gold. In addition, the holes had several intercepts ranging from 1 to 8 opt silver. Some samples were re-run by metallic screen fire assay. Results indicate a coarse gold issue that will be addressed in the next round of drilling. The mineralization at Lincoln Hill is associated with a quartz-tourmaline

stockwork that is hosted in volcanic rocks of the Triassic Koipato group. The stockwork is exposed on the surface over an area of approximately 4,000 feet by 3,000 feet. The shallow stockwork zone is apparently rooted in a breccia pipe. In addition, two holes were drilled on the Gold Ridge portion of the property, which is the alluvium-covered pediment directly west of Lincoln Hill. Both holes intersected mineralization hosted by Tertiary-aged lithologies that is similar to mineralization at Rye Patch's nearby Colado deposit. (Rye Patch Gold Corp. press releases, 9/24/2008, 3/27/2009; Rye Patch 2008 year-end Financial Statement; Rye Patch website, www.ryepatchgold.com; report by R. Pinto da Silva and W Howald in May 2009 Geological Society of Nevada Field Trip Guidebook).

Spring Valley District

Spring Valley. From February to August 2008, Midway Gold Corp. drilled 87 holes that included 63,565 feet of reverse circulation drilling and 8,985 feet of core drilling. Nearly 75% of the holes had significant gold intercepts. Drilling has now identified a coherent gold zone that is 5,000 feet long by 2,000 feet wide. It extends to a depth of at least 1,400 feet. The mineralization remains open to the north, southwest, and at depth. Better intercepts included 5 feet of 1.11 opt gold within 75 feet grading 0.119 opt gold (hole SV08-417, 900-975 feet), 140 feet grading 0.021 opt gold (hole, SV 08-403, 825-965 feet), and 80 feet grading 0.031 opt gold (SV08-410, 700-780). Drilling also started to define a new area of gold mineralization to the north called the Big Leap zone. Intercepts in this zone included 5 feet grading 0.667 opt gold within 110 feet averaging 0.061 opt gold (hole SV08-436, 730-840 feet) and 25 feet grading 0.294 opt gold within 40 feet averaging 0.190 opt gold (hole SV 08-432, 540-580 feet). The Big Leap zone has been intercepted over 1,400 feet along strike, is 200 to 400 feet wide, and is still open to both the north and south and at depth. Two outlying targets, the Fitting and Limerick areas, were tested with a total of 22 drill holes with no significant results. In addition, deep core-drilling tested a gold-bearing porphyry intrusion in the resource area. The best intercepts were in hole SV08-396C, including 3 feet grading 0.101 opt gold (425-428 feet) and 9.9 feet averaging 0.215 opt gold (1,135.1-1,145 feet).

Based on the drilling completed through 2008, Midway released a new resource estimate in March, 2009. The inferred resource at a cut-off grade of 0.006 opt gold is

87,750,000 tons grading 0.021 opt gold for a total of 1,835,615 ounces, which is a 85% increase from the last resource estimate, which was released at the end of 2007. It incorporates portions of the West Diatreme, North Hill and Big Leap zones. In October of 2008, Midway announced it signed a terms pact with Barrick Gold Corp. for an agreement and joint venture option for the Spring Valley project. Barrick will fund future exploration that Midway will carry out. Barrick can earn a 60% interest in the project by spending $30 million over 5 years. Barrick had already invested $12.3 million in Midway since 2006 and is Midway's largest shareholder at nearly 11 percent. (Midway Gold Corp. press releases, 7/8/2008, 9/11/2008, 10/20/2008, 1/19/2009, 3/2/2009; Midway Gold's 2008 Annual Report; Midway Gold website, www.midwaygold.com; December 2008 Mining Quarterly/Elko Daily Free Press)

Willard District

Wilco. Rye Patch Gold Corp. drilled 39 reverse circulation holes totaling 32,287 feet. The 2008 drill program expanded near-surface oxide mineralization to the west and north and discovered a new target area. The highlight was the last hole of the program, which intersected 125 feet grading 0.076 opt gold (hole WR-087,1150-1275 feet), including 15 feet averaging 0.416 opt gold. The hole was drilled in a new target area called the North Basin, which is located directly north of the Section Line area. Step-out drilling in the Section Line area extended the gold zone and shows the mineralization continues to the west along the crest of an anticline. Drilling in the Pay Dirt area, located south of the South Pit, confirmed near-surface oxide mineralization along an east-west structural zone. (Rye Patch Gold Corp. press releases, 9/17/2008, 10/15/2008, 11/25/2008; Rye Patch 2008 year-end Financial Statement; Rye Patch website, www.ryepatchgold.com)

STOREY COUNTY

Comstock District

Comstock. Goldspring Inc. drilled 130 holes in 2008 at its Hartford/Lucerne complex, mainly delineating mineralization. The better intercepts that it reported include 380 feet

grading 0.109 opt gold (hole 10, 20-400 feet) and 345 feet grading 0.118 opt gold (hole 101, 20-365 feet). (Goldspring Inc. 2008 Annual Report, Goldspring website, www.goldspring.us)

WASHOE COUNTY

San Emidio District

Wind Mountain. Fortune River Resource Corp. drilled 14 reverse circulation holes totaling 16,210 feet. A new zone of gold and silver mineralization was discovered. Angle hole WM08016 was collared immediately west of the Wind open pit and intersected 65 feet grading 0.035 opt gold and 0.875 opt silver within a broader zone of 185 feet averaging 0.021 opt gold and 0.603 opt silver. Offset drilling down dip and along strike encountered similar grades and thicknesses as hole WM08016. The mineralization is characterized by silicification and brecciation. Holes drilled in the hanging wall of the Wind Mountain Fault also intersected significant thickness of mineralization, ranging in grade from 0.01 to 0.025 opt gold, for several hundred feet away from the fault. The new zone lies along the Wind Mountain Fault at a depth of about 500 feet below the base of the Wind open pit, which is consistent with Fortune River's interpretation that the fault is an important "feeder" structure for the large halo of low-grade gold and silver mineralization that was mined in the past. The Wind Mountain Fault can be traced on the surface for at least 2 miles. (Fortune River Resources Corp. press releases, 5/8/2008, 10/17/2008; Fortune River website, www.fortuneriver.ca)

WHITE PINE COUNTY

Bald Mountain District

Bald Mountain. Barrick Gold Corp. carried out a major drilling program on its large Bald Mountain property. Significant new resources were added around the RBM open pit. Existing inferred resources were upgraded in the Top, Rat, and other open pits. (E. Cope, Barrick Gold Corp., oral commun., December, 2008; Barrick Gold Q4 2008 Earnings Call Transcript; Barrick website, www.barrick.com)

Pancake District

Pan. Midway Gold corp. drilled 49 reverse circulation holes totaling 26,245 feet. Drilling at South Pan found additional near-surface oxide gold mineralization. The Wendy zone was expanded to the east where it extends under volcanic cover, and step-out drilling at the Nana zone encountered new gold mineralization. Both zones are open. Three targets outside the resource areas were tested with no significant results. Fourteen holes were drilled in the resource area to verify results from previous operators. Most of the 2008 holes intercepted higher grades and greater thickness than what was reported for the old holes. Preliminary investigations suggest assay techniques used by a previous operator may have underestimated gold values in some of the holes. A new higher-grade gold zone was also identified over 800 feet in length at North Pan with true widths ranging from 10 to 25 feet and grades ranging from 0.07 to 0.51 opt gold. An updated resource estimate was planned for 2009. (Midway Gold Corp. press release, 1/26/2009)

Robinson District

Robinson. Quadra Mining Ltd. carried out a major drill program at its Robinson copper mine, mainly focused on the Tripp-Veteran area. Quadra also staked nearly 500 claims north of its mine property. (Quadra Mining Ltd. 2008 year-end Annual Information Form: Quadra website, www.quadramining.com; BLM LR2000 database)

White Pine District

Gold Rock. Midway Gold Corp. drilled 11 reverse circulation holes, totaling 3,525 feet, on its Anchor target located southeast of the old Easy Junior open pit. The best intercept was 60 feet grading 0.014 opt gold, starting at a depth of 25 feet in drill hole AR08-08. Four other holes encountered strongly anomalous gold values in the Pilot Shale. (Midway Gold Corp. press release, 1/26/2009; Midway Gold website, www.midwaygold.com)

Mount Hamilton. Ely Gold and Minerals Inc. drilled five core holes totaling 2,241 feet, mostly as twin holes to help confirm the existing resource at the Centennial gold deposit. In 2009 it released an updated resource estimate for Centennial. The measured and indicated resource is 12,167,000 tons grading 0.031 opt gold for a total of 385,350 ounces. (Ely Gold and Minerals Inc. May 2009 43-101 Report on the Centennial Gold and Silver Deposit; Ely Gold and Minerals website, www.ivanaventures.com)

Major Precious-Metal Deposits

by John L. Muntean

The information in this compilation was obtained from the Nevada Division of Minerals and from published reports, articles in mining newsletters, and company websites, annual reports, and press releases. Locations of most of these deposits are shown on NBMG Map 149, and most active mines are shown on page 2 of this publication.
opt = troy ounces per short ton.

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
CHURCHILL COUNTY				
Bell Mountain (Bell Mountain district)	1982: 1 million tons, 0.055 opt Au, 1.4 opt Ag 1989: reserves-30,000 oz Au, 125,000 oz Ag 1997: 2.5 million tons, 0.059 opt Au equiv. oz		rhyolitic tuff	Miocene
Buffalo Valley gold property (Eastgate district)	1996: 96,000 oz Au		rhyolitic ash-flow tuff	Tertiary
Dixie Comstock (Dixie Valley district)	1991: 2.4 million tons, 0.049 opt Au 1995: 100,000 oz Au		Tertiary rhyolite	Miocene?
Fondaway Canyon (Shady Run district)	1988: 400,000 tons, 0.06 opt Au 1990: 400,000 tons, 0.06 opt Au 2001: 396,000 tons, 0.428 opt Au (indicated resource) 372,849 tons, 0.409 opt Au (inferred resource)	1989: 1,065 oz Au, 87 oz Ag 1990: 12,000 oz Au	Triassic slate and phyllite	
Jessup (Jessup district)	1998: 8,376,564 tons, 0.024 opt Au, 0.25 opt Ag ("global resource") 2007: 5,432,000 tons, 0.022 opt Au, 0.31 opt Ag (indicated resource); 1,265,000 tons, 0.017 opt Au, 0.23 opt Ag (inferred resource) 2009: 8,571,000 tons, 0.015 opt Au, 0.255 opt Ag (measured resource); 13,936,000 tons, 0.012 opt Au 0.209 opt Ag (indicated resource); 4,954,000 tons, 0.016 opt Au, 0.231 opt Ag (inferred resource)			
New Pass property (New Pass district)	1994: 3.4 million tons, 0.042 opt Au 1997: 3.1 million tons, 0.055 opt Au 2006: 11.5 million tons, 0.0226 opt Au, 0.0041 opt Ag (inferred resource)		Triassic siltstone	
CLARK COUNTY				
Crescent property (Crescent district)	1992: 390,000 tons, 0.05 opt Au; 3.3 million tons, 0.022 opt Au			
Keystone (Goodsprings district)	1990: *estimated geologic resource*- 64 million tons, 0.05 opt Au 1992: 110,000 tons, 0.11 opt Au	1990: ~1,000 oz Au 1993: idle	lower Paleozoic carbonate rocks	Triassic
ELKO COUNTY				
Big Springs (Independence Mountains district)	1987: 3.76 million tons, 0.148 opt Au 1989: 1.55 million tons, 0.172 opt Au 2005 (inferred resource, 0.025 opt Au cut-off): 15.145 million tons, 0.078 opt Au 2005 (inferred resource, 0.3 opt Au cut-off): 468,000 tons, 0.45 opt Au	1987-88: ~106,000 oz Au 1989-92: 274,000 oz Au, 48,000 oz Ag 1993: 52,752 oz Au 1994-95: 30,095 oz Au, 2,877 oz Ag	Mississippian to Permian overlap assemblage clastic and carbonate rocks	Eocene

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Bootstrap/Capstone/ Tara (Bootstrap district)	1989: *geologic resource*-25.1 million tons, 0.039 opt Au 1996: 20.2 million tons, 0.046 opt Au proven and probable reserves; 1 million tons, 0.086 opt Au mineralized material	1988-90: included in Newmont Gold production at the end of this section 1996: 19,800 oz Au 1999: 147,088 oz Au, 28,395 oz Ag 2000: 131,979 oz Au, 13,402 oz Ag 2001: 92,775 oz Au, 21,093 oz Au 2002: 23,415 oz Au, 4,717 oz Ag 2003: 29,742 oz Au, 5,480 oz Ag 2004: 154,521 oz Au, 43,566 oz Ag 2005: 3,849 oz Au, 322 oz Ag 2006: 2,019 oz Au, 436 oz Ag	dacitic dikes, Paleozoic siltstone and laminated limestone/chert	Eocene
Burns Basin (Jerritt Canyon, Independence Mountains district)	2005-2007: 29,700 tons, 0.134 opt Au (open pit indicated resource) 30,700 tons, 0.194 opt Au (underground indicated resource), 50,600 tons, 0.23 opt Au (underground inferred resource)		Hanson Creek and Roberts Mountains Formations	
California Mountain (Jerritt Canyon, Independence Mountains district)	2005-2007: 8,000 tons, 0.11 opt Au (open pit indicated resource) 32,100 tons, 0.38 opt Au (underground indicated resource), 9,400 tons, 0.33 opt Au (underground inferred resource)		Hanson Creek and Roberts Mountains Formations	
Coyote Zone (Jerritt Canyon, Independence Mountains district)	2005-2007: 45,200 tons, 0.21 opt Au (underground indicated resource) 2,700 tons, 0.18 opt Au (underground inferred resource) 2006-2007: 20,100 tons, 0.104 opt Au (open pit inferred resource)		Hanson Creek and Roberts Mountains Formations	
Cobb Creek (Mountain City district)	1988: *geologic resource*-3.2 million tons, 0.045 opt Au			
Cord Ranch (Robinson Mountain district)	1991: 3.5 million tons, 0.037 opt Au 1994: 350,000 oz Au in 3 deposits (see Piñon)		Webb Formation Devils Gate Formation Tomera Formation Diamond Peak Formation	
Dee (Bootstrap district)	1982: 2.5 million tons, 0.12 opt Au 1990: 4.5 million tons, 0.059 opt Au 1999: 1.4 million tons, 0.157 opt Au, proven and probable reserves	1985-88: 189,983 oz Au 1989-92: 172,745 oz Au, 142,000 oz Ag 1993-95: 97,860 oz Au 1996: 45,070 oz Au, 50,322 oz Ag 1997-98: 72,595 oz Au 1999: 36,329 oz Au, 68,400 oz Ag 2000: 61,171 oz Au, 110,900 oz Ag 2001: 2,351 oz Au, 6,028 oz Ag	Vinini Formation, Devonian carbonate rocks, dacitic dikes	Eocene
Doby George (Aura district)	1995: 3.7 million tons, 0.060 opt Au 1997: 250,000 oz Au		Schoonover	

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Hollister (Ivanhoe district)	1989: oxide-18.4 million tons, 0.035 opt Au; estimated mineral inventory 83.5 million tons, 0.034 opt Au, with 52.8 million tons of oxide and 30.7 million tons of sulfide 1995: 1,300,000 oz Au; 42 million tons of 0.031 opt Au (geologic resource, combined oxide and sulfide) 2001: 719,000 tons, 1.29 opt Au, 7 opt Ag 2007 (May, 0.25 opt Au cut-off grade): 903,000 tons, 1.03 opt Au, 5.71 opt Ag (measured and indicated resource) 805,000, tons, 1.08 opt Au, 3.94 opt Ag (inferred resource) 2008 (June, 0.25 opt Au cut-off grade): 1,615,000 tons, 0.87 opt Au, 4.57 opt Ag (measured and indicated resource) 1,252,000 tons, 0.51 opt Au, 1.43 opt Ag (inferred resource) 2009 (Feb., 0.33 opt Au cut-off grade): 1,234,342 tons, 0.844 opt Au, 4.32 opt Ag (proven and probable reserve)	1990: 6,000 oz Au 1991: 60,000 oz Au 2007: 4,066 oz Au, 38,885 oz Ag 2008: 41,890 oz Au, 192,000 oz Ag	rhyolitic tuff, flows	Miocene
Jerritt Canyon Property (Independence Mountains district)	1981: 12.5 million tons 0.231 opt Au 1989: 21.6 million tons, 0.143 opt Au mill ore; 6.5 million tons, 0.043 opt Au leachable 1999: 1.5 million oz Au, proven and probable reserves; 3.8 million oz Au other 2000: 1.3 million oz Au proven and probable; 3.7 million oz Au other mineralized material 2001: 2.058 million oz Au proven and probable; 893,000 oz Au other 2002: 580,913 oz Au, proven and probable reserves; 1.296 million oz Au measured and indicated resource; 1.035 million oz Au inferred resource 2003: 820,104 oz Au, proven and probable reserves; 2.295 million oz Au measured and indicated resource; 1.034 million oz Au inferred resource 2004: 9.988 million tons, 0.241 opt Au measured and indicated resource; 4.1 million tons, 0.219 opt Au inferred resource 2005: 3.723 million tons, 0.24 opt Au (proven and probable reserves); 8.812 million tons, 0.24 opt Au (measured and indicated resource, includes proven and probable reserves), 2.6465 million tons, 0.23 opt Au (inferred resource) 2006: 1.9849 million tons, 0.245 opt Au (proven and probable reserves); 8.2032 million tons, 0.232 opt Au (measured and indicated resource, includes proven and probable reserves), 2.4148 million tons, 0.226 opt Au (inferred resource) 2007: 3.1552 million tons, 0.227 opt Au (proven and probable reserves); 8.1969 million tons, 0.239 opt Au (measured and indicated resource, includes proven and probable reserves); 2.3197million tons, 0.224 opt Au (inferred resource)	1981: ~2.6 million oz Au 1991: 1,380,000 oz Au, 25,000 oz Ag 1995: 1,296,492 oz Au 1999: 363,000 oz Au 2000: 334,747 oz Au 2001: 295,328 oz Au, 7,752 oz Ag 2002: 338,660 oz Au, 8,154 oz Ag 2003: 302,095 oz Au 2004: 243,333 oz Au 2005: 202,911 oz Au, 6,322 oz Ag 2006: 169,862 oz Au, 7,154 oz Ag 2007: 121,700 oz Au, 17,560 oz Ag 2008: 35,936 oz Au, 4,620 oz Ag	Hanson Creek and Roberts Mountains Formations	Eocene
Kinsley Mountain (Kinsley district)	1988: 2.1 million tons, 0.048 opt Au 1996: 3.4 million tons, 0.032 opt Au	1993: evaluation 1995-97: 127,065 oz Au, 24,452 oz Ag 1998: 9,543 oz Au 1999: 1,543 oz Au	upper Paleozoic carbonate rocks	Oligocene?
Long Canyon (Pequop district)	2009 (March, 0.012 opt Au cut-off grade): 5,300,000 tons, 0.069 opt Au (indicated resource) 9,678,000 tons, 0.048 opt au (inferred resource)			

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Maverick Springs (Maverick Springs area)	2002: 350,000 oz Au, 32.3 million oz Ag, indicated resource; 747,000 oz Au, 68.8 million oz Ag, inferred resource 2004: 69.63 million tons, 0.01 opt Au, indicated resource; 85.55 million tons, 0.008 opt Au, inferred resource			
Meikle (Lynn district)	1992: 7.9 million tons, 0.613 opt Au (geologic resource) 1999: 5.9 million tons, 0.647 opt Au proven and probable reserves; 3.3 million tons, 0.457 opt Au mineralized material 2000: 4.9 million tons, 0.540 opt Au proven and probable reserves; 2.9 million tons, 0.450 opt Au mineral resource 2001: 9 million tons, 0.439 opt Au proven and probable reserves; 13.5 million tons, 0.433 opt Au mineral resource 2002: 9.8 million tons, 0.398 opt Au proven and probable reserves; 12.9 million tons, 0.396 opt Au mineral resource 2003: 3,316,000 tons, 0.467 opt Au proven reserves 5,862,000 tons, 0.326 opt Au probable reserves 1,580,000 tons, 0.435 opt Au measured resource 4,261,000 tons, 0.423 opt Au indicated resource 7,725,000 tons, 0.366 opt Au inferred resource 2004: 7,575,000 tons, 0.392 opt Au proven and probable reserves; 6,268,000 tons, 0.379 opt Au mineral resource 2005 (includes all underground resources at Goldstrike): 7.319 million tons, 0.379 opt Au proven and probable reserves; 3.234 million tons, 0.386 opt Au measured and indicated resource; 3.034 million tons, 0.386 opt Au inferred resource 2006 (includes all underground resources at Goldstrike): 7.662 million tons, 0.370 opt Au proven and probable reserves; 4.143 million tons, 0.338 opt Au measured and indicated resource; 2.159 million tons, 0.301 opt Au inferred resource 2007 (includes all underground resources at Goldstrike): 7.423 million tons, 0.364 opt Au proven and probable reserves; 4.129 million tons, 0.329 opt Au measured and indicated resource; 2.747 million tons, 0.371 opt Au inferred resource 2008 (includes all underground resources at Goldstrike): 6,923 million tons, 0.368 opt Au proven and probable reserves; 4.467 million tons, 0.323 opt Au measured and indicated resource; 3.424 million tons, 0.393 opt Au inferred resource	1996: 78,442 oz Au 1997-98: 1,421,621 oz Au, 426,030 oz Ag 1999: 977,356 oz Au, 263,225 oz Ag 2000: 805,718 oz Au, 205,000 oz Ag 2001: 712,688 oz Au, 213,370 oz Ag 2002: 640,337 oz Au, 203,574 oz Ag 2003: 551,664 oz Au, 99,614 oz Ag 2004: 561,345 oz Au, 129,520 oz Ag 2005 (includes all underground production at Goldstrike): 509,568 oz Au, 133,979 oz Ag 2006 (includes all underground production at Goldstrike): 477,035 oz Au, 58,345 oz Ag 2007 (includes all underground production at Goldstrike): 413,186 oz Au, 74,000 oz Ag 2008 (includes all underground production at Goldstrike): 424,687 oz Au, 51,434 oz Ag	Popovich and Roberts Mountains Formations	Eocene
MCE (Jerritt Canyon, Independence Mountains district)	2005-2007: 4,400 tons, 0.20 opt Au (underground measured and indicated resource) 7,800 tons, 0.19 opt Au (underground inferred resource)		Hanson Creek and Roberts Mountains Formations	
Midas (Ken Snyder) Mine (Gold Circle district)	1995: 13 million tons, 0.16 opt Au, 2.7 opt Ag, announced resource, proven Au reserves<500,000 oz 1996: 1.1 million tons, 1.324 opt Au, 14.95 opt Ag 1999: 3.0 million tons, 0.816 opt Au, 9.835 opt Ag proven and probable reserves 2000: 3.4 million tons, 0.63 opt Au, 7.77 opt Ag proven and probable reserves 2002: 3.4 million tons, 0.65 opt Au proven and probable reserves; 400,000 tons 0.46 opt Au measured and indicated mineralized material; 200,000 tons 0.55 opt Au inferred mineralized material 2003: 700,000 tons, 0.83 opt Au proven reserves; 2,700,000 tons, 0.51 opt Au probable reserves; 900,000 tons 0.42 opt Au indicated material 2004: 2.9 million tons, 0.510 opt Au proven and probable reserves; 200,000 tons, 0.58 opt Au indicated resource; 700,000 tons, 0.31 opt Au inferred resource 2005: 1.5 million tons, 0.58 opt Au, proven and	1998: 4,357 oz Au, 55,329 oz Ag 1999: 189,081 oz Au, 1,938,470 oz Ag 2000: 197,800 oz Au, 1,941,989 oz Ag 2001: 198,518 oz Au, 2,393,246 oz Ag 2002: 232,949 oz Au, 2,870,164 oz Ag 2003: 218,966 oz Au, 2,647,374 oz Ag 2004: 219,778 oz Au, 2,471,135 oz Ag 2005: 167,297 oz Au, 2,166,396 oz Ag 2006: 140,884 oz Au, 1,694,060 oz Ag 2007: 79,133 oz Au, 1,040,059 oz Ag 2008: 150,608 oz Au	Tertiary volcanic rocks	Miocene

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	probable reserves; 600,000 tons, 0.42 opt Au, inferred resource 2006: 1.2 million tons, 0.47 opt Au, proven and probable reserves (which includes 6,800,000 oz Ag); 800,000 tons, 0.33 opt Au, inferred resource 2007: 1.0 million tons, 0.493 opt Au, proven and probable reserves (which includes 7,500,000 oz Ag); 200,000 tons, 0.345 opt Au, measured and indicated resource; 100,000 tons, 0.3013 opt Au, inferred resource 2008: 900,000 tons, 0.436 opt Au, proven and probable reserves 200,000 tons, 0.186 opt Au, measured and indicated resource; 100,000 tons, 0.321 opt Au, inferred resource	1,872,883 oz Ag		
Mill Creek (Jerritt Canyon, Independence Mountains district)	2005-2007: 78,400 tons, 0.12 opt Au (measured and indicated resource)		Hanson Creek and Roberts Mountains Formations	
Murray (incl. Zone 9) (Jerritt Canyon, Independence Mountains district)	2005: 243,300 tons, 0.26 opt Au (proven and probable reserves) 789,200 tons, 0.29 opt Au (measured and indicated resource, includes reserves) 2006: 18,400 tons, 0.266 opt Au (proven and probable reserves); 393,300 tons, 0.290 opt Au (measured and indicated resource, includes reserves); 152,000 tons, 0.220 opt Au (inferred resource) 2007: 393,300 tons, 0.290 opt Au (measured and indicated resource); 152,000 tons, 0.220 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Pie Creek (Jerritt Canyon, Independence Mountains district)	2005-2007: 190,200 tons, 0.16 opt Au (measured and indicated resource) 28,300 tons, 0.14 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Piñon (South Bullion and Dark Star) (Robinson Mountain district)	1996: 38.3 million tons, 0.026 opt Au geologic mineral inventory 2002: 30.6 million tons, 0.026 opt Au, measured, indicated, and inferred resource		Webb Formation siltstone Devils Gate Limestone	
Pony Creek (Robinson Mountain district)	1994:1.1 million tons, 0.057 opt Au (geologic resource) 2004: 32.41 million tons, 0.044 opt Au (inferred resource)			
Railroad Property (POD zone) (Railroad district)	1997: 1.5 million tons, 0.085 opt Au drill-indicated resource			
Rain Property (Carlin district)	1982: 3.4 million tons, 0.147 opt Au and 8.3 million tons, 0.083 opt Au			
Gnome deposit	1988: 2.7 million tons, 0.048 opt Au		Webb Formation	Eocene
Emigrant Springs deposit	2005: 1,531,165 oz Au (proven and probable reserves)		Webb Formation	Eocene
Rain deposit	1999: 13,467,000 tons, 0.026 opt Au proven and probable open-pit ore, 411,000 tons, 0.316 proven and probable underground ore	1999: 23,477 oz Au 2000: 25,004 oz Au, 2,539 oz Ag 2001: 43,488 oz Au, 9,887 oz Ag 2002: 20,065 oz Au, 4,042 oz Ag 2003: 5,039 oz Au, 928 oz Ag 2004: 1,956 oz Au, 551 oz Ag 2005: 404 oz Au, 90 oz Ag		
SMZ deposit	1989: 1.6 million tons, 0.019 opt Au (geologic resource)			

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Rain district	2000: 13.5 million tons, 0.026 opt Au proven and probable open-pit ore; 308,000 tons, 0.267 opt Au proven and probable underground ore 2001: 13.5 million tons, 0.026 opt Au proven and probable open-pit ore; 21,000 tons, 0.024 opt Au proven and probable underground ore; 1.3 million tons, 0.048 opt Au mineralized material			
REN (Bootstrap district)	2003: 2.1 million tons, 0.43 opt Au (inferred resource) 2005: 2.1 million tons, 0.38 opt Au (indicated resource); 1.4 million tons, 0.37 opt Au (inferred resource) 2006: 2,713,000 tons, 0.37 opt Au (indicated resource); 758,000 tons, 0.47 opt Au (inferred resource) 2007: 2,991,000 tons, 0.37 opt Au (indicated resource); 835,000 tons, 0.47 opt Au (inferred resource)			
Road Canyon (Jerritt Canyon, Independence Mountains district)	2005-2007: 148,600 tons, 0.14 opt Au (measured and indicated resource); 74,300 tons, 0.13 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Storm Mine (Rossi) (Bootstrap district)	1998: 3.1 million tons, 0.371 opt Au resource 2000: 2.7 million tons, 0.345 opt Au resource 2002: 1.9 million tons, 0.335 opt Au measured and indicated resource; 1 million tons, 0.0335 opt Au inferred resource 2005 and 2006: 500,000 tons, 0.449 opt Au (measured and indicated resource) 800,000 tons, 0.376 opt Au, inferred resource	2008: 52,000 oz Au	Popovich Formation Bootstrap Limestone Rodeo Creek Formation	
SSX-Steer (Jerritt Canyon, Independence Mountains district)	2005: 1,333,300 tons, 0.25 opt Au (proven and probable reserves) 2,597,500 tons, 0.28 opt Au (measured and indicated resource, includes reserves) 1,052,200 tons, 0.23 opt Au (inferred resource) 2006: 739,400 tons, 0.266 opt Au (proven and probable reserves); 2,332,500 tons, 0.266 opt Au (measured and indicated resource, includes reserves); 929,700 tons, 0.23 opt Au (inferred resource) 2007: 900,000 tons, 0.226 opt Au (proven and probable reserves); 2,561,400 tons, 0.259 opt Au (measured and indicated resource, includes reserves); 959,200 tons, 0.236 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Saval (Jerritt Canyon, Independence Mountains district)	2005: 104,400 tons, 0.23 opt Au (proven and probable reserves) 460,500 tons, 0.25 opt Au (measured and indicated resource, includes reserves) 270,000 tons, 0.25 opt Au (inferred resource) 2006: 120,200 tons, 0.246 opt Au (proven and probable reserves); 369,300 tons, 0.254 opt Au (measured and indicated resource, includes reserves); 191,200 tons, 0.238 opt Au (inferred resource) 2007: 120,200 tons, 0.246 opt Au (proven and probable reserves); 379,800 tons, 0.252 opt Au (measured and indicated resource, includes reserves); 107,400 tons, 0.206 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Smith (Jerritt Canyon, Independence Mountains district)	2005: 949,300 tons, 0.29 opt Au (proven and probable reserves) 1,863,300 tons, 0.28 opt Au (measured and indicated resource, includes reserves) 677,000 tons, 0.24 opt Au (inferred resource) 2006: 269,000 tons, 0.332 opt Au (proven and probable reserves); 1,064,400 tons, 0.290 opt Au (measured and indicated resource, includes reserves); 541,600 tons, 0.231 opt Au (inferred resource) 2007: 954,100 tons, 0.282 opt Au (proven and probable reserves); 1,236,900 tons, 0.278 opt Au (measured and indicated resource, includes reserves); 534,000 tons, 0.221 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Smith East (Jerritt Canyon, Independence Mountains district)	2006: 997,400 tons, 0.281 opt Au (measured and indicated resource, includes reserves) 120,400 tons, 0.264 opt Au (inferred resource) 2007: 1,065,500 tons, 0.287 opt Au (measured and indicated resource); 125,200 tons, 0.280 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
South Arturo (Bootstrap district)	2006: 12,644,000 tons, 0.060 opt Au (indicated resource) 786,000 tons, 0.053 opt Au (inferred resource) 2007: 17,928,000 tons, 0.070 opt Au (indicated resource); 612,000 tons, 0.022 opt Au (inferred resource) 2008: 22,114,000 tons, 0.045 opt Au (indicated resource); 1,952,000 tons, 0.013 opt Au (inferred resource)		Popovich Formation Bootstrap Limestone Rodeo Creek Formation	
Starvation Canyon (Jerritt Canyon, Independence Mountains district)	2005: 400,500 tons, 0.30 opt Au (probable reserves) 676,400 tons, 0.28 opt Au (measured and indicated resource, includes reserves) 51,400 tons, 0.31 opt Au (inferred resource) 2006: 369,600 tons, 0.305 opt Au (probable reserves); 636,500 tons, 0.290 opt Au (measured and indicated resource, includes reserves); 51,200 tons, 0.278 opt Au (inferred resource) 2007: 571,600 tons, 0.282 opt Au (probable reserves); 697,300 tons, 0.287 opt Au (measured and indicated resource, includes reserves) 25,500 tons, 0.252 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Trout Creek (Contact district)	1988: 1.5 million tons, 0.04 opt Au	1988: exploration	Miocene sedimentary rocks	
Tuscarora (Dexter) (Tuscarora district)	1987: 2 million tons, 0.039 opt Au, 1.9 opt Ag 1988: 1.8 million tons, 0.037 opt Au, 0.74 opt Ag	1896-1902: 29,940 oz Au, 28,543 oz Ag 1987-90: 34,163 oz Au, 189,865 oz Ag	Eocene rhyolitic ignimbrite and andesite	Eocene
Waterpipe II (Jerritt Canyon, Independence Mountains district)	2005-2007: 37,400 tons, 0.21 opt Au (underground inferred resource)		Roberts Mountains Formation	

MAJOR PRECIOUS-METAL DEPOSITS, ELKO COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
West Mahala (Jerritt Canyon, Independence Mountains district)	2005 and 2006: 368,100 tons, 0.22 opt Au (underground measured and indicated resource); 141,900 tons, 0.21 opt Au underground inferred resource) 2007: 197,500 tons, 0.218 opt Au (underground indicated resource); 129,600 tons, 0.206 opt Au (inferred resource)		Hanson Creek and Roberts Mountains Formations	
Winters Creek (Jerritt Canyon, Independence Mountains district)	1986: 1.4 million tons, 0.146 opt Au 2005-2007: 148,900 tons, 0.22 opt Au underground measured and indicated resource; 37,200 tons, 0.2 opt Au, underground inferred resource		lower Paleozoic carbonate rocks	Eocene
Wright Window (Jerritt Canyon, Independence Mountains district)	1986: 1.3 million tons, 0.095 opt Au 2005-2007: 32,600 tons, 0.226 opt Au, (probable reserves); 97,800 tons, 0.16 opt Au, (measured and indicated resource, includes reserves); 19,000 tons, 0.23 opt Au (inferred resource)	1992: 3,500 oz Au	lower Paleozoic carbonate rocks	Eocene
ESMERALDA COUNTY				
Boss (Gilbert district)	1987: 500,000 tons, 0.07 opt Au 1990: *reserves*-637,500 tons, 0.023 opt Au *geologic resource*-31,000 oz Au 1996: see Castle		Ordovician sedimentary rocks	Miocene?
Castle (includes Boss) (Gilbert district)	1996: 3.7 million tons, 0.03 opt Au 1997: 10 million tons, 0.03 opt Au resource 2000: 215,000 oz Au indicated resource and 93,000 oz Au inferred resource		Ordovician Palmetto Formation	
Gemfield (Goldfield district)	1996: 9.5 million tons, 0.04 opt Au 1998: 500,000 oz, 0.04 opt Au 2003: see Goldfield project 2004: 16,853,000 tons, 0.032 opt Au (measured and indicated resource); 1,001,000 tons, 0.022 opt Au (inferred resource) 2006: 12,459,000 tons, 0.031 opt Au (measured and indicated resource); 88,000 tons, 0.116 opt Au (inferred resource)		Sandstorm Rhyolite	21 Ma?
Goldfield Project (Goldfield district) (*see Gemfield, Goldfield Main, and McMahon Ridge*)	1983: 1.75 million tons, 0.087 opt Au 1994: 3.48 million tons, 0.071 opt Au 2003: 23,410,200 tons, 0.031 opt Au (measured and indicated resource) 10,239,100 tons 0.024 opt Au inferred resource (includes Goldfield Main, McMahon Ridge, and Gemfield) 2006: 16,856,000 tons, 0.034 opt Au (measured, indicated, and inferred resource, includes McMahon Ridge and Gemfield)	1903-45: 4.19 million oz Au, 1.45 million oz Ag 1989-97: 28,373 oz Au	andesite, rhyodacite, rhyolite	21 Ma
Goldfield Main (Goldfield district)	2004: 6,651,000 tons, 0.036 opt Au measured and indicated resource; 2,129,000 tons, 0.038 opt Au inferred resource			
Hasbrouck (Divide district)	1982: 5 million tons 0.06 opt Au, 1.5 opt Ag 1986: 12.9 million tons, 0.0291 opt Au, 0.59 opt Ag 1998: 7.7 million tons, 0.036 opt Au, 0.7 opt Ag 2003: 26,036,00 tons, 0.023 opt Au (indicated resource); 8,200,000 tons, 0.021 opt Au (inferred resource)		Siebert Formation tuff and volcaniclastic rocks	16 Ma
Hill of Gold deposit (Divide district)	1988: 500,000 tons, 0.04 opt Au, 0.40 opt Ag 1996: 1.6 million tons, 0.026 opt Au		Miocene silicic tuff	16 Ma

MAJOR PRECIOUS-METAL DEPOSITS, ESMERALDA COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Mary-Drinkwater (Silver Peak district)	1991: 531,300 tons, 0.124 opt Au	1991: 25,000 oz Au, 8,000 oz Ag	Wyman Formation	Mesozoic?
McMahon Ridge (Goldfield district)	2004: 8,200,000 tons, 0.035 opt Au (measured and indicated resource) 171,000 tons, 0.019 opt Au (inferred resource) 2006: 4,138,000 tons, 0.042 opt Au (measured and indicated resource); 172,000 tons, 0.038 opt Au (inferred resource)			
Mineral Ridge (Silver Peak district)	1995: 5.2 million tons, 0.068 opt Au proven and probable reserves (includes Mary-Drinkwater) 1998: 4 million tons, 0.06 opt Au; 241,000 oz Au 2000: 2.84 million tons, 0.074 opt Au minable reserves 2002: 2.66 million tons, 0.079 opt Au total reserves 2003: 8.3 million tons, 0.061 opt Au resource (includes 2.66 million tons, 0.079 opt Au reserves)	1997: 13,793 oz Au, 7,907 oz Ag 1998: 8,582 oz Au, 4,877 oz Ag 1999: 27,145 oz Au, 19,915 oz Ag 2000: 2,200 oz Au, 1,000 oz Ag 2001: 1,399 oz Au, 424 oz Ag 2002: 397 oz Au, 396 oz Ag 2003: 675 oz Au, 704 oz Ag 2004: 3,638 oz Au, 3,062 oz Ag 2005: 1,589 oz Au, 1,073 oz Ag	Wyman Formation	Mesozoic?
Monte Cristo (Gilbert district)	2006: 363,760 tons, 0.190 opt Au, 0.583 opt Ag (inferred resource)	late 1980s: 300,000 tons, 0.072 opt Au	Tertiary andesite, lithic tuff	Tertiary
Tip Top (Fish Lake Valley district)	1997: 109,000 tons, 0.103 opt Au, 0.88 opt Ag indicated resource 1998: 168,000 tons, 0.088 opt Au inferred geologic resource		Tertiary quartz latite	
Three Hills (Tonopah district)	1996: 3.2 million tons, 0.036 opt Au 1997: 6.3 million tons, 0.023 opt Au 2003: 5,736,000 tons, 0.023 opt Au (indicated resource)		Miocene Siebert Formation and Oddie Rhyolite	
Weepah (Weepah district)	1986: 200,000 tons, 0.1 opt Au, 0.4 opt Ag	1986-87: 58,000 oz Au	Wyman Formation	Cretaceous

EUREKA COUNTY

Afgan (Antelope district)	1996: 80,000 oz Au drill-indicated resource 1999: 2.8 million tons, 0.037 opt Au oxide resource 2004: 1.85 million tons, 0.027 opt Au (indicated resource) 1.29 million tons, 0.026 opt Au (inferred resource)		Webb Formation	
Betze-Post (Lynn district)	1988: 128.4 million tons, 0.095 opt Au 1999: 135.6 million tons, 0.153 opt Au proven and probable reserves; 23.3 million tons, 0.099 opt Au mineralized material 2000: 116.4 million tons, 0.155 opt Au proven and probable; 55.9 million tons, 0.063 opt Au mineral resource 2001: 108.9 million tons, 0.151 opt Au proven and probable; 49.9 million tons, 0.069 opt Au mineral resource 2002: 107.1 million tons, 0.150 opt Au proven and probable reserves; 47.6 million tons, 0.070 opt Au mineral resource 2003: 61,551,000 tons, 0.128 opt Au proven reserves; 48,191,000 tons, 0.162 opt Au probable reserves; 14,077,000 tons, 0.059 opt Au measured resource; 23,326,000 tons, 0.061 opt Au indicated resource; 323,000 tons, 0.065 opt Au inferred resource 2004: 123,334,000 tons, 0.131 opt Au proven and probable reserves; 22,318,000 tons, 0.050 opt Au mineral resource 2005: 114,512,000 tons, 0.128 opt Au (proven and probable reserves); 21,115,000 tons, 0.050 opt Au (measured and indicated resource);	1974: 302,807 oz Au 1980-88: 440,000 oz Au 1989-92: 2,214,508 oz Au, 92,347 oz Ag 1993: 1,439,929 oz Au 1994-98: 8,920,871 oz Au, 372,403 oz Ag 1999: 1,130,094 oz Au, 65,804 oz Ag 2000: 1,646,640 oz Au, 52,000 oz Ag 2001: 1,549,975 oz Au, 261,261 oz Ag 2002: 1,409,984 oz Au, 135,716 oz Ag 2003: 1,559,401 oz Au, 115,473 oz Ag 2004: 1,381,315 oz Au, 130,609 oz Ag 2005: 1,514,320 oz Au, 114,248 oz Ag 2006: 1,432,698 oz Au, 121,032 oz Ag 2007: 1,215,447 oz Au, 140,923 oz Ag		Eocene

MAJOR PRECIOUS-METAL DEPOSITS, EUREKA COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	417,000 tons, 0.089 opt Au (inferred resource) 2006: 105,206,000 tons, 0.125 opt Au (proven and probable reserves); 20,184,000 tons, 0.050 opt Au (measured and indicated resource); 489,000 tons, 0.078 opt Au (inferred resource) 2007: 94,914,000 tons, 0.128 opt Au (proven and probable reserves); 34,532,000 tons, 0.052 opt Au (measured and indicated resource); 5,014,000 tons, 0.064 opt Au (inferred resource) 2008: 86,254,000 tons, 0.119 opt Au (proven and probable reserves); 15,751,000 tons, 0.055 opt Au (measured and indicated resource); 479,000 tons, 0.092 opt Au (inferred resource)	2008: 1,281,450 oz Au, 152,886 oz Ag		
Buckhorn property (Buckhorn district)	1984: 5 million tons, 0.044 opt Au, 0.585 opt Ag 1990: 700,000 tons, 0.05 opt Au; *geologic resource*-200,350 oz Au 1993: *geologic resource*-1.1 million tons, 0.11 opt Au	1988-93: 109,422 oz Au, 409,887 oz Ag	basaltic andesite, sinter, silicified sedimentary rocks	14.6 Ma
Buckhorn South/ Zeke deposit (Buckhorn district)	1989: 2 million tons, 0.056 opt Au, 0.224 opt Ag 1998: 2.4 million tons, 0.046 opt Au		lower Paleozoic rocks	
Cabin Creek (Antelope district)	2009 (Feb., 0.013 opt Au cut-off grade) 3.2 million tons, 0.024 opt Au (indicated resource) 0.1 million tons, 0.015 opt Au (inferred resource)			
Carlin North, Newmont (Lynn district)				
Blue Star	1987: 1.95 million tons, 0.066 opt Au 1989: *geologic resource*-22.2 million tons, 0.030 opt Au	1974-84: intermittent 1988-2006: included in Newmont Gold production at the end of this section	lower Paleozoic sandy siltstone and carbonate rocks, granodiorite	Eocene
Bobcat	1988: *geologic resource*-17.7 million tons, 0.029 opt Au		lower Paleozoic rocks	Eocene
Bullion Monarch	1987: 1 million tons, 0.10 opt Au	1977-84: 17,779 oz Au	lower Paleozoic sedimentary rocks	Eocene
Deep Star	1996: 1.4 million tons, 0.8765 opt Au proven and probable reserves	1995: 2,800 oz Au 1996: 93,400 oz Au 1997-2005: included in Newmont Gold production at the end of this section	Popovich Formation	Eocene
Genesis	1989: *geologic resource*-35.8 million tons, 0.044 opt Au 1990: 32 million tons, 0.047 opt (includes Blue Star) 2004: 1,065,000 oz Au (proven and probable reserves)	1986: production commenced 1988-2006: included in Newmont Gold production at the end of this section	Ordovician-Devonian limestone, argillite, chert	Eocene
Genesis/North Star	1996: 22.7 million tons, 0.034 opt Au proven and probable reserves; 11 million	1994-95: 684,600 oz Au 1996-2006: included in Newmont Gold production at the end of this section	Ordovician-Devonian limestone, argillite, chert	Eocene
Genesis Complex	2000:14.1 million tons, 0.026 opt Au proven and probable open-pit reserves 2004: 1,065,000 oz Au (proven and probable reserves) 2005: 1,193,058 oz Au (proven and probable reserves)			
Leeville	2004: 2,612,000 oz Au (proven and probable reserves) 2005: 2,433,000 oz Au (proven and probable reserves)	2005-2008: included in Newmont Gold production at the end of this section	Roberts Mountains Formation	Eocene
North Lantern	2004: 199,940 oz Au			

MAJOR PRECIOUS-METAL DEPOSITS, EUREKA COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
North Star	1989: *geologic resource*-6.9 million tons, 0.052 opt Au 1990: 3.9 million tons, 0.052 opt Au	1988: 4,250 oz Au 1989-2005: included in Newmont Gold production at the end of this section	lower Paleozoic sedimentary rocks	Eocene
Post/Goldbug	1996: 25.6 million tons, 0.190 opt Au proven and probable reserves; 43.6 million tons, 0.079 opt Au mineralized material	1999-2005: included in Newmont Gold production at the end of this section	lower Paleozoic sedimentary rocks	Eocene
Deep Post	2000: 3.1 million tons, 0.814 opt Au proven and probable underground reserves 2004 (includes Deep Star) 1,462,000 oz Au (proven and probable reserves) 2005 (includes Deep Star) 942,000 oz Au (proven and probable reserves)	2005-2006: included in Newmont Gold production at the end of this section		
Turf	1996: 2.5 million tons, 0.367 opt Au mineralized material	included in Newmont Gold production at the end of this section	Roberts Mountains Formation	Eocene
West Leeville (Newmont)	1996: 2 million tons, 0.377 opt Au proven and probable reserves; 581,000 tons 0.354 opt Au mineralized material	1995-96: 272,000 oz Au 1997-2000: included in Newmont Gold production at the end of this section	Roberts Mountains Formation	Eocene
West Leeville (Newmont-Barrick)	1996: 7.1 million tons, 0.425 opt Au proven and probable reserves; 500,000 tons 0.328 opt Au mineralized material		Roberts Mountains Formation	Eocene
Carlin Mine	1965: 11 million tons, 0.32 opt Au	1965-86: 3.8 million oz Au		
Carlin/Pete/Lantern	1995: 14.8 million tons, 0.031 opt Au 1996: 13.7 million tons, 0.046 opt Au proven and probable reserves; 14.7 million tons, 0.046 opt Au mineralized material 2004: 940,040 oz Au (proven and probable reserves) 2005: 1,044,841 oz Au (proven and probable reserves)	1994-96: 68,700 oz Au 1997-2006: included in Newmont Gold production at the end of this section	Roberts Mountains Formation	Eocene
Carlin Underground	2004: 163,000 oz Au 2005: 123,000 oz Au (proven and probable reserves)			
Carlin North-other	2000: 19.8 million tons, 0.052 opt Au, proven and probable open-pit reserves			
Carlin North area total	2000: 8.2 million tons, 0.495 opt Au, proven and probable underground reserves			
Carlin North area, total open-pit	2001: 32.6 million tons, 0.044 opt Au, proven and probable reserves; 13.0 million tons, 0.039 opt Au mineralized material			
Carlin North area, total underground	2001: 10.9 million tons, 0.56 opt Au, proven and probable reserves; 2.1 million tons, 0.55 opt Au mineralized material			
Carlin South, Newmont (Maggie Creek district)				
Gold Quarry/Mac/Tusc	1982: 25.1 million tons, 0.106 opt Au and 150 million tons, 0.036 opt Au 1987: 197.8 million tons, 0.042 opt Au 1990: 212.6 million tons, 0.042 opt Au, *geologic resource*-534.3 million tons, 0.037 opt Au 1996: 174.8 million tons, 0.046 opt Au proven and probable reserves; 51.9 million tons, 0.058 opt Au mineralized material 2004: 5,984,000 oz (proven and probable reserves) 2005: 6,554,297 oz (proven and probable reserves)	1981: 6,000 oz Au 1982: 19,000 oz Au 1983: 74,000 oz Au 1984: 68,200 oz Au 1985: 136,200 oz Au 1986: 309,800 oz Au 1987: 446,600 oz Au 1988-93: included in Newmont Gold production 1994-96: 2,978,000 oz Au 1997-2008: included in Newmont Gold production at the end of this section	Ordovician to Devonian chert, shale, siltstone, and impure carbonate rocks; in part, Vinini Formation	Eocene

MAJOR PRECIOUS-METAL DEPOSITS, EUREKA COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Mike	1999: 408,000,00 tons, .006 opt Au 151,000,000 tons, 0.10 % Cu 19,000,000 tons, 1.00 % Zn (drill-indicated mineral inventory)			
Tusc	1988: *geologic resource*-15.8 million tons, 0.059 opt Au 1990: 13.3 million tons, 0.062 opt Au	included in Newmont Gold production at the end of this section	lower Paleozoic sedimentary rocks	Eocene
Carlin South area	2000: 75.2 million tons, 0.059 opt Au proven and probable open-pit reserves			
Carlin South open-pit	2001: 61.3 million tons, 0.062 opt Au proven and probable reserves; 24.6 million tons, 0.028 opt Au mineralized material			
Chukar Footwall underground	2001: 278,000 tons, 0.49 opt Au proven and probable reserves; 115,000 tons, 0.46 opt Au mineralized material 2004: 172,000 oz Au (proven and probable reserves) 2005: 256,000 oz Au (proven and probable reserves)			
Carlin North and South combined (includes all Newmont's Carlin properties)				
Carlin open pit	2002: 181.8 million tons, 0.042 opt Au proven and probable reserves; 9.5 million tons, 0.028 opt Au measured and indicated mineralized material; 9.3 million tons, 0.035 opt Au inferred mineralized material 2003: 17,500,000 tons, 0.052 opt Au proven reserves 203,300,000 tons, 0.044 probable reserves 1,000,000 tons 0.035 measured material; 11,200,000 tons 0.024 indicated material; 10,400,000 tons 0.034 opt Au inferred material 2004: 201,600,000 tons, 0.047 opt Au proven and probable reserves; 13,200,000 tons, 0.022 opt Au indicated material; 7,700,000 tons, 0.034 opt Au inferred material 2005: 238.3 million tons, 0.043 opt Au (proven and probable reserves); 28.1 million tons, 0.04 opt Au (measured and indicated resource); 4.2 million tons, 0.024 opt Au (inferred resource) 2006: 271.6 million tons, 0.042 opt Au (proven and probable reserves); 35.1 million tons, 0.035 opt Au (measured and indicated resource); 6.3 million tons, 0.022 opt Au (inferred resource) 2007: 213.5 million tons, 0.045 opt Au (proven and probable reserves); 14.6 million tons, 0.020 opt Au (measured and indicated resource); 3.7 million tons, 0.037 opt Au (inferred resource) 2008: 202.4 million tons, 0.045 opt Au (proven and probable reserves); 88.4 million tons, 0.040 opt Au (measured and indicated resource); 21.1 million tons, 0.023 opt Au (inferred resource)	2004-2008: included in Newmont Gold production at the end of this section		Eocene
Carlin underground	2002: 10 million tons, 0.57 opt Au proven and probable reserves; 2.6 million tons, 0.50 opt Au measured and indicated mineralized material; 200,000 tons, 0.53 opt Au inferred mineralized material 2003: 2,700,000 tons, 0.670 opt Au proven reserves; 6,100,000 tons, 0.500 opt Au probable reserves; 3,700,000 tons 0.480 opt Au inferred material 2004: 8,700,000 tons, 0.510 opt Au proven and probable reserves; 100,000 tons, 0.260 opt Au indicated material; 3,900,000 tons, 0.470 opt Au inferred material 2005: 7.7 million tons, 0.49 opt Au (proven and probable reserves); 300,000 tons, 0.33 opt Au (measured and indicated resource); 3.7 million tons, 0.46 opt Au (inferred resource) 2006: 7.4 million tons, 0.44 opt Au (proven and probable reserves); 1.1 million tons, 0.28 opt Au (measured and indicated resource); 3.0 million tons, 0.47 opt Au (inferred resource)	2004-2008: included in Newmont Gold gold production at the end of this section		Eocene

MAJOR PRECIOUS-METAL DEPOSITS, EUREKA COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2007: 7.2 million tons, 0.388 opt Au (proven and probable reserves); 110,000 tons, 0.482 opt Au (measured and indicated resource); 2.6 million tons, 0.480 opt Au (inferred resource) 2008: 11.7 million tons, 0.313 opt Au (proven and probable reserves); 340,000 tons, 0.330 opt Au (measured and indicated resource); 3.1 million tons, 0.327 opt Au (inferred resource)			
Gold Bar (Antelope district)	1984: 2.8 million tons, 0.09 opt Au 1990: mined out in December 1994: 240,000 oz Au 1995: 190,000 oz Au 2001: 473,000 oz Au in 6 deposits 2002: 3.6 million tons, 0.100 opt Au resource	1987-90: 238,262 oz Au 1991: 80,727 oz Au, 3,000 oz Ag 1992-94: 155,080 oz Au	Devonian Nevada Formation	Eocene?
Gold Canyon (Antelope district)	1992: reserves-86,500 oz Au, *geologic resource*-131,000 oz Au 1993: 770,000 tons, 0.080 opt Au 2001: *see* Gold Bar 2002: 2.5 million tons, 0.056 opt Au resource	reported with Gold Bar	Devonian Upper Denay Limestone Formation	Eocene?
Gold Pick (Antelope district)	1988: 10 million tons, 0.06 opt Au 1993: 1.4 million tons, 0.079 opt Au 2001: *see* Gold Bar 2002: 5 million tons, 0.057 opt Au measured mineral resource 2005: 7,874,000 tons, 0.041 opt Au (indicated resource)	reported with Gold Bar	Devonian McColley Canyon Formation	Eocene?
Gold Ridge (Antelope district)	1988: 4 million tons, 0.06 opt Au 1993: 426,000 tons, 0.059 opt Au 2001: *see* Gold Bar 2002: 584,164 tons, 0.046 opt Au resource	reported with Gold Bar	Devonian McColley Canyon Formation	Eocene?
Gold Pick and Gold Ridge (combined) (Antelope district)	2009 (Feb, 0.012 opt Au cut-off grade): 21.5 million tons, 0.032 opt Au (measured and indicated resource) 8.7 million tons, 0.021 opt Au			
Goldstone (Antelope district)	1988: 1.7 million tons, 0.08 opt Au 1993: 130,928 tons, 0.104 opt Au 2001: *see* Gold Bar	reported with Gold Bar	Devonian Upper Denay Limestone Formation	Eocene?
Horse Canyon (Cortez district)	1984: 3.94 million tons, 0.055 opt Au 1988: included in Cortez Joint Venture figures	1984: 40,000 oz Au 1988-93: included with Cortez Joint Venture	Wenban Limestone	35 Ma?
Hunter (Antelope district)	2009 (Feb., 0.013 opt Au cut-off grade) 0.5 million tons, 0.031 opt Au (indicated resource) 0.1 million tons, 0.015 opt Au (inferred resource)			
Ratto Canyon (Lookout Mountain) (Eureka district)	1984: ~200,000 oz Au (entire Ratto Ridge area): 2006: 836,000 tons, 0.24 opt Au (measured and indicated resource)	1987-88: 17,000 oz Au	Dunderberg Shale, Hamburg Dolomite	Eocene
Rock Creek (Eureka-Lander Co. line)	1997: 800,000 tons, 0.045 opt Au		Tertiary latite tuff	
Rodeo Projects (Rodeo, Griffin, Goldbug, North Betze) (Lynn district)	1998: 2.9 million tons, 0.487 opt Au proven and probable reserves; 5.8 million tons, 0.302 opt Au mineralized material 1999: 5.8 million tons, 0.466 opt Au, proven and probable reserves; 13.0 million tons, 0.270 opt Au mineralized material 2000: 9.2 million tons, 0.414 opt Au proven and probable; 7.4 million tons, 0.333 opt Au mineral resource	included with Meikle production, Elko County		Eocene

MAJOR PRECIOUS-METAL DEPOSITS, EUREKA COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2005-2006: reserves are combined with Meikle reserves			
Ruby Hill (Eureka district)	1994: *geologic resource*-20 million tons, 0.08 opt Au 1995: 7.62 million tons, 0.099 opt Au 1999: 3.77 million tons, 0.110 opt Au proven and probable; 7.33 million tons, 0.072 opt Au mineralized material 2000: 2.7 million tons, 0.105 opt Au proven and probable reserves; 7.3 million tons, 0.072 opt Au mineralized material 2004: (East Archimedes) 17,093,000 tons, 0.059 opt Au proven and probable reserves; 3,049,000 tons, 0.061 opt Au mineral resource 2006: (East Archimedes) 19,479,000 tons, 0.055 opt Au (proven and probable reserves); 601,000 tons, 0.088 opt Au (measured and indicated resource) 2007: (East Archimedes) 18,763,000 tons, 0.055 opt Au (proven and probable reserves); 3,202,000 tons, 0.076 opt Au (measured and indicated resource); 6,000 tons, 0.333 opt Au, (inferred resource) 2008: (East Archimedes) 18,844,000 tons, 0.044 opt Au (proven and probable reserves); 11,919,000 tons, 0.04 opt Au (measured and indicated resource); 3,495,000 tons, 0.037 opt Au, (inferred resource)	1997-98: 133,100 oz Au, 8,686 oz Ag 2000: 125,193 oz Au, 7,984 oz Ag 1999: 123,841 oz Au, 7,688 oz Ag 2001: 134,737 oz Au, 9,315 oz Ag 2002: 135,448 oz Au, 9,750 oz Ag 2003: 18,134 oz Au, 2,441 oz Ag 2004: 6,057 oz Au, 1,868 oz Ag 2007:142,856 oz Au, 8,368 oz Ag 2008: 102,553 oz Au, 7,572 oz Ag	Goodwin Limestone	
Tonkin Springs (Antelope district)	1983: 1.84 million tons, 0.089 opt Au, 0.204 opt Ag 1987: *oxide*-1.5 million tons, 0.05 opt Au; *sulfide*-2.5 million tons, 0.09 opt Au 1991: 9 million tons, 0.05 opt Au 1999: 30.7 million tons, 0.045 opt Au resource 2006: 29,672,000 tons, 0.043 opt Au (measured and indicated resource); 3,466,000 tons, 0.044 opt Au, (inferred resource) 2008 (May): 35,584,000 tons, 0.041 opt Au (measured and indicated resource) 9,290,000 tons, 0.033 opt Au, (inferred resource)	1987-88: 10,265 oz Au 1989-90: 3,821 oz Au, 1,872 oz Ag	Vinini Formation	Eocene?
Windfall (Eureka district)	1988: 3 million tons, 0.03 opt Au 1995: mined out	1908-16: 24,000 oz Au 1975-84: 90,000 oz Au 1988: 6,380 oz Au, 59 oz Ag	Hamburg Dolomite	Eocene or Oligocene
HUMBOLDT COUNTY				
Adelaide Crown (Gold Run district)	1989: south pit-585,000 tons, 1.313 opt Ag, 0.043 opt Au; additional area: 165,000 tons, 0.015 opt Au, 1.10 opt Ag	1990-91: 4,917 oz Au, 53,474 oz Ag	Preble Formation	Tertiary
Ashdown (Vicksburg district)	1987: 1.16 million tons, 0.125 opt Au 1992: 1.1 million tons, 0.12 opt Au 2002: 100,000 oz Au		Mesozoic granite	Mesozoic
Buckskin (National district)	1997: 50,221 oz Au, 466,243 oz Ag estimated resource		Miocene rhyolite flows and flow breccias	16 Ma
Chimney Creek (Potosi district)	1988: proven, probable-26.9 million tons, 0.068 opt Au; inferred in south pit-2.1 million oz Au 1993: *see* Twin Creeks	1987-88: 300,000 oz Au 1989: 222,556 oz Au, 55,953 oz Ag 1990: 220,000 oz Au 1991-92: 476,034 oz Au, 213,463 oz Ag 1993: *see* Twin Creeks	upper Paleozoic sedimentary rocks	
Converse/Redline (Buffalo Valley district)	2003: 77,459,000 tons, 0.020 opt Au measured and indicated resource 2004: 263 million tons, 0.0150 opt Au, 0.0582 opt Ag		Havallah Formation,	Tertiary

MAJOR PRECIOUS-METAL DEPOSITS, HUMBOLDT COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	granodiorite (measured and indicated resource) 35 million tons, 0.0143 opt Au, 0.0524 opt Ag			
Getchell (Potosi district)	1989: 8.1 million tons, 0.154 opt Au mill grade and 1.43 million tons, 0.049 opt Au heap-leach ore; additional geologic resource: 5.7 million tons, 0.092 opt Au sulfide and 2.6 million tons, 0.055 opt Au oxide 1999: 18.1 million tons, 0.359 opt Au 2000: 2.8 million oz Au measured resource, 5.5 million oz Au indicated resource, and 6.7 million oz inferred resource 2002: 2.69 million oz Au proven and probable reserves; 1.51 million oz Au measured and indicated mineral resource 2003: (Turquoise Ridge) 6,000,000 tons, 0.570 opt Au proven reserves; 2,400,000 tons, 0.620 opt Au probable reserves; 4,400,000 tons, 0.300 opt Au measured material; 2,800,000 tons, 0.400 opt Au indicated material; 4,800,000 tons, 0.490 opt Au inferred material 2005: Turquoise Ridge Mine (included Turquoise Ridge and Getchell Footwall deposits) 7.6 million tons, 0.56 opt Au (proven and probable reserves); 5.6 million tons, 0.42 opt Au (measured and indicated resource); 400,000 tons, 0.54 opt (inferred resource) 2006: Turquoise Ridge Mine (included Turquoise Ridge and Getchell Footwall deposits) 8.436 million tons, 0.544 opt Au (proven and probable reserves); 4.801 million tons, 0.432 opt Au (measured and indicated resource); 1.961 million tons, 0.493 opt (inferred resource) 2007: Turquoise Ridge Mine (included Turquoise Ridge and Getchell Footwall deposits) 11.239 million tons, 0.458 opt Au (proven and probable reserves); 3.291 million tons, 0.409 opt Au (measured and indicated resource); 2.000 million tons, 0.444 opt (inferred resource) 2008: Turquoise Ridge Mine 10.614 million tons, 0.501 opt Au (proven and probable reserves); 3.289 million tons, 0.435 opt Au (measured and indicated resource); 4.440 million tons, 0.505 opt (inferred resource)	1938-50, 1962-67: 788,875 oz Au 1987-88: ~35,000 oz Au 1989: 120,730 oz Au, 9,407 oz Ag 1990-91: 372,987 oz Au 1992-95: 790,600 oz Au, 258,700 oz Ag 1996-97: 348,517 oz Au 1998: 175,302 oz Au, 52,490 oz Ag 1999: 111,000 oz Au 2002: 54,600 oz Au, 5,400 oz Ag 2003: 93,337 oz Au 2004: 162,637 oz Au 2005: 208,492 oz Au, 54,419 oz Ag 2006: 233,127 oz Au, 30,473 oz Ag 2007: 251,133 oz Au 2008: 168,808 oz Au	Comus and Preble Formations, dikes, granodiorite	37-41 Ma
Hycroft formerly Crofoot/Lewis) (Sulphur district)	1988: 25 million tons, 0.025 opt Au 1999: 23.8 million tons, 0.0204 opt Au proven and probable reserves; 2.3 million tons, 0.0177 opt Au indicated reserves 2000: 41.9 million tons, 0.0196 opt Au measured and indicated resource; 14.1 million tons, 0.0152 opt Au inferred resource 2004: 47,479,000 tons, 0.016 opt Au measured and indicated; 12,029,000 tons, 0.011 opt Au inferred resource 2005: 33.32 million tons, 0.02 opt Au (proven and probable reserves) 52.7 million tons, 0.019 opt Au (measured and indicated resource) 8.7 million tons, 0.015 opt Au (inferred resource) 2007: 33.320 million tons, 0.020 opt Au (proven and probable reserves, January 2008); 19.780 million tons, 0.018 opt Au (measured and indicated resource, January 2008); 283.392 million tons, 0.019 opt Au (inferred resource, May 2008) 2008 (October 2008): 73,159,508 tons, 0.016 opt Au (proven and probable reserves; 141.3 million tons, 0.014 opt Au (measured and indicated resource, 0.005 opt Au cut-off grade); 180.2 million tons, 0.012 opt Au (oxide inferred resource, 0.005 opt Au cut-off grade) 199.4 million tons, 0.20 opt Au (sulfide inferred resource, 0.013 opt Au cut-off grade)	1988: 75,800 oz Au 1989-98: 868,544 oz Au, 2,717,170 oz Ag 1999: 40,075 oz Au, 183,190 oz Ag 2000: 13,493 oz Au, 38,418 oz Ag 2001: 3,232 oz Au, 2,000 Ag 2002: 1,771 oz Au, 217 oz Ag 2003: 644 oz Au, 100 oz Ag 2004: 61 oz Au 2008: 1,000 oz Au, 3,000 oz Ag	Camel conglomerate, rhyolite dikes	1-2 Ma

MAJOR PRECIOUS-METAL DEPOSITS, HUMBOLDT COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Lone Tree (Buffalo Mountain district)	1990: 5.4 million tons oxide mill ore, 0.159 opt Au, 5.7 million tons heap-leach ore, 0.025 opt Au and 1.2 million oz Au in sulfide ore 1994: 4 million oz Au 2000: 40.8 million tons, 0.060 opt Au proven and probable reserves (Lone Tree Complex) 2001: 29.2 million tons, 0.065 opt Au proven and probable reserves; 7.9 million tons, 0.032 opt Au mineralized material 2002: 21 million tons, 0.069 opt Au proven and probable reserves; 2 million tons, 0.057 opt Au measured and indicated mineralized material; 1 million tons, 0.047 opt Au inferred mineralized material 2003: 3,300,000 tons, 0.092 opt Au proven reserves; 13,000,000 tons, 0.084 opt Au probable reserves; 2,100,000 tons, 0.054 opt Au indicated material; 600,000 tons, 0.054 opt Au inferred material 2004: 14,000,000 tons, 0.063 opt Au proven And probable reserves; 3,400,000 tons, 0.044 opt Au indicated material; 200,000 tons, 0.116 opt Au inferred material 2005: 4 million tons, 0.080 opt Au (proven and probable reserves); 3 million tons, 0.032 opt Au (measured and indicated resource); 2007: 4.200 million tons, 0.022 opt Au (measured and indicated resource)	1991-99: 546,335 oz Au 1995: 240,000 oz Au, 11,000 oz Ag 1996-97: 536,820 oz Au 1998: 257,702 oz Au, 27,484 oz Ag 1999: 191,975 oz Au, 35,617 oz Ag 2000: 281,022 oz Au, 38,346 oz Ag 2001: 260,518 oz Au, 29,974 oz Ag 2002: 327,160 oz Au, 65,905 oz Ag 2003: 434,704 oz Au, 80,094 oz Ag 2004: 497,065 oz Au, 140,144 oz Ag 2005: 339,187 oz Au, 46,934 oz Ag 2006: 357,787 oz Au, 26,601 oz Ag 2007: 182,768 oz Au, 37,172 oz Ag 2008: 16,775 oz Au 1,897 oz Ag	Havallah Formation, Antler sequence, and dacite porphyry	38 Ma
Marigold (Battle Mountain district)	1987: 8 million tons, 0.0935 opt Au 1990: 4.3 million tons, 0.105 opt Au mill ore, 7.6 million tons, 0.026 opt Au heap-leach ore 1999: 19.09 million tons, 0.032 opt Au 2000: 30.2 million tons, 0.035 opt Au proven and probable reserves; 20.7 million tons, 0.029 opt Au measured and indicated resource 2001: 75.5 million tons, 0.027 opt Au proven and probable reserves; 109.9 million tons, 0.014 opt Au measured and indicated resource 2002: 79.1 million tons, 0.026 opt Au proven and probable reserves; 129.7 million tons, 0.014 opt Au mineral resource 2003: 9,366,000 tons, 0.031 opt Au proven reserves; 83,909,000 tons, 0.023 opt Au probable reserves; 19,937,000 tons, 0.020 opt Au measured reserves; 20,069,000 tons, 0.020 opt Au indicated resource; 177,450,000 tons, 0.014 opt Au inferred resource 2004: 71,218,500 tons, 0.023 opt Au proven and probable reserves; 18,043,500 tons, 0.022 opt Au measured and indicated resource; 21,000,000 tons, 0.014 opt Au inferred resource 2005: 98.21 million tons, 0.021 opt Au (proven and probable reserves); 157.48 million tons, 0.020 opt Au (measured and indicated resource, includes reserves); 163.23 million tons, 0.013 opt Au (inferred resource) 2006: 102.87 million tons, 0.021 opt Au (proven and probable reserves); 94.587 million tons, 0.018 opt Au (measured and indicated resource); 88.212 million tons, 0.011 opt Au (inferred resource) 2007: 84.66 million tons, 0.020 opt Au (proven and probable reserves); 46.41 million tons, 0.020 opt Au (measured and indicated resource); 122.53 million tons, 0.013 opt Au (inferred resource) 2008: 69.6 million tons, 0.020 opt Au (proven and probable reserves); 42.66 million tons, 0.016 opt Au (measured and indicated resource); 44.81 million tons, 0.013 opt Au (inferred resource)	1989-93: 322,219 oz Au, 9,784 oz Ag 1994-98: 363,771 oz Au 1999: 74,000 oz Au 2000: 68,000 oz Au 2001: 84,784 oz Au, 401 oz Ag 2002: 83,321 oz Au, 1,281 oz Ag 2003: 142,100 oz Au, 2,080 oz Ag 2004: 141,304 oz Au, 2,354 oz Ag 2005: 205,663 oz Au, 1,723 oz Ag 2006: 149,805 oz Au, 1,986 oz Ag 2007: 140,840 oz Au, 2,233 oz Ag 2008: 144,106 oz Au, 5,037 oz Ag	Paleozoic chert, argillite, and carbonate rocks	
North Stonehouse (Buffalo Mountain district)	1991: 2.5 million tons, 0.103 oz Au mill ore		Havallah Formation and porphyry dikes	39 Ma

MAJOR PRECIOUS-METAL DEPOSITS, HUMBOLDT COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Pinson (Potosi district)	1980: 3.245 million tons, 0.119 opt Au 1989: 480,000 oz Au 1996: 2.6 million tons, 0.072 opt Au 2005: 1,692,000 tons, 0.421 opt Au (measured and indicated resource) 3,097,000 tons, 0.34 opt Au (inferred resource) 2006: (includes Range Front, Ogee and CX-West zones) 2,505,000 tons, 0.454 opt Au (measured and indicated resource) 3,374,500 tons, 0.340 opt Au (inferred resource)	1980: 56,000 oz Au 1986-88: 189,864 oz Au 1989: 72,489 oz Au (includes Preble) 1990-91: 112,022 oz Au 1992-94: 145,210 oz Au, 12,700 oz Ag 1995: 44,854 oz Au 1996-98: 128,935 oz Au, 7,990 oz Ag 1999: 11,975 oz Au, 442 oz Ag 2000: 1,116 oz Au, 31 oz Ag 2001: 679 oz Au	Comus Formation	Eocene?
Preble (Potosi district)	1985: 1.8 million tons, 0.062 opt Au 1986: 3.16 million tons, 0.093 opt Au heap leach, 80,000 tons, 0.242 opt Au mill grade 1989: 15,110 oz Au	1985: 17,000 oz Au 1987: 28,000 oz Au 1988: 18,828 oz Au 1989: included with Pinson 1990: 1,161 oz Au	Preble Formation	Eocene?
Rabbit Creek (Potosi district)	1989: 4.1 million oz Au (additional geologic resource of1 million Au in refractory material) 1992: reserves-3.26 million oz Au 1993: *see* Twin Creeks	1990-92: 296,000 oz Au 1993: *see* Twin Creeks, p. 51	Ordovician	Eocene?
Sandman (Tenmile district)	2007: 8.033 million tons, 0.034 opt Au (measured and indicated resource) 1,418,000 million tons, 0.027 opt Au (inferred resource)			
Sleeper (Awakening district)	1985: 4.2 million tons, 0.13 opt Au, 0.73 opt Ag 1989: 1,975,000 oz Au 1990: 44.1 million tons, 0.038 opt Au, 0.152 opt Ag 1999: 2.1 million oz Au at average grade of 0.025 opt Au; 18.1 million oz Ag at average grade of 0.208 opt Ag 2008: 29,718,000 tons, 0.025 opt Au (indicated resource) 22,046,000 tons, 0.017 opt Au	1986: 128,000 oz Au, 94,000 oz Ag 1987-88: 389,106 oz Au 1989-96: 1,149,054 oz Au, 1,838,791 oz Ag 2001: 90 oz Au, 197 oz Ag 2002: 130 oz Au, 263 oz Ag	Miocene “latite” flows and dikes, silicic ash-flow tuff, Triassic slate and phyllite	16.1 Ma
Trenton Canyon (includes Valmy and North Peak) (Buffalo Valley district)	1994 oxide resource: 14.6 million tons, 0.035 opt Au, (517,000 oz Au) 1999: 995,000 tons, 0.021 opt Au (North Peak); 10.8 million tons, 0.022 opt Au (Valmy)	2000: included with Lone Tree 2001: 24,228 oz Au, 2,996 oz Ag 2002: 3,685 oz Au, 742 oz Ag 2006: 1,937 oz Au, 38 oz Ag 2007: 1,768 oz Au, 360 oz Ag		
Trout Creek (Battle Mountain district)	1989: 50,000 oz Au			
Twin Creeks (Chimney and Rabbit Creeks) (Potosi district)	1993: 5.7 million oz Au 1999: 87.1 million tons, 0.079 opt Au proven and probable 2000: 75.2 million tons, 0.086 opt Au proven and probable 2002: 47.6 million tons, 0.081 opt Au proven and probable reserves; 55 million tons, 0.057 opt Au measured and indicated mineralized material; 1.8 million tons, 0.046 opt Au inferred mineralized material 2003: 14,000,000 tons, 0.085 opt Au proven reserves; 48,200,000 tons, 0.074 opt Au probable reserves; 8,000,000 tons, 0.051 opt Au measured material; 34,800,000 tons, 0.051 opt Au indicated material; 1,700,000 tons, 0.041 opt Au inferred material; 2004: 61,800,000 tons, 0.075 opt Au proven and probable reserves; 15,300,000 tons, 0.077 opt Au indicated material; 800,000 tons, 0.043 opt Au inferred material 2005: 61.2 million tons, 0.074 opt Au (proven and probable reserves); 19.9 million tons, 0.049 opt Au (measured and indicated resource); 3.1 million tons, 0.033 opt Au (inferred resource)	1993-98: 3,338,026 oz Au, 1,317,456 oz Ag 1999: 879,453 oz Au, 119,191 oz Ag 2000: 779,075 oz Au, 103,909 oz Ag 2001: 831,962 oz Au, 95,721 oz Ag 2002: 786,313 oz Au, 158,401 oz Ag 2003: 697,607 oz Au, 128,535 oz Ag 2004: 352,810 oz Au, 99,472 oz Ag 2005: 267,620 oz Au, 144,172 oz Ag 2006: 354,484 oz Au, 43,467 oz Ag 2007: 488,457 oz Au, 99,344 oz Ag 2008: 512,190 oz Au, 57,913 oz Ag	Paleozoic	41-43 Ma

MAJOR PRECIOUS-METAL DEPOSITS, HUMBOLDT COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2006: 64.8 million tons, 0.077 opt Au (proven and probable reserves); 25.0 million tons, 0.058 opt Au (measured and indicated resource); 3.1 million tons, 0.033 opt Au (inferred resource) 2007: 52.1 million tons, 0.078 opt Au (proven and probable reserves); 21.0 million tons, 0.063 opt Au (measured and indicated resource); 2.6 million tons, 0.030 opt Au (inferred resource) 2008: 51.7 million tons, 0.077 opt Au (proven and probable reserves); 31.1 million tons, 0.051 opt Au (measured and indicated resource); 10.8 million tons, 0.018 opt Au (inferred resource)			
Winnemucca Mountain (Winnemucca district)	1998: 130,000 to 140,000 oz Au proven, 300,000 oz Au indicated			

LANDER COUNTY

Austin Gold Venture (Birch Creek district)	1986: 1.75 million tons, 0.16 opt Au 1989: mined out 1999: 154,000 oz Au resource	1986-88: 141,000 oz Au 1989: 50,000 oz Au	Antelope Valley Limestone	Cretaceous or Tertiary
Battle Mountain Complex (Battle Mountain district)	1992: 500,000 oz Au 1995: resource (overall Battle Mountain complex)-60.2 million tons, 0.036 opt Au, including reserves-46.6 million tons, 0.040 opt Au 1999 (Phoenix): 5,680,000 oz Au proven and probable; 1.5 million oz Au additional mineralization 2000: 175.2 million tons, 0.034 opt Au proven and probable reserves	1994-98: 274,741 oz Au, 632,739 oz Ag 1999: 8,322 oz Au, 19,526 oz Ag 2000: 1,509 oz Au, 1,756 oz Ag 2001: *see* Phoenix		Eocene
Buffalo Valley Gold Project (Buffalo Valley district)	1988: 1.5 million tons, 0.05 opt Au 1994: 4.8 million tons, 0.07 opt Au 1997: 600,106 oz Au resource; 100,797 oz Au, other mineralized material	1988-90: 39,668 oz Au		Eocene?
Cortez Joint Venture (Bullion district) CJV includes original Cortez Mine, Pipeline, South Pipeline, Gold Acres (2007 and on includes Cortez Hills)	1968: 3.6 million tons, 0.279 opt Au (Cortez deposit) 1987: 4.8 million tons, 0.105 opt Au 1999: 189.4 million tons, 0.050 opt Au proven and probable; 119.1 million tons, 0.047 opt Au mineralized material 2000: 151.3 million tons, 0.047 opt Au proven and probable; 60.0 million tons, 0.047 opt Au mineralized material 2001: 191.1 million tons, 0.044 opt Au proven and probable; 76.6 million tons, 0.040 opt Au resource 2002: 229.3 million tons, 0.034 opt Au proven and probable reserves; 281.7 million tons, 0.025 opt Au measured and indicated mineral resource 2003: 88,131,000 tons, 0.061 opt Au proven reserves; 49,623,000 tons, 0.045 opt Au probable reserves; 44,617,000 tons, 0.046 opt Au measured resource; 130,580,000 tons, 0.027 opt Au indicated resource; 18,023,000 tons, 0.047 opt Au inferred resource 2004: 193,560,000 tons, 0.046 opt Au proven and probable reserves; 188,860,000 tons, 0.028 opt Au measured and indicated; 20,500,000 tons, 0.024 opt Au inferred resource 2005 (Sept 1): 275.8 million tons, 0.040 opt Au (proven and probable reserves); 309 million tons, 0.033 opt Au (measured and indicated resource); 39.2 million tons, 0.058 opt Au (inferred resource) 2006: 184.0 million tons, 0.061 opt Au (proven and probable reserves); 44.47 million tons, 0.041 opt Au (measured and indicated resource); 6.54 million tons, 0.131 opt Au (inferred resource)	1942-84: 2.4 million tons, 0.13 opt Au; 2 million tons, 0.041 opt Au leached. Little Gold Acres: 0.124 opt Au 1988: 42,322 oz Au (includes Horse Canyon) 1989: 39,993 oz Au, 12,234 oz Ag (includes Horse Canyon) 1990-91: 107,445 oz Au, 16,750 oz Ag 1992-93: 141,850 oz Au 1995-98: 1,817,273 oz Au, 31,332 oz Ag 1999: 1,328,525 oz Au 2000: 1,009,992 oz Au 2001: 1,184,732 oz Au 2002: 1,081,677 oz Au 2003: 1,065,402 oz Au 2004: 1,051,197 oz Au 2005: 915,889 oz Au, 52,160 oz Ag 2006: 408,255 oz Au, 25,065 oz Ag 2007: 534,173 oz Au, 47,240 oz Ag 2008: 464,253 oz Au (6,804 oz Au from Cortez Hills), 69,278 oz Ag	Roberts Mountains Formation, Wenban Limestone, Valmy Formation, quartz porphyry dikes	

MAJOR PRECIOUS-METAL DEPOSITS, LANDER COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2007: 144.09 million tons, 0.080 opt Au (proven and probable reserves); 76.24 million tons, 0.045 opt Au (measured and indicated resource); 19.34 million tons, 0.153 opt Au (inferred resource) 2008: 222,125,000 tons, 0.060 opt Au (proven and probable reserves); 81,088,000 million tons, 0.046 opt Au (measured and indicated resource); 29,912,000 million tons, 0.129 opt Au (inferred resource)			
Cortez Hills	2005 (Sept 1): 71.3 million tons, 0.079 opt Au, 5,545,000 oz Au (proven and probable reserves); 5.75 million tons, 0.42 opt Au, 2,421,667 oz Au (measured and indicated resource, underground); 13.8 million tons, 0.13 opt Au, 1,856,667 oz Au (inferred resource, open pit and underground) 2006: 8.5 million oz Au (proven and probable reserves) 2008 (Nov.): 15,620,000 tons, 0.127 opt Au, 1,983,740 oz Au (proven reserve) 128,150,000 tons, 0.074 opt Au, 9,483,000 oz Au (probable reserve)			
Crescent Pit	1994: 1.97 million tons mill grade, 0.125 opt Au, 2.2 million tons heap-leach, 0.029 opt Au 1997: included in Cortez Joint Venture			
Crescent Valley (Bullion district)	1994: placer reserves-8 million cu yd, 0.031 oz Au/cu yd 1995: placer resource-6 million cu yd, 0.03 oz Au/cu yd			
Dean (Lewis district)	1995: proven reserves-11,000 oz Au possible to probable resource-240,000 oz Au			
Elder Creek Project/Shoshone (Lewis district)	1989: 91,500 oz Au 1990: 1.5 million tons, 0.041 opt Au	1990-91: 20,102 oz Au	Valmy Formation	Cretaceous or Eocene
Fire Creek (northeast of Bullion district)	1982: 350,000 tons, 0.06 opt Au 2005 (May): 1,779,196 tons, 0.328 opt Au (indicated resource) 2006: 1,961,195 tons, 0.576 opt Au (indicated resource) 2008 (April): 2,654,650 tons, 0.479 opt Au (indicated resource, 0.233 opt Au cut-off grade) 1,184,202 tons, 0.396 opt Au (inferred resource, 0.233 opt Au cut-off grade)	1983-84: 767 oz Au	basaltic andesite	Miocene
Fortitude Complex (Battle Mountain district)	1984: 16 million tons, 0.15 opt Au, 0.57 opt Ag	1986: 253,000 oz Au, 902,000 oz Ag 1987: 255,000 oz Au 1988-93: 985,616 oz Au, 1,707,992 oz Ag (includes Surprise) 1994: 50,000 oz Au, 95,000 Ag (Reona Mine) 1995: *see* Battle Mountain Complex 2001: *see* Phoenix	Battle Formation, Antler Peak Limestone Pumpernickel Formation	37 Ma
Fortitude Extension (Battle Mountain district)	1992: 500,000 oz Au 1993: *geologic resource*-900,000 oz Au 1996: included in Battle Mountain Complex			
Hilltop (Hilltop district)	1984: 10.3 million tons, 0.073 opt Au 1989: 10 million tons, 0.049 opt Au 2005: 121 million tons, 0.019 opt Au (measured and indicated resource)		Valmy Formation	Oligocene?
Klondike property	1989: 100,000 oz Au equivalent			

MAJOR PRECIOUS-METAL DEPOSITS, LANDER COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
McCoy/Cove (McCoy district)	1981: 2.5 million tons, 0.08 opt Au, 1 opt Ag (McCoy) 1987: 14 million tons, 0.05 opt Au (McCoy); 4 million oz Au, 250 million oz Ag (Cove) 1989: proven and probable reserves 2.9 million oz Au, 128 million oz Ag *geologic resource*-3.5 million oz Au, 1.50 million oz Ag 1999: 11.8 million tons, 0.043 opt Au, 2.387 opt Ag proven and probable reserves; 100,000 tons, 0.350 opt Au, 2.0 opt Ag other mineralization 2000: 4.7 million tons, 0.034 opt Au, 2.309 opt Ag proven and probable reserves 2001: 430,000 tons, 0.031 opt Au, 2.624 opt Ag proven and probable reserves	1986: 50,000 oz Au 1987-98: 3,046,660 oz Au, 85.79 million oz Ag 1999: 124,500 oz Au, 8.43 million oz Ag 2000: 162,784 oz Au, 12,328,297 oz Ag 2001: 94,633 oz Au 6,451,425 oz Ag 2002: 33,142 oz Au, 1,987,421 oz Ag 2003: 4,699 oz Au, 706 oz Ag 2004: 8,454 oz Au, 64,335 oz Ag 2005: 2,740 oz Au, 776 oz Ag 2006: 2,939 oz Au, 596 oz Ag	Panther Canyon Formation (conglomerate, sandstone), Augusta Mountain Formation (limestone), granodiorite	39.5 Ma
Mud Springs (Bald Mtn. Zone) (Bullion district)	1993: *geologic resource*-42,000 oz Au			
Mule Canyon (Argenta district)	1992: 8.5 million tons, 0.136 opt Au 1996: 9 million tons, 0.112 opt Au	1996: 6,743 oz Au 1999: 55,392 oz Au, 10,022 oz Ag 2000: 40,027 oz Au, 5,856 oz Ag 2001: 33,616 oz Au, 3,100 oz Ag 2002: 13,444 oz Au, 2,708 oz Ag 2003: 8,086 oz Au, 1,490 oz Ag 2004: 2,289 oz Au, 645 oz Ag 2005: 47,896 oz Au, 5,449 oz Ag 2006: 30,732 oz Au, 3,248 oz Ag 2007: 22,466 oz Au, 4,565 oz Ag	basalt and basaltic andesite	15-16 Ma
Phoenix (Battle Mountain district)	2001: 174.2 million tons, 0.034 opt Au proven and probable reserves; 156.3 million tons, 0.17% Cu proven and probable reserves; 73.8 million tons, 0.026 opt Au mineralized material; 99.6 million tons, 0.14% Cu mineralized material 2002: 174.2 million tons, 0.034 opt Au probable reserves; 156.3 million tons, 0.16 % Cu probable reserves; 1.5 million tons, 0.033 opt Au measured and indicated mineralized material; 72.3 million tons, 0.026 opt Au inferred mineralized material; 63.5 million tons, 0.14 % Cu inferred mineralized material 2003: 175,700,000 tons, 0.035 opt Au probable reserves; 94,700,000 tons, 0.022 opt Au indicated material; 18,900,000 tons, 0.029 opt Au inferred material; 85,200 tons, 0.12% Cu indicated material; 14,300 tons, 0.11% Cu inferred material 2004: 248,000,000 tons, 0.034 opt Au proven and probable reserves; 33,900,000 tons, 0.022 opt Au indicated material; 34,900,000 tons, 0.028 opt Au inferred material; 216,700,000 tons, 0.15% Cu probable; 32,000,000 tons, 0.21% Cu indicated; 29,800,000 tons, 0.17% Cu inferred 2005: 308.4 million tons, 0.029 opt Au (proven and probable reserves); 22.2 million tons, 0.023 opt Au (measured and indicated resource); 16.5 million tons, 0.026 opt Au (inferred resource) 2006: 295.2 million tons, 0.027 opt Au (proven and probable reserves); 92.8 million tons, 0.017 opt Au (measured and indicated resource) 23.2 million tons, 0.022 opt Au (inferred resource)	2001: 5,641 oz Au, 6,468 oz Ag 2002: 6,134 oz Au, 1,236 oz Ag 2003: 5,444 oz Au, 1,003 oz Ag 2004: 7,887 oz Au, 2,224 oz Ag 2005: 6,406 oz Au, 1,156 oz Ag 2006: 67,394 oz Au, 38,112 oz Ag, 6,235,096 lbs Cu 2007: 181,313 oz Au, 664,787 oz Ag, 10,808,206 lbs Cu 2008: 175,259 oz Au, 1,040,563 oz Ag 15,853,706 lbs Cu		Eocene

MAJOR PRECIOUS-METAL DEPOSITS, LANDER COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2007: 278.1 million tons, 0.027 opt Au (proven and probable reserves); 92.8 million tons, 0.017 opt Au (measured and indicated resource); 22.9 million tons, 0.022 opt Au (inferred resource) 2008: 299.8 million tons, 0.021 opt Au (proven and probable reserves); 61.6 million tons, 0.015 opt Au (indicated resource); 34.0 million tons, 0.019 opt Au (inferred resource)			
Pipeline (Bullion district)	1991: *geologic resource*-11.3 million tons, 0.237 opt Au 1996: 136.7 million tons, 8.7 million oz Au measured resource, includes South Pipeline 1997: included in Cortez Joint Venture	included in Cortez Joint Venture	Roberts Mountains Formation	Eocene?
Robertson (Bullion district)	1988: 11 million tons, 0.04 opt Au 1999: Porphyry zone, 254,678 oz Au proven and probable reserves; Lucky Boy, 33,000 oz Au measured; Altenburg Hill, 21,300 oz Au measured; Widows Mine, 37,300 oz Au inferred; Gold Pan, 91,400 oz Au measured 2005-2006: 22.9 million tons, 0.031 opt Au (measured and indicated resource) 9,408,000 tons, 0.046 opt Au (inferred resource) 2007: 91.3 million tons, 0.025 opt Au (inferred resource)	1989: 3,700 oz Au	Valmy Formation	early Oligocene
Slaven Canyon property (Bateman Canyon district)	1994: 50,000 oz Au 2002: 1.6 million tons, 0.043 opt Au			
South Pipeline (Bullion district)	1992: 9 million tons, 0.082 opt Au 1994: *geologic resource*-76.5 million tons, 0.048 opt Au 1996: *see* Pipeline 1997: included in Cortez Joint Venture		Roberts Mountains Formation	Eocene?
Surprise (Battle Mountain district)	1987: 225,000 oz Au 1988-91: production and reserves included in Fortitude figures 1994: mined out	1987: 2,000 oz Au	skarn	37 Ma
Toiyabe	1988: 813,400 tons, 0.066 opt Au	1988: 32,000 oz Au, 10,300 oz Ag 1990-91: 20,480 oz Au, 15,125 oz Ag	lower Paleozoic calcareous siltstone	Eocene?
Victorine (Kingston district)	1992: 915,000 tons, 0.304 opt Au 1995: proven and probable reserves-256,000 tons, 0.36 opt Au, plus *additional geologic resource*-31,160 oz Au 2000: 120,000 oz Au proven and probable reserves; 200,000 oz Au possible reserves		Cambrian to Ordovician Broad Canyon sequence	
LINCOLN COUNTY				
Atlanta gold property (Atlanta district)	1980: 1.1 million tons, 0.08 opt Au, 1.6 opt Ag 1996: 300,000 oz Au, 3 million oz Ag	1980: 88,000 oz Au, 1,710,000 oz Ag	Pogonip Group, Ely Springs and Laketown Dolomites, Oligocene silicic tuff, dacite dikes	early Miocene
Caliente property (Pennsylvania district)	1997: *geologic reserves*-50,000 tons, 0.03 opt Au, 0.80 opt Ag; *geologic resource*-700,000 tons, 0.039 opt Au		Tertiary diorite Tertiary andesite	

MAJOR PRECIOUS-METAL DEPOSITS, LANDER COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Easter and Delamar Project (Delamar district)	1994: *geologic resource*-3.36 million tons, 0.069 opt Au 1995: 1.5 million tons, 0.069 opt Au		Cambrian quartzite	Miocene
LYON COUNTY				
Fire Angel (Como district)	1989: 5,600 oz Au, *geologic resource*– 148,500 oz Au			
Hydra-Hercules (Como district)	1997: 259,329 oz Au, 1,956,511 oz Ag		Tertiary andesite	
Pine Grove (Pine Grove district)	1994: 2.5 million tons, 0.061 opt Au 2008 (0.010 opt cut-off grade) 2,738,000 tons, 0.25 opt Au (inferred resource, Wilson deposit) 3,321,000 tons, 0.075 opt Au) (inferred resource, Wheeler deposit)			
South Comstock Joint Venture (Silver City district)	1994: 3 million tons, 0.05 opt Au 1995: 100,000 oz Au			
Talapoosa (Talapoosa district)	1988: 2.5 million tons, 0.041 opt Au, 0.53 opt Ag oxide 14.9 million tons, 0.03 opt Au, 0.49 opt Ag sulfide 1995: *geologic resource*-45 million tons, 0.025 opt Au and 0.33 opt Ag, including proven and probable reserves of 29.9 million tons, 0.026 opt Au and 0.4 opt Ag		Kate Peak Formation	Miocene
MINERAL COUNTY				
Aurora Mine (Aurora district)	1989: 347,000 tons, 0.253 opt Au 1996: 900,000 tons, 0.1 opt Au 2003: *see* Esmeralda	1989-90: 25,656 oz Au, 34,562 oz Ag 1991: 15,000 oz Au 1992-93: 23,600 oz Au, 52,200 oz Ag 1995: 15,000 oz Au, 35,000 oz Ag 1996: 10,374 oz Au 1997-98: 15,414 oz Au, 7,287 oz Ag	andesite, rhyolite	10 Ma
Aurora Partnership (Aurora district)	1983: 1.5 million tons, 0.129 opt Au, 0.3 opt Ag 1995: 230,000 tons, 0.208 opt Au (in portion of Humboldt vein system) 2003: *see* Esmeralda	1930s: 100,000 oz Au 1983: 10,000 oz Au 1988: 10,302 oz Au 1989: 27,825 oz Au, 26,000 oz Ag 1991-96: 157,796 oz Au, 318,933 oz Ag	andesite, rhyolite	10 Ma
Borealis (Borealis district)	1981: 2.1 million tons, 0.08 opt Au, 0.5 opt Ag 1988: 1.792 million tons, 0.046 oz Au/ton 2000: 33.4 million tons, 0.044 opt Au, 0.22 opt Ag cumulative resource 2005 (May): 44.7 million tons, 0.03 opt Au (measured and indicated resource) 34.8 million tons, 0.02 opt Au (inferred resource) 2006: 8.235 million tons, 0.022 opt Au, 0.158 opt Ag (measured and indicated resource, oxide) 35.157 million tons, 0.032 opt Au, 0.164 opt Ag (measured and indicated resource, oxide, partially oxidized, sulfides) 16.909 million tons, 0.028 opt Au, 0.106 opt Ag (inferred resource, oxide, partially oxidized, and sulfides)	1981-84: 170,000 oz Au 1986-88: 116,256 oz Au 1989-90: 107,495 oz Au 52,401 oz Ag	rhyolite flow dome, andesite flows, breccias, volcaniclastic rocks	5 Ma

MAJOR PRECIOUS-METAL DEPOSITS, MINERAL COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2008: 29,560,000 tons, 0.045 opt Au, 0.273 opt Ag (measured and indicated resource, combined sulfide, partially oxidized and oxide) 36,161,000 tons, 0.027 opt Au, 0.196 opt Ag (inferred resource, combined sulfide, partially oxidizedand oxide) 8,546,000, 0.028 opt Au, 0.222 opt Ag (measured and indicated resource, oxide and partially oxidized, 13,706,000 tons, 0.018 opt Au, 0.096 opt Ag (inferred resource, oxide and partially oxidized,			
Candelaria Mine (Candelaria district)	1982: 18.5 million tons, 1.09 opt Ag, 0.009 opt Au 1988: 24 million tons, 1.267 opt Ag, 0.011 opt Au 1999: 27.3 million tons, 3.4 opt Ag unmined resource; additional 8 million oz Ag in low-grade stockpile 2000: 48,000 oz Au and 45.4 million oz Ag indicated reserves	1982: 1.7 million oz Ag, 9,000 oz Au 1987: total production was 10 million oz Ag as of June 1987 1988-98: 30.67 million oz Ag, 95,218 oz Au 1999: 96,896 oz Ag, 237 oz Au	Candelaria Formation serpentinite, granitic dikes	Cretaceous
Denton-Rawhide (Rawhide district)	1986: 24.1 million tons 0.045 opt Au, 0.47 opt Ag 1989: reserves-29.4 million tons, 0.040 oz Au and 0.368 opt Ag; *geologic resource*-59.3 million tons, 0.0274 opt Au, 0.298 opt Ag 1997: 447,000 oz Au, 3.9 million oz Ag	1990-98: 916,800 oz Au, 7,438,000 oz Ag 1999: 115,900 oz Au, 665,000 oz Ag 2000: 104,349 oz Au, 817,787 oz Ag 2001: 100,747 oz Au, 727,095 oz Ag 2002: 82,584 oz Au, 695,248 oz Ag 2003: 63,283 oz Au, 525,809 oz Ag 2004: 43,390 oz Au, 446,000 oz Ag 2005: 33,820 oz Au, 311,760 oz Ag 2006: 26,334 oz Au, 235,870 oz Ag 2007: 19,597 oz Au, 160,964 oz Ag 2008: 17,731 oz Au, 150,493 oz Ag	rhyolite plugs, flows, tuffs, breccias	16 Ma
Esmeralda (Aurora district)	2003: 30,710,500 tons, 0.031 opt Au bulk-minable measured and indicated resource 9,206,300 tons, 0.025 opt Au bulk-minable inferred resource 192,152 tons, 0.50 opt Au underground-minable resource		andesite rhyolite	10 Ma
Mina Gold (Bell district)	1997: 1.77 million tons, 0.055 opt Au *geologic resource*	1997: exploration	Tertiary feldspar porphyry	
Mindora (Garfield district)	1988: 1.0 million tons, 0.037 opt Au and 1.78 opt Ag	1988: exploration		
Santa Fe (Santa Fe district)	1984: 8 million tons, 0.032 opt Au, 0.26 opt Ag 1990: 6.8 million tons, 0.035 opt Au and 0.241 opt Ag	1989-95: 345,499 oz Au, 710,629 oz Ag	Luning Formation	Miocene
NYE COUNTY				
Baxter Springs (Manhattan district)	1988: 1 million tons, 0.050 opt Au 1990: *geologic resource*-5 million tons 0.050 opt Au			
Bruner property, Duluth zone (Bruner district)	1992: *geologic resource*-15 million tons, 0.026 opt Au	1993: exploration	Tertiary volcanic rocks	Miocene
Bullfrog (Bullfrog district)	1989: 18.6 million tons, 0.097 opt Au 1996: 10.2 million tons, 0.062 opt Au proven and probable reserves; 3.7 million tons, 0.040 opt Au mineralized material	1989-98: 2,237,484 oz Au, 2,935,484 oz Ag 1999: 76,159 oz Au, 90,967 oz Ag	rhyolitic ash-flow tuff	9.5 Ma
Cimmaron (San Antone district)	2004: 1,730,600 tons, 0.035 opt Au inferred material			
Corcoran Canyon (Barcelona district)	2004: 1,774,700 tons, 0.025 opt Au, 5.11 opt Ag indicated and inferred material		rhyolitic ash-flow tuff	

MAJOR PRECIOUS-METAL DEPOSITS, NYE COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Daisy (Bare Mountain district)	1993: 4.7 million tons, 0.024 opt Au *geologic resource*-430,000 oz Au 1998: 4.2 million tons, 0.033 opt Au proven and probable reserves	1997-98: 64,504 oz Au 1999: 30,660 oz Au 2000: 8,740 oz Au 2001: 347 oz Au	Cambrian Bonanza King, Nopah, and Carrara Formations	11-13 Ma(?)
Gold Bar (Bullfrog district)	1987: 1.23 million tons Au ore 1993: idle		silicic volcanic rocks	Miocene
Golden Arrow (Golden Arrow district)	1997: 12.4 million tons, 0.039 opt Au resource 2009: 12,172,000 tons, 0.024 opt Au, 0.33 opt Ag (measured and indicated resource, oxide+sulfide) 3,790,000 tons, 0.013 opt Au, 0.33 opt Ag (inferred resource, oxide+sulfide) 6,736,000 tons, 0.019 opt Au, 0.23 opt Ag (measured and indicated resource, oxide) 2,040,000 tons, 0.009 opt Au, 0.25 opt Ag (inferred resource, oxide)		Tertiary rhyolite tuff	
Gold Hill property (Round Mt. district)	1998: 306,620 oz Au, 4,871,890 oz Ag potential resource 2003: (included in Round Mt.)		rhyolite ash-flow tuff	26 Ma(?)
Gold Wedge property (Manhattan district)	2002: 104,706 oz Au, 0.494 opt Au measured resource; 47,052 oz Au, 0.583 opt Au indicated resource; 394,626 oz Au, 0.494 opt Au inferred resource 2005: 333,000 tons, 0.310 opt Au (measured and indicated resource)	2008: 406 oz dore		
Longstreet property (Longstreet district)	1989: 4 million tons, 0.024 opt Au, *geologic resource*-9.6 million tons, 0.024 opt Au		rhyolitic volcanic rocks	Oligocene
Manhattan property (Manhattan district)	1989: *geologic resource*-100,000 tons, 0.50 opt Au 1997: 1.7 million tons, 0.13 opt Au proven and probable		Cambrian Gold Hill Formation	
Midway (Rye Patch district)	1997: 270,000 oz Au preliminary resource 2005: 5,526,000 tons, 0.039 opt Au (inferred resource)		Ordovician Palmetto Formation Tertiary volcanic rocks	
Montgomery Shoshone (Bullfrog district)	1988: 3.1 million tons, 0.072 opt Au, 0.240 opt Ag		rhyolitic ash-flow tuff	9.5 Ma
Nevada Mercury (Bare Mountain district)	1994: *geologic resource*-50,000 oz Au			
North Bullfrog (Bullfrog district)	2008 :2,226,600 tons, 0.026 opt Au (indicated resource) 1,047,200 tons, 0.023 opt Au (inferred resource)			
Northumberland (Northumberland district)	1988: 12 million tons, 0.06 opt Au 2005 (July): 30,910,000 tons, 0.067 opt Au (measured and indicated resource) 4,381,000 tons, 0.091 opt Au (inferred resource) 2008 (June): 36.518 million tons, 0.06 opt Au (measured and indicated resource); 7.418 million tons, 0.10 opt Au (inferred resource)	1939-42: 327,000 oz Au 1981-84: 950,000 tons/year 1988: 29,667 oz Au, 130,394 oz Ag 1981-1990: ~230,000 oz Au, 485,000 oz Ag	Roberts Mountains and Hanson Creek Formations, granodiorite, tonalite, quartz porphyry dikes	
Paradise Peak/ Ketchup Flats pit (Fairplay district)	1984: 10 million tons, 0.1 opt Au, 3 opt Ag 1989: 5.22 million tons, 0.09 opt Au, 3.62 opt Ag, mill ore; 11.52 million tons, 0.036 opt Au, 0.445 opt Ag, leachable 1996: 5 million tons, 0.022 opt Au, 0.2 opt Ag (Ketchup Flats)	1986-88: 560,000 oz Au, 8.5 million oz Ag 1989-94: 1,054,084 oz Au, 15.6 million oz Ag	rhyolite and andesite flows, ash-flow and air-fall tuffs	Miocene

MAJOR PRECIOUS-METAL DEPOSITS, NYE COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Reward property (Bare Mountain district)	1998: 77,500 oz Au 2007: 5,181,340 tons, 0.0266 opt Au (proven and probable reserves); 6,423,571 tons, 0.0245 opt Au (measured and indicated resource)		Cambrian Wood Canyon Formation	
Round Mountain (Smoky Valley) (Round Mountain district)	1977: 12 million tons, 0.061 opt Au, 0.07 opt Ag 1989: *geologic resource*-271 million tons, 0.032 opt Au 1999: 320 million tons, 0.018 opt Au proven and probable reserves; 126 million tons, 0.016 opt Au mineralized material 2000: 273.2 million tons, 0.019 opt Au proven and probable reserves; 18.7 million tons, 0.022 opt Au mineralized material 2002: 192.1 million tons, 0.020 opt Au proven and probable reserves; 54.6 million tons, 0.012 opt Au mineral resource 2003: 129,866,000 tons, 0.017 opt Au proven reserves; 49,838,000 tons, 0.020 opt Au probable reserves; 21,000,000 tons, 0.013 opt Au measured resource; 54,440,000 tons, 0.018 opt Au indicated resource; 19,580,000 tons, 0.018 opt Au inferred resource (includes Gold Hill) 2004: 433,400,000 tons, 0.018 opt Au proven and probable reserves; 64,000,000 tons, 0.015 opt Au mineral resource 2005: 275,608,000 tons, 0.017 opt Au (proven and probable reserves); 35,412,000 tons, 0.017 opt Au (measured and indicated resource); 35,374,000 tons, 0.013 opt Au (inferred resource) 2006: 226,084,000 tons, 0.017 opt Au (proven and probable reserves); 26,134,000 tons, 0.019 opt Au (measured and indicated resource); 32,898,000 tons, 0.013 opt Au (inferred resource) 2007: 141,736,000 tons, 0.018 opt Au (proven and probable reserves); 30,632,000 tons, 0.022 opt Au (measured and indicated resource); no released inferred resource 2008: 185,162,000 tons, 0.018 opt Au (proven and probable reserves); 57,140,000 tons, 0.019 opt Au (measured and indicated resource); 12,982,000 tons, 0.012 opt Au (inferred resource)	1977-84: 313,480 oz Au, 160,419 oz Ag 1987-88: 424,300 oz Au 1989: 386,227 oz Au, 211,297 oz Ag 1990: 483,192 oz Au, 236,600 oz Ag (includes Manhattan) 1991-98: 3,248,946 oz Au, 2,607,892 oz Ag 1999: 541,808 oz Au, 464,415 oz Ag 2000: 640,133 oz Au, 424,530 oz Ag 2001: 746,949 oz Au, 509,121 oz Ag 2002: 755,493 oz Au, 627,579 oz Ag 2003: 784,587 oz Au, 761,333 oz Ag 2004: 762,966 oz Au, 773,950 oz Ag 2005: 736,886 oz Au, 636,361 oz Ag 2006: 657,911 oz Au, 644,017 oz Ag 2007: 587,445 oz Au, 955,681 oz Ag 2008: 477,499 oz Au 931,368 oz Ag	rhyolite ash-flow tuff	26 Ma
Sterling (Bare Mountain district)	1983: 200,000 tons, 0.20 opt Au 1989: 469,000 tons, 0.21 opt Au 1996: 129,000 tons, 0.245 opt Au 2006: 214,554 tons, 0.216 opt Au	1983-88: 75,900 oz Au 1990-91: 24,841 oz Au 1995-98: 36,811 oz Au 1999: 3,093 oz Au	Wood Canyon and Bonanza King Formations	14 Ma
South Monitor (west of Ellendale district)	1996: 250,000 oz Au 1997: 14 million tons, 0.026 opt Au, 0.12 opt Ag		Tertiary volcanic rock	
Sullivan (Fairplay district)	1987: 10.2 million tons, 0.039 opt Au, 0.086 opt Ag and 0.37% Cu 1995: proven and possible-17 million tons of 0.34% Cu, 0.0255 opt Au, + 8.5 million tons of 0.32% Cu		Mesozoic granodiorite and metavolcanic rocks	Mesozoic
PERSHING COUNTY				
Bunce (Velvet district)	1989: *geologic reserves*-600,000 tons, 0.04 opt Au 1990: 500,000 tons, 0.04 opt Au		rhyolite	Miocene?
Colado Gold (Willard district)	1997: 15 million tons, 0.022 opt Au resource 2007 (May 2008): 22,707,000 tons, 0.012 opt Au (oxide, measured and indicated resource); 594,000 tons, 0.070 opt Au (sulfide, measured and indicated resource); 79,129,000 tons, 0.015 opt Au (inferred resource)		Triassic-Jurassic metasedimentary rocks	

MAJOR PRECIOUS-METAL DEPOSITS, PERSHING COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Florida Canyon (Imlay district)	1987: 22 million tons, 0.023 opt Au 1988: 37 million tons, 0.023 opt Au 1997: reserves-45.5 million tons, 0.024 opt Au proven and probable mineralized material, 122.8 million tons, 0.022 opt Au 2002: 20 million tons, 0.017 opt Au proven and probable reserves 2003: 374,393 oz Au proven and probable reserves 2004: 16,792,000 tons, 0.016 opt Au proven and probable reserves	1987-88: 109,300 oz Au 1989-98: 1,146,148 oz Au, 610,326 oz Ag 1999: 139,590 oz Au, 111,232 oz Ag 2000: 173,623 oz Au, 129,361 oz Ag 2001: 121,206 oz Au, 98,645 oz Ag 2002: 121,516 oz Au, 72,567 oz Ag 2003: 101,811 oz Au, 60,065 oz Ag 2004: 73,082 oz Au, 60,405 oz Ag (includes Standard) 2005 (Florida Canyon): 29,186 oz Au, 7,571 oz Ag 2005 (Standard): 21,522 oz Au, 51,751 oz Ag 2006 (Florida Canyon): 16,061 oz Au, 12,423 oz Ag 2006 (Standard): 46,070 oz Au, 64,497 oz Ag 2007 (Florida Canyon): 31,916 oz Au, 28,152 oz Ag 2007 (Standard): 11,814 oz Au, 24,735 oz Ag 2008 (Florida Canyon): 47,095 oz Au, 40,745 oz Ag 2008 (Standard): 2,625 oz Au, 3,644 oz Ag	Grass Valley Formation	2 Ma
Goldbanks Project (Goldbanks district)	1994: 900,000 oz Au 1996: 80.8 million tons, 0.019 opt Au proven and probable reserves; 7.4 million tons, 0.014 opt Au possible reserves; 106.8 million tons, 0.028 opt Au drill indicated resource 2000: 569,000 oz Au and 1.7 million oz Ag indicated reserves 2006: 28,310,000 tons, 0.02 opt Au (inferred resource, Main and KW zones)			
Relief Canyon (Antelope Springs district)	1983: 9 million tons, 0.032 opt Au 1988: ~ 1.3 million tons, 0.03 opt Au 1996: 8.6 million tons, 0.022 opt Au	1984: 24,500 oz Au 1987-88: 82,000 oz Au 1989-90: 34,266 oz Au, 39,235 oz Ag	Natchez Pass Limestone, Grass Valley Formation	Tertiary
Rochester (Rochester district)	1981: 75 million tons, 1.5 opt Ag 1989: *geologic resource*-94.5 million tons, 0.012 opt Au, 1.40 opt Ag 1997: 74.2 million oz Ag, 603,000 oz Au 2000: 50 million oz Ag, 410,000 oz Au (includes Nevada Packard) 2001: 51.4 million tons, 0.85 opt Ag, 0.007 opt Au proven and probable reserves; 61.8 million tons, 0.75 opt Ag, 0.005 opt Au mineralized material 2002: 46.9 million tons, 0.008 opt Au, 0.85 opt Ag proven and probable reserves; 33.8 million tons, 0.009 opt Au, 0.77 opt Ag mineralized material (includes Nevada Packard) 2003: 32.7 million tons, 0.01 opt Au, 0.91 opt Ag proven and probable reserves; 40.3 million tons, 0.01 opt Au, 0.77 opt Ag mineralized material 2004: 21,453,000 tons, 0.010 opt Au, 0.87 opt Ag proven reserves; 2,545,000 tons, 0.010 opt Au, 0.81 opt Ag probable reserves; 26,205,000 tons, 0.010 opt Au, 0.81 opt Ag measured resource; 8,551,000 tons, 0.010 opt Au, 0.96 opt Ag indicated resource; 308,000 tons, 0.003 opt Au, 1.73 opt Ag inferred resourcs 2005: 10,168,000 tons, 0.011 opt Au, 0.86 opt Ag (probable reserves) 15,646,000 tons, 0.010 opt Au, 1.03 opt Ag (measured and indicated resource) 2006: 3,720,000 tons, 0.007 opt Au, 0.66 opt Ag (proven reserves) 15,235,000 tons, 0.010 opt Au, 0.94 opt Ag (measured and indicated resource) 2007: 32,664,000 tons, 0.010 opt Au, 0.86 opt Ag (measured and indicated resource) 2008: 114,058,000 tons, 0.005 opt Au, 0.54 opt Ag (measured and indicated resource)	1986-98: 810,329 oz Au, 59.3 million oz Ag 1999: 70,396 oz Au, 6.2 million oz Ag 2000: 75,886 oz Au, 6,678,274 oz Ag 2001: 81,200 oz Au, 6,478,916 oz Ag 2002: 71,905 oz Au, 6,417,792 oz Ag 2003: 52,363 oz Au, 5,585,385 oz Ag 2004: 69,456 oz Au, 5,669,073 oz Ag 2005: 70,298 oz Au, 5,720,489 oz Ag 2006: 71,891 oz Au, 5,113,504 oz Ag 2007: 50,408 oz Au, 4,614,779 oz Ag 2008: 21,041 oz Au, 3,033,720 oz Ag	Koipato Group, Weaver Rhyolite, Rochester Rhyolite	Late Cretaceous

MAJOR PRECIOUS-METAL DEPOSITS, PERSHING COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Rosebud Project (Rosebud district)	1992: 570,000 oz Au (0.362 opt), 5.5 million oz Ag (5.5 opt) 1999: 216,000 tons, 0.323 opt Au	1997-98: 225,651 oz Au, 815,123 oz Ag 1999: 112,652 oz Au, 247,900 oz Ag 2000: 47,944 oz Au, 191,919 oz Ag	Tertiary volcanic rocks	Miocene
Spring Valley (Spring Valley district)	2005-2006: 10,030,000 tons, 0.024 opt Au (measured and indicated resource) 7,753,000 tons, 0.025 opt Au (inferred resource) 2007: 50,600,000 tons, 0.0196 opt Au (inferred resource) 2008: 87,750,000 tons, 0.021 opt Au (inferred resource)			
Standard (Imlay district)	2002: 17.2 million tons, 0.019 opt Au proven and probable reserves 2003: 404,100 oz Au proven and probable reserves 2004: 25,776,000 tons, 0.017 opt Au proven and probable reserves	1939-42, 1946-49: 45,743 oz Au, 127,451 oz Ag 2004: included with Florida Canyon	Natchez Pass Limestone, Grass Valley Formation argillite	
Tag-Wildcat (Farrel district)	1989: *geologic resource*-1.5 million tons, 0.043 opt Au; reserves-416,000 tons, 0.076 opt Au 2003: see Wildcat		Tertiary volcanic rocks	Miocene
Trinity (Trinity district)	1987: 1 million tons, 5.25 opt Ag Sulfide resource: ~4 million tons, 2.5 opt Ag	1987-89: ~5-6 million oz Ag	rhyolite porphyry, rhyolite tuff	26 Ma
Wildcat (Farrel district)	2003: 38.108 million tons, 0.018 opt Au indicated resource; 28.355 million tons, 0.015 opt Au inferred resource		Tertiary volcanic	Miocene
Willard (Willard district)	2007: 17,295,000 tons, 0.016 opt Au (oxide, measured and indicated resource) 448,000 tons, 0.070 opt Au (sulfide, measured and indicated resource) 20,849,000 tons, 0.015 opt Au (inferred resource)	~90,000 oz Au (late 1980s to early 1990s)	Jurassic-Triassic Grass Valley Formation	6 Ma
STOREY COUNTY				
Hartford Hill Complex (includes Billie the Kid Mine) (Silver City district)		2004: 2,836 oz Au, 12,695 oz Ag 2005: 5,715 oz Au, 26,488 oz Ag 2006: 5,000 oz Au, 20,000 oz Ag (estimated)		
Comstock heap leach project (Comstock district)	1992: 475,000 tons, 0.072 opt Au, 0.60 opt Ag 1996: 100,000 oz Au, 1.2 million oz Ag			
Flowery (Golden Eagle) (Comstock district)	1989: 1 million tons, 0.037 opt Au 1993: 362,000 tons, 0.064 opt Au, 0.97 opt Ag, *geologic resource*-88,128 oz Au and 1 million oz Ag	1988: 836 oz Au, 9,473 oz Ag 1990: 6,000 oz Au, 70,000 oz Ag 1992-97: 16,949 oz Au, 195,701 oz Ag	Alta Formation	12 Ma
Oliver Hills (Comstock district)	1990: 3.37 million tons, 0.054 opt Au, 1.2 opt Ag 1993: 4 million tons, 0.05 opt Au, 0.5 opt Ag, *geologic resource*-225,000 oz Au and 2.25 million oz Ag	1991: 573 oz Au, 6,947 oz Ag		

MAJOR PRECIOUS-METAL DEPOSITS, WASHOE COUNTY

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
WASHOE COUNTY				
Mountain View Gold Project (Deephole district)	1995: 19.5 million tons, 0.027 opt Au 1998: 10.7 million tons, 0.055 opt Au 2002: 23.219 million tons, 0.013 opt Au indicated resource; 4..466 million tons, 0.039 opt Au inferred resource		rhyolite	Miocene
Olinghouse (Olinghouse district)	1994: *geologic resource*-500,000 opt Au, 0.057 opt Au 1997: 512,800 oz Au proven and probable reserves, 0.042 opt Au	1998: 2,912 oz Au, 1,879 oz Ag 1999: 28,655 oz Au, 17,598 oz Ag	Miocene andesite	Miocene
Hog Ranch (Leadville district)	1984: 2.5 million tons, 0.085 opt Au 1988: 5.5 million tons, 0.064 opt Au proven and probable reserves; 20.1 million tons, 0.029 opt Au geologic resource 2003: 1,598,350 tons, 0.033 opt Au indicated; 440,924 tons, 0.054 opt Au inferred	1986-87: 80,000 oz Au 1988-95: 118,045 oz Au, 25,400 oz Ag	rhyolite, explosion breccia sinter	15-16 Ma
Wind Mountain (San Emidio)	1988: 15 million tons, 0.021 opt Au, 0.42 opt Ag 2007: 33,657,553 tons, 0.012 opt Au (measured and indicated resource) 9,758,547 tons, 0.009 opt Au (inferred resource)	1989: 30,900 oz Au, 335,000 oz Ag 1991: 91,000 oz Au, 405,000 oz Ag 1992: 54,690 oz Au, 297,403 oz Ag 1993: 19,570 oz Au, 92,630 oz Ag	Tertiary sedimentary rocks	late Tertiary or Quaternary
WHITE PINE COUNTY				
Alligator Ridge (Bald Mountain district)	1983: 5 million tons, 0.09 opt Au 1989: 1 million tons, 0.064 opt Au 1992: 11.5 million tons, 0.046 opt Au; *geologic resource*-661,888 oz Au, includes Casino/Winrock	1981-90: 632,057 oz Au, 84,188 oz Ag 1991-92: 27,450 oz Au 1993: included with Bald Mountain 1994: 40,000 oz Au 1995: idle 1996: included with Bald Mountain	Pilot Shale	Mesozoic or early Tertiary
Bald Mountain (Bald Mountain district)	1989: 6.7 million tons, 0.069 opt Au 1999: 32.6 million tons, 0.041 opt Au, proven and probable reserves; 31.7 million tons, 0.044 opt Au, mineralized material 2000: 509,000 oz Au proven and probable; 2.03 million oz Au measured and indicated resource 2002: 508,000 oz Au proven and probable reserves; 2.03 million oz Au measured mineral resource 2003: 10,143,000 tons, 0.033 opt Au proven reserves; 8,549,000 tons, 0.040 opt Au probable reserves; 10,371,000 tons, 0.027 opt Au measured resource; 10,836,000 tons, 0.043 opt Au indicated resource; 19,224,000 tons, 0.029 opt Au inferred resource 2004: 21,530,000 tons, 0.044 opt Au proven and probable reserves; 53,586,000 tons, 0.027 opt Au measured and indicated resource; 10,808,000 tons, 0.018 opt Au inferred resource 2005 (includes Alligator Ridge): 105,050,700 tons, 0.032 opt Au (proven and probable reserves) 35,000,000 tons, 0.023 opt Au (measured and indicated resource) 14,868,000 tons, 0.026 opt Au (inferred resource)	1986: 50,000 oz Au 1988-89: 103,731 oz Au 1990-93: 287,110 oz Au, 76,745 oz Ag 1994: 80,000 oz Au 1995-96: 221,908 oz Au, 62,460 oz Ag 1997-98: 243,500 oz Au, 63,416 oz Ag 1999: 105,475 oz Au, 18,058 oz Ag 2000: 134,469 oz Au, 14,400 oz Ag 2001: 108,392 oz Au, 18,321 oz Ag 2002: 172,328 oz Au, 21,547 oz Ag 2003: 90,602 oz Au, 26,810 oz Ag 2004: 46,685 oz Au, 27,635 oz Ag 2005: 77,767 oz Au, 32,652 oz Ag 2006: 277,615 oz Au, 32,121 oz Ag 2007: 125,998 oz Au, 21,702 oz Ag 2008: 103,610 oz Au, 15,352 oz Ag	quartz porphyry, Cambrian shale and limestone	Jurassic?

MAJOR PRECIOUS-METAL DEPOSITS, WHITE PINE COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
	2006 (includes Alligator Ridge): 109,922,000 tons, 0.031 opt Au (proven and probable reserves) 23,289,000 tons, 0.035 opt Au (measured and indicated resource) 17,290,000 tons, 0.023 opt Au (inferred resource) 2007 (includes Alligator Ridge): 128,093,000 tons, 0.024 opt Au (proven and probable reserves) 36,493,000 tons, 0.024 opt Au (measured and indicated resource) 24,648,000 tons, 0.017 opt Au (inferred resource) 2008 (includes Alligator Ridge): 157,675,000 tons, 0.018 opt Au (proven and probable reserves) 90,374,000 tons, 0.019 opt Au (measured and indicated resource) 71,004,000 tons, 0.021 opt Au (inferred resource)			
Bellview (White Pine district)	1988: 277,000 tons, 0.04 opt Au, *geologic resource*-1 million tons, 0.036 opt Au			
Casino/Winrock (Bald Mountain district)	1989: **Casino**-804,000 tons, 0.054 opt Au; **Winrock** 1.3 millon tons, 0.037 opt Au 1990: **Winrock**-993,000 tons, 39,000 oz Au 1992: *see* Alligator Ridge	1990-92: 46,800 oz Au	late Paleozoic sedimentary rocks	Eocene
Easy Junior (Nighthawk Ridge) (White Pine district)	1989: 5.68 million tons, 0.031 opt Au 1991: 137,000 oz Au	1990: 11,500 oz Au, 900 oz Ag 1997: 510 oz Au, 76 oz Ag	Devonian and Mississippian rocks	Eocene
Golden Butte (Cherry Creek district)	1989: 4.23 million tons, 0.031 opt Au	1989-91: 43,519 oz Au, 16,911 oz Ag	Chainman Shale	Cretaceous or Eocene
Griffon Gold property (White Pine district)	1993: *geologic resource*-60,000 oz Au 1994: *geologic resource*-50,454 oz Au, 0.039 opt Au 1995: proven and probable reserves- 2,737,000 tons, 0.025 opt Au 1997: 100,000 oz Au	1998: 37,921 oz Au, 269 oz Ag 1999: 24,740 oz Au	upper Joana Limestone	
Horseshoe (Bald Mountain district)	1991: 1.5 million tons, 0.039 opt Au		Pilot Shale and intrusive quartz porphyry	36-38 Ma
Illipah (Illipah district)	1987: 57,000 oz Au	1987: ~25,000 oz Au/year 1988: 25,324 oz Au, mining ended 1989: 3,874 oz Au, heap-leached	Paleozoic sedimentary rocks	Eocene?
Little Bald Mtn. (Bald Mountain district)	1986: 1 million tons, 0.10 opt Au 1989: 200,000 tons, 0.13 opt Au; *geologic resource*-260,000 tons, 0.127 opt Au 1993: 140,000 tons, 0.13 opt Au, *geologic resource*-21,800 oz Au	1985-88: 21,700 oz Au 1989: 5,500 oz Au, 1,500 oz Ag	Antelope Valley Formation	35-38 Ma

MAJOR PRECIOUS-METAL DEPOSITS, WHITE PINE COUNTY (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
Mt. Hamilton (White Pine district)	1988: 7.7 million tons, 0.05 opt Au, 0.5 opt Ag 1994: reserve-9.04 million tons, 0.052 opt Au, 0.38 opt Ag 1996: 10.8 million tons, 0.038 opt Au, 0.24 opt Ag 1997: 7.72 million tons, 0.035 opt Au 2009: 12,617,000 tons, 0.031 opt Au, 0.144 opt Ag (measured and indicated resource) 1,491,000 tons, 0.012 opt Au, 0.122 opt Ag (inferred resource)	1995-97: 99,500 oz Au, 207,500 oz Ag	Dunderberg Shale	Cretaceous
Pan (White Pine district)	1989: 241,000 oz Au 1998: 10.86 million tons, 0.022 opt Au Drill-indicated and inferred 2003: 17,890,000 tons, 0.019 opt Au indicated resource; 7,986,000 tons, 0.016 opt Au inferred resource		Mississippian rocks	
Robinson (Robinson district)	1989: 46.0 million tons, 0.019 opt Au; *geologic resource*-1 million oz Au 1991: *geologic resource*-200 million tons 0.012 opt Au 1999: 194 million tons, 0.59% Cu, 0.007opt Au, proven and probable reserves 2003: 146.3 million tons, 0.687% Cu, 0.008 opt Au, proven and probable reserves 2005: 160,400,000 tons, 0.69% Cu,) 0.073 opt Au (proven and probable reserves) 610,979,000 tons, 0.55% Cu, 0.0064 opt Au (measured resource, 0.2% Cu cut-off) 171,858,000 tons, 0.44% Cu, 0.0041 opt Au (indicated resource, 0.2% Cu cut-off) 98,166,000 tons, 0.32% Cu, 0.0015 opt Au (inferred resource, 0.2% Cu cut-off) 2006: 122,401,000 tons, 0.69% Cu, 0.0076 opt Au (proven and probable reserves) 2007: 103,788,000 tons, 0.68% Cu, 0.0067 opt Au (proven and probable reserves) 2008: 121,693,000 tons, 0.54% Cu, 0.0067 opt Au (proven and probable reserves)	1986: 48,000 oz Au, 96,000 oz Ag 1987-88: 88,957 oz Au 1989-90: 153,828 oz Au, 121,340 oz Ag 1991: 21,674 oz Au 1992: 35,581 oz Au, 55,000 oz Ag 1993: 13,432 oz Au 1996-98: 196,000 oz Au, 783,500 oz Ag, 370 million lbs Cu 1999: 26,250 oz Au, 153,104 oz Ag, 62 million lbs Cu 2004: 12,228 oz Au, 27 million lbs Cu 2005: 80,941 oz Au, 191,479 oz Ag, 126 million lbs Cu 2006: 75,074 oz Au, 156,839 oz Ag, 121,319,197 lbs Cu, 260,000 lbs Mo 2007: 108,118 oz Au, 179,238 oz Ag, 131,986,134 lbs Cu, 62,033 lbs Mo 2008: 137,628 oz Au, 183,903 oz Ag, 159,684,092 lbs Cu, 78,855 lbs Mo	Rib Hill Sandstone, Riepe Spring Limestone, intrusions	Cretaceous
Taylor (Taylor district)	1980: 10 million tons, 3 opt Ag 1988: 5.92 million tons, 2.7 opt Ag (resource) 2007: 6,433,000 tons, 2.31 opt Ag (measured and indicated resource) 757,000 tons, 2.54 opt Ag (inferred resource)	1980: 1,200 tons/day	Guilmette and Joana Limestones, rhyolite dikes	Eocene or Oligocene
White Pine (White Pine district)	1989: 63,000 oz Au, 0.04 opt Au	1989: 20,654 oz Au	Pilot Shale	Oligocene?
Yankee (Bald Mountain district)	1992: 683,000 oz Au 1993: *see* Bald Mountain	1990: ~15,000 oz Au 1992: 10,800 oz Au	Pilot Shale	36-38 Ma?

Newmont Gold and Silver Production in the Carlin Trend

Production data for individual mines owned by Newmont Gold Co. in the Carlin trend are not available in many cases. Annual production of Newmont operations in the Carlin trend is as follows:

Year	Gold (oz)	Silver (oz)
1988	895,500	NA
1989	1,467,800	117,400
1990	1,676,000	NA
1991	1,575,700	NA
1992	1,588,000	98,000
1993	1,666,400	175,000
1994	1,554,000	158,000
1995	1,634,500	188,000
1996	1,700,000	322,000
1997	1,819,000	118,000
1998	1,575,391	150,400
1999	1,536,401	255,011
2000	1,865,648	108,111
2001	1,547,247	292,241
2002	1,378,782	277,753
2003	1,122,208	206,767
2004	1,287,674	363,052
2005	1,397,583	227,158
2006	1,310,258	169,212
2007	1,322,001	268,875
2008	1,320,019	149,254

NA= not available

Other Metallic Deposits

by John L. Muntean

This is a compilation, in progress, of metallic deposits other than gold and silver. Initially, active projects with recently released reserves, resources, and production will be included. The information in this compilation was obtained from the Nevada Division of Minerals and from published reports, articles in mining newsletters, and company websites, annual reports, and press releases. Locations of active mines are shown on page 2, and contact information is listed in the Directory of Mining and Milling Operations.

Deposit name	Metals	Reserves/resources	Production
ELKO COUNTY			
Contact (Contact)	Cu	2009: 33,578,000 tons, 0.293% Cu (proven and probable reserve) 89,551,000 tons, 0.268% Cu (measured and indicated resource) 50,520,000 tons, 0.302% Cu (inferred resource)	
Indian Springs (Delano district)	W	2007: 10.8 million tons, 0.171% WO_3 (indicated resource); 8.2 million tons, 0.167% WO_3 (inferred resource)	
EUREKA COUNTY			
Mount Hope (Mount Hope district)	Mo	2007: 965,926,000 tons 0.068% Mo (proven and probable reserves); 109,641,000 tons, 0.030% Mo (measured and indicated resource); 191,308,000 tons, 0.063% Mo (inferred resource)	
HUMBOLDT COUNTY			
Ashdown (Vicksburg district)	Mo		2006: 10,500 lbs Mo 2007: 247,466 lbs Mo 2008: 202,597 lbs Mo
Cordero (Opalite district)	Ga	2007: 10 million tons, 47.7 ppm Ga (measured and indicated resource); 6.6 million tons, 43.7 ppm Ga (inferred resource)	
Kings Valley (Disaster district)	U	2006: 2,978,000 tons, 0.081% U_3O_8 (inferred resource)	
LANDER COUNTY			
Phoenix (Battle Mountain district)	Cu	2007: 279,600,000 tons, 0.13% Cu (proven and probable reserves); 91,300,000 tons, 0.16% Cu (measured and indicated resource); 23,900,000 tons, 0.16% Cu (inferred resource) 2008: 302,000 tons, 0.15% Cu (proven and probable reserves); 91,700,000 tons, 0.20% Cu (measured and indicated resource); 95,953,000 tons, 0.23% Cu (inferred resource)	2006: 6,235,096 lbs Cu 2007: 10,808,206 lbs Cu 2008: 15,853,706 lbs Cu

OTHER METALLIC DEPOSITS (continued)

Deposit name	Metals	Reserves/resources	Production
LYON COUNTY			
MacArthur (Yerington district)	Cu	2008: 57,365,000 tons, 0.239% Cu, (measured and indicated resource, oxide and chalcocite material) 75,832,000 tons, 0.283% Cu, (inferred resource, oxide and chalcocite material)	
Pumpkin Hollow (Yerington district)	Cu, Fe,	2007: 342,735,000 tons, 0.579% Cu, 0.0019 opt Au, 0.0700 opt Ag, 15.67% Fe (measured and indicated resource) 438,164,000 tons, 0.446% Cu, 0.0015 opt Au, 0.0700 opt Ag, 10.23% Fe (inferred resource)	
NYE COUNTY			
Liberty (formerly known as Hall-Tonopah) (San Antone district)	Mo	2007 (April 2008): 432,951,000 tons 0.071% Mo, 0.07% Cu (proven and probable reserves); 109,336,000 tons, 0.052% Mo, 0.11% Cu (measured and indicated resource); 127,200,000 tons, 0.051% Mo, 0.08% Cu (inferred resource)	
PERSHING COUNTY			
Springer (Mill City district)	W	1983: 3.59 million tons, 0.446% WO_3 (historical General Electric resource)	
WHITE PINE COUNTY			
Robinson (Robinson district)	Cu, Mo	2006: 122,401,000 tons, 0.69% Cu (proven and probable reserves) 2007: 103,788,000 tons, 0.68% Cu (proven and probable reserves) 2008: 121,693,000 tons, 0.54% Cu (proven and probable reserves)	2006: 121,319,197 lbs Cu, 260,000 lbs Mo 2007: 131,986,134 lbs Cu, 62,033 lbs Mo 2008: 159,684,092 lbs Cu, 78,855 lbs Mo

Industrial Minerals

by David A. Davis

The total value of industrial minerals produced in Nevada in 2008 was estimated at $468 million, which was 22% lower than $601 million in 2007. In decreasing order of estimated value, the most important Nevada industrial minerals in 2008 were construction aggregate, diatomite, cement, barite, lithium, magnesia, lime and limestone, gypsum, silica, and dolomite, each valued at more than $10 million. Commodities with values of less than $10 million were specialty clay, salt, perlite, opal, dimension stone, and turquoise. Zeolite was processed in Nevada but mined in California; it is not included in the estimate of total industrial mineral value reported above. Data used for these estimates, and data reported for individual commodities below, were obtained from the Nevada Division of Minerals, the U.S. Bureau of Land Management, or directly from companies that produced the commodities. Data are given in short tons unless otherwise noted. U.S. Geological Survey data cited are from commodity reports on the agency's web site.

AGGREGATE (SAND AND GRAVEL, CRUSHED STONE)

According to the U.S. Geological Survey, in 2008 the United States production of construction sand and gravel decreased 15% to 1.14 billion tons valued at $7.6 billion, and crushed stone decreased 16% to 1.48 billion tons valued at $12 billion. Except for several years of flat production, production of construction sand and gravel has increased 86% between 1991 and 2006. Production decreased for the first time since 1991 in 2007 and has decreased 21% from the high of 1.46 billion tons in 2006. Production of crushed stone had increased steadily 17% between 2002 and 2006 before decreasing in 2007. Production in 2008 has decreased 24% from the high of 1.95 billion tons in 2006. Apparent consumption has declined 15% to 1.16 billion tons of construction sand and gravel and 16% to 1.5 billion tons of crushed stone. Both have declined 20% and 24% respectively from the 2006 highs of 1.46 billion tons of construction sand and gravel and 1.97 billion tons of crushed stone. The small difference between production and consumption was made up by imports mostly from Canada and Mexico. The price of construction sand and gravel increased 3% to $6.56 per ton in 2008. It had increased 54% over the previous 10 years and been rising each

year since at least 1970. The price of crushed stone increased 4% to $8.14 per ton in 2008. It has increased 68% since 1999 after a decrease in the late 1990s.

According to the U. S. Geological Survey, in 2008, Nevada produced an estimated 31,305,000 tons of construction sand and gravel valued at $153,000,000 and 8,675,000 tons of crushed stone valued at $72,000,000. The production and value of construction sand and gravel decreased 17% and 14% respectively, and the production and value of crushed stone decreased 22% and 24% respectively. Production from sand and gravel deposits accounted for about 78% of aggregate production statewide, with crushed stone and lightweight aggregate making up the balance. The total production value of almost $225 million makes construction aggregate the third most valuable commodity produced in the state in 2008—well below the value of Nevada's gold production and about 40% of the value of second-ranked copper production, but nearly 1.9 times that of fourth-ranked silver.

Construction aggregate produced in the Las Vegas area in 2008, estimated at about 28 million tons, was about 35% lower than in 2007. Sand and gravel operations accounted for about 75% of the aggregate used in the Las Vegas metropolitan area in 2007. As in past years, the Lone Mountain area in northwest Las Vegas remained the most important source of sand and gravel aggregate. The Lone Mountain area produced more than 10 million tons in 2005 and 2006, but is estimated to have fallen below that in 2007 and 2008. Significant production also came from sand and gravel pits and stone quarries south and northeast of Las Vegas, and in the El Dorado Valley area west of Boulder City. Portable crushers at construction sites were also important producers of sand and gravel in Las Vegas.

The Lone Mountain Pit area is under pressure on its eastern and southeastern flanks from residential development. Recent meetings and discussions involved plans including looping Clark County Route 215 along the eastern edge of the mining area and closing portions of the eastern part of the mining area by 2012. Mining would be allowed to continue and expand farther to the west away from the residential development.

Companies in the Las Vegas area that produced more than one million tons of aggregate in 2008 were Aggregate Industries, Diamond Construction, Impact Sand and Gravel, Las Vegas Paving Corp., and Nevada Ready Mix Corp. Companies with production in excess of 500,000 tons per year were American Sand and Gravel, Cemex,

and Wells Cargo. American Sand and Gravel and Wells Cargo each had produced over a million tons in 2006 but each produced less than that in both 2007 and 2008. Hollywood Sand and Gravel, which produced more than 500,000 tons in 2006, produced less than that both in 2007 and 2008.

Las Vegas Paving, a major producer of asphalt concrete, mostly produced sand and gravel from its Blue Diamond and Lone Mountain pits. The company also produced crushed stone from the Apex landfill about 10 miles northeast of Las Vegas. Nevada Ready Mix, a subsidiary of the Mitsubishi Corporation, mined most of its aggregate from a complex of pits in alluvium in the Lone Mountain area, with minor production coming from quarries in adjacent bedrock. Frehner Inc., a subsidiary of Aggregate Industries, mined and crushed limestone from its Sloan property a few miles south of Las Vegas. Rinker Materials, a subsidiary of CEMEX of Mexico, produced crushed granite from the El Dorado pit near Railroad Pass. American Sand and Gravel and Hollywood Sand and Gravel mostly produced aggregate from community pits. The Southern Nevada Lightweight operation near Jean produced aggregate for lightweight concrete block and sand for use in stucco. Lightweight aggregate was also shipped to the Las Vegas market by the Cind-R-Lite Block Company from a cinder operation near Amargosa Valley in Nye County. Community pits and other aggregate mining facilities administered by the U.S. Bureau of Land Management and operated by a number of companies, including some of those already mentioned, contributed about 8 million tons to the total production of the Las Vegas and adjacent southern Nevada area in 2008.

In 2006, Service Rock Products Corporation of California submitted an application to the BLM to build and operate an aggregate pit called the Sloan Aggregate Mine in section in the N/2, section 32, T23S, R61E. In 2007, CEMEX submitted an application to build and operate an aggregate pit called the Mohave Minerals Project in the S/2, section 29, T23S, R61E. The mining from two pits, expected to eventually grow into one large 2500-foot deep pit covering about 640 acres, is proposed to produce 100 million tons of mostly limestone and dolomite over a 20- to 30-year period. Since the volume of the projects exceed the federal limits for noncompetitive sales, the BLM will auction off the two parcels on a competitive basis. The public scoping meetings ended in January 2008 with a draft environmental impact statement that was tentatively scheduled to be completed in October 2009. Following a period of public comment, a final environmental impact statement is anticipated for June 2010, a record of decision

in August 2010, with operations beginning about 2011. Residents in several housing developments within five miles of the proposed pits are opposing the projects.

About 8 million tons of construction aggregate were produced in the Reno-Sparks-Carson City area in 2008, about 27% less than in 2007. Production from Granite Construction, which produced over 1 million tons of aggregate in 2007, fell below that in 2008, but was still above 500,000 tons. Granite Construction operates several pits in the area, but the bulk of the company's production was crushed andesite and crushed granitic rock from its Lockwood and Hidden Canyon pits, respectively. Production from A and K Earthmovers, which was more than one million tons in 2007, fell below 500,000 tons in 2008. Their production is from two pits, but much of this was fill. Production from Martin Marietta Materials Inc., which was over 1 million tons in 2006, and fell below that in 2007, was still over 500,000 tons in 2008. Most of Martin Marietta's production comes from the Rocky Ridge Quarry north of Sparks, which produces crushed granitic rock. Other companies with production between 500,000 and 1,000,000 tons per year were Rilite, Inc., and Western Nevada Materials. Production from CEMEX dropped below 500,000 tons in 2008. CEMEX owns the former All-Lite Aggregate crushed rhyolite pit and also operates the sand and gravel operation at the Paiute pit, which is leased from the Pyramid Lake Paiute Tribe. Crushed rock accounted for over 60% of the aggregate used in 2008 in the Reno-Sparks-Carson City area. Lightweight aggregate, an important component of crushed rock production in the area, was produced by CEMEX, Rilite, and Basalite. Cinderlite Trucking, Inc. produced a small amount of decorative rock and sand and cinder for deicing from their Black and Red Cinder pits northeast of Carson City.

About 4 million tons of aggregate were produced outside of the major metropolitan areas in Nevada in 2008. Operators in Nye County together produced over 600,000 tons of aggregate in 2008, mostly in the Pahrump area. Churchill County produced over 750,000 tons, and Douglas County produced a little over 540,000 tons. Lyon County produced almost 476,000 tons, and Humboldt and Pershing Counties produced between 350,000 and 400,000 tons each. Elko County produced about 195,000 tons, and Lander County produced about 112,000 tons. Esmeralda, Eureka, Lincoln, Mineral, and White Pine Counties each produced less than 100,000 tons of aggregate in 2008.

In 2008, Reck Brothers, LLC, proposed to renew its contract with the BLM for operations at its Highline Gravel Pit in the SW/4, section 6, T16N, R64E, about two miles northeast of Ely. The operation is proposed to expand to eventually cover 27 acres. Previous operations had been authorized under a categorical exclusion, but the proposed expansion will require an environmental assessment, now being prepared.

Sterling Construction Company, Inc., of Houston, Texas, acquired Road and Highway Builders, LLC, and Road and Highway Builders, Inc. (RHB) of Reno, Nevada, to expand their operations in Nevada. RHB had acquired the Mound House Pit in Lyon County from Aggregate Industries in late 2007.

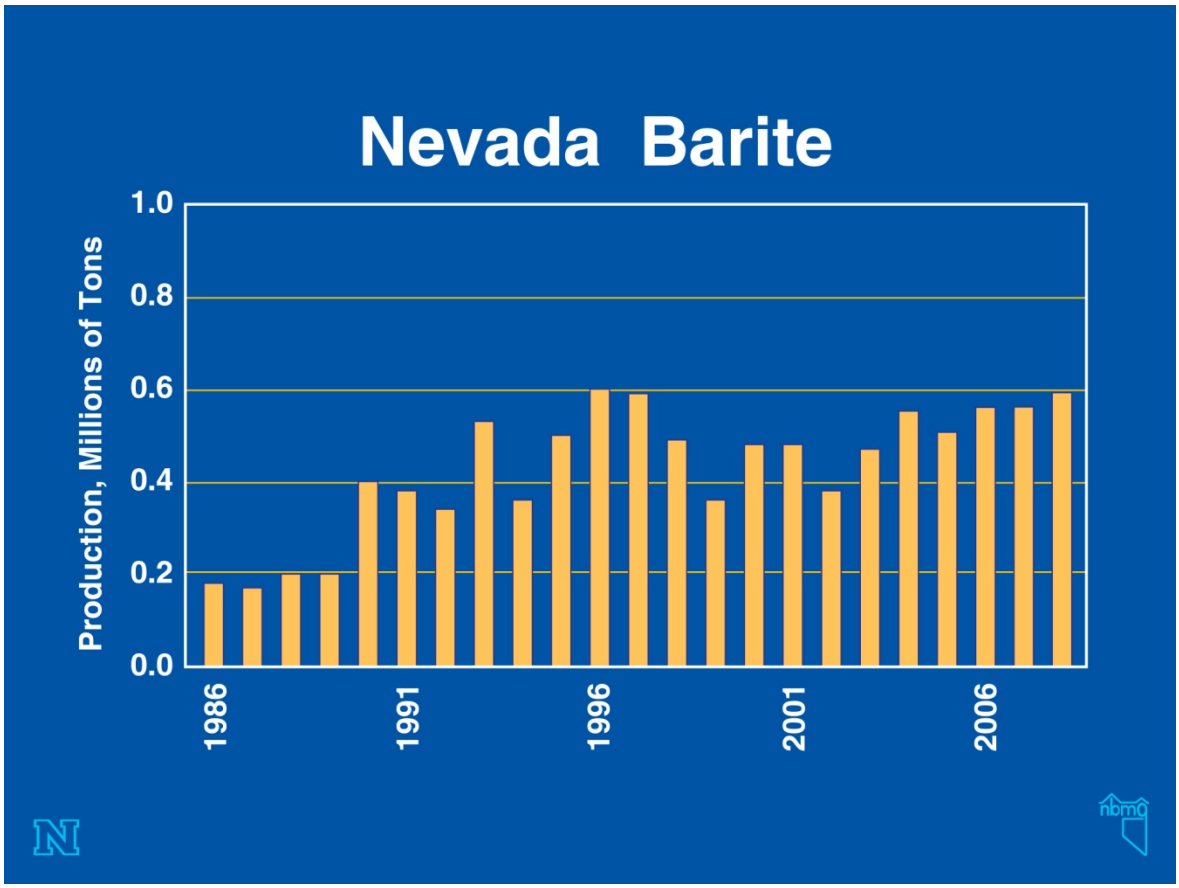
BARITE

According to the U. S. Geological Survey, the United States production of barite increased 31% to an estimated 678,000 tons of barite valued at about $30 million in 2008. Consumption decreased 3% to almost 3.3 million tons. The U. S. imported, mostly from China and some from India, more than 2.6 million tons of barite in 2008, a decrease of 3% from 2007. It was mostly imported into the Gulf Coast for use in oil and gas drilling offshore in the Gulf of Mexico and onshore drilling in the southeastern and southwestern U.S. According to Schlumberger, the average weekly U.S. oil and gas drill rig count rose by about 3% to 2,013 during 2008, and the Canadian rig count increased 4% to 324. The U. S. rig count peaked at 2295 in early September and then went into a steep decline that continued into 2009 as oil prices fell. The Canadian rig count peaked at 577 in late February, went into a steep decline through March, and then recovered and ranged between 350 and 400 through most of the second half of the year.

The price of barite in 2008 has remained high and increased 8% to $44.45 per ton from the mine according to the U. S. Geological Survey. The high prices have helped spur production and exploration of previously mined and explored deposits in Nevada, where barite can be obtained for the western U. S. and Canadian markets cheaper than from China.

According to data (reported as shipments rather than actual production) from the Nevada Division of Minerals, Nevada's barite production, which comes from just four mining operations, accounted for almost all of the barite produced domestically.

Shipments from the three mines that reported production increased 4% to 595,129 tons from 573,000 tons shipped in 2007. Although this is a considerable increase over the recent low production of 377,000 tons shipped in 2002, and is the most since 601,000 tons were shipped in 1996, it is far below the 2.48-million-ton high in 1981. About 95% of the barite sold domestically is used as a weighting agent in oil and gas well drilling fluids. According to the U.S. Geological Survey, shipments of ground barite from Nevada mostly went to Colorado, Utah, and Wyoming gas-drilling customers.



M-I SWACO, which is jointly owned by Smith International and Schlumberger, was the largest Nevada barite producer in 2008. Their production increased 20% to 318,383 tons from 266,417 tons shipped in 2007 of crude and ground barite from the Greystone Mine and Battle Mountain plant, both in Lander County. This was the highest production since 333,734 tons were shipped in 2000 and the second highest since 347,672 tons were shipped in 1997. The barite of the Greystone Mine is in black chert and minor argillite and shale of the Middle to Late Devonian Slaven Chert.

Baroid Drilling Fluids, a subsidiary of Halliburton Co., was the second largest producer in Nevada. Their production decreased 19% to 186,138 tons from 230,000 tons shipped in 2007. The company mined barite from the Rossi Mine in Elko County

and processed it at the Dunphy Mill in Eureka County. In 2008, Heemskirk Canada, Ltd., a Canadian industrial minerals concern, used barite from the Dunphy Mill for their Lethbridge, Alberta, plant. The barite was then supplied to the western Canadian drilling mud market. The barite occurs in chert of the Ordovician Vinini Formation.

Baker Hughes INTEQ shipped 90,608 tons of barite from its Argenta operation near Battle Mountain in Lander County, up 18% from about 77,000 tons 2007. In 2008, Baker Hughes located 47 lode claims in the vicinity of their Argenta operation. Baker Hughes also dropped 21 lode claims located in 2007 and located 21 more in 2008 about 5.5 miles south of the Argenta Mine. The area of these claims has been prospected and drilled for barite in the past and is just east of the old Miller Mine, which produced over 50,000 tons of barite in the 1960s. Baker Hughes also located four lode claims in Slaven Canyon about 17 miles south of the Argenta Mine and near the old Elquist Mining, Inc., barite pit that was in production around 1980. The barite deposits of the Argenta Mine and the areas of the new claims are in black chert and minor argillite and shale of the Middle to Late Devonian Slaven Chert in the upper plate of the Roberts Mountain thrust.

Spirit Minerals, LP, mined barite at the Big Ledge Mine area in the Snake Mountains of Elko County for about 20 days starting in December 2007, shut down, and then restarted production in March 2008. They expected to mine about 250,000 tons of ore and produce 500 tons per day through their Dry Creek jig plant for a total of 50,000 tons. The barite was then shipped to their grinding plant in Evanston, WY. Most of 75,000 tons of barite mined and stockpiled by Old Soldier Minerals Co. in the 1980s was shipped in 2008. The mine is expected to have a three- to five-year life span though it may hold more reserves. The barite occurs in argillite and chert of the Ordovician Valmy Formation.

In other areas of exploration, Baker Hughes located 36 lode claims in sections 3 and 4, T35N, R52E and sections 27, 28, and 34, T36N, R52E in the southern Independence Mountains of Elko County. There, barite forms at least two conformable units associated with chert and argillite of the Ordovician Vinini Formation. The area has been explored for barite at least since the 1950s. Heemskirk Canada, Ltd. has the lease on the Monitor barite property in the Northumberland District of Nye County and is looking into a future exploration project.

CEMENT

According to the U.S. Geological Survey, United States cement production declined 8% to about 96.7 million tons in 2008. For the ten years up to 2005, production increased over 25%, but has declined almost 12% since then. Consumption declined 15% to less than 109 million tons in 2008 with the difference between production and consumption being made up by imports mainly from China, Canada, Thailand, and South Korea. Consumption increased almost 17% between 2002 and 2005, but declined 23% by 2008. The average mill price increased 2% to $97.07 per ton in 2008. The price ranged between $68.04 and $72.12 per ton between 1998 and 2004 but then increased 35% by 2008. The drop in consumption is largely due to the severe decline in the housing market, which started in 2006 and spread into the commercial and government sectors in 2008.

The concern over carbon dioxide emissions continues to be a major environmental issue that is in part being addressed by the partial use of noncarbonated sources of calcium oxide and the partial substitution of supplementary cementitious materials such as pozzolan. The overall industry strategy is to reduce emissions per ton of cement product, rather than by individual plants. Also, high fuel costs and an inability to pass on the entire increased costs are leading towards the installation of more fue- efficient kilns and an increased use of waste materials as fuels.

Production from the only Nevada cement producer, the Nevada Cement Co. (a subsidiary of Eagle Materials, Inc., of Dallas, Texas) in Fernley, Lyon County, is confidential but their website reports it is over 500,000 tons annually of Type I/II, low alkali, moderate sulfate-resistant cement and IP cement. Also, the plant, which was built in 1964, has a rated annual clinker capacity of 505,000 tons. The cement is manufactured from Tertiary lacustrine limestone mined a few miles south of Fernley, and from other raw materials that come from northern Nevada.

Most of the cement goes to the northern Nevada market with a little going to California. Both markets were particularly hard hit by the housing slowdown. Though production from the Fernley facility is confidential, Eagle Materials reported their overall cement volume was down 13% and overall cement sales revenue was down 14% in 2008. Their average price remained nearly constant at $96.38 per ton. Eagle Materials received permits from the state for its planned expansion of the Fernley facility, but

negotiations with the vendors delayed the start of the project, which will take 18 to 24 months to complete. In 2008, Nevada Cement Co. located a group of 36 lode claims adjacent to 73 lode claims located in 2007 and west of their existing operating limestone quarry south-southeast of Fernley. These claims are largely underlain by the upper Miocene to lower Pliocene Chloropagus Formation, which mainly consists of basaltic and andesitic lava flows and breccias interbedded with rhyolitic tuffs and minor sedimentary rocks including some oolitic limestone.

In 2008, Holcim (US), Inc., of Waltham, Massachusetts, acquired a long-term lease option to the mining rights on a 1,760-acre site about 40 miles east of Las Vegas in Clark County and announced that they would be testing the limestone reserves there for potential raw material for cement production. Holcim (US) is looking at potential future growth in the Nevada and Utah markets. They currently have a cement plant at Devil's Slide, Utah, which provides cement to their sister company, Aggregate Industries, in Las Vegas. Holcim (US), Inc., and Aggregate Industries are both subsidiaries of Holcim, Ltd., a worldwide supplier of cement and aggregate, based in Switzerland.

CLAY

According to data from the Nevada Division of Minerals, Nevada clay production was an estimated 35,000 tons in 2008, up 9% from 32,000 tons in 2007. This production does not include halloysite clay mined in Washoe County for Nevada Cement.

In 2008, IMV Nevada, owned by Mud Camp Mining Company, LLC, produced about 30,900 tons of sepiolite, saponite, and bentonite from deposits in the Ash Meadows-Amargosa Flat area of Nye County. This is up 8% from about 28,500 tons produced in 2007. The clay occurs in shallow, flat-lying deposits in Pliocene lacustrine sediments. It is processed at a plant in Amargosa Valley, and clay products are exported worldwide. The sepiolite and saponite deposits have unusual geology and are considered to have originated in a Pliocene playa with an area of at least 22 square miles. The sepiolite, which yields most of the profits for the operation, occurs in an almost continuous bed with an average thickness of about 7 feet. IMV Nevada is the only commercial producer of sepiolite and saponite in North America.

Two companies campaign mine and ship relatively minor amounts of Nevada clay from several sites for use in high-value specialty products. At its White Caps Mill near Beatty in Nye County, Vanderbilt Minerals Co. processes small amounts of clay stockpiled from several deposits in Nevada, Arizona, and California. In 2008, the company did not actively mine but did ship smectite from the New Discovery Mine just south of Beatty, the Blanco Mine about 40 miles west-southwest of Tonopah in the Coaldale mining district in Esmeralda County, and the Buff and Satin Mines about 10 miles northeast of Lovelock in the Willard mining district, Pershing County.

The American Colloid Co. mined and shipped white bentonite from its Nassau property in Coal Canyon in the Willard mining district for use in specialty clay products. The clay is in altered rhyolite tuff-breccia of probable Miocene-Pliocene age. American Colloid also mines several thousand tons of hectorite every few years from their Disaster Peak Mine in the Disaster mining district about 30 miles west of McDermitt in Humboldt County. The hectorite is in moat deposits of the McDermitt Caldera, which are discussed more in the section on lithium. The Disaster Peak Mine did not produce in 2008.

The Art Wilson Company mined halloysite on an as-needed basis for the Nevada Cement Co., which owns the pit in the Terraced Hills about 8 miles northwest of Pyramid Lake. Because of its high alumina content, it is used in the production of Portland cement at the Nevada Cement Co. plant at Fernley.

The BLM released the plan of operations for the Barrett Springs Project of Calico, LLC, about 10 miles northwest of Winnemucca. An environmental assessment is planned for the near future. Calico proposed to deepen an existing clay pit on their group of five placer claims by about 10 feet to take in an additional 22,000 cubic yards of montmorillonite clay, which would be mined as needed over the next 20 years. The pit was last mined from the early 1980s through the early 1990s.

In a joint venture with Senator Minerals, Inc., Kent Exploration, Inc., both of Vancouver, British Columbia, explored the Ivanhoe Creek bentonite property in Elko County. The property consists of lode and placer claims covering 140 acres in sections 17 through 20, T38N, R48E and sections 13 and 14, T38N, R47E in the Ivanhoe mining district about 12 miles southeast of Midas. In 2008, seven placer claims were located and the reclamation bond was filed for a drill program to be conducted in 2009. Drilling

in 2007 indicated a “near surface” deposit containing about 2.2 million tons of “high quality” bentonite. One bulk sample assayed at 93% calcium bentonite.

DIATOMITE

The United States is the largest producer of diatomite worldwide. According to the U. S. Geological Survey, the domestic production increased 11% to an estimated 842,000 tons of diatomite in 2008 valued at $171 million. Apparent consumption increased 12% to 679 million tons, but exports, which account for 20% of production, increased 12% to 166 million tons. Production was from seven companies with twelve mining areas and nine processing facilities in California, Nevada, Oregon, and Washington with California and Nevada accounting for most of it. The average price at the plant decreased 6% to about $203 per ton in 2008. For the last 12 years, the price has ranged between $200 and $253 per ton and averaged about $229 per ton. About two-thirds of the diatomite produced in Nevada is used in filtration and the remainder is largely used in absorbents, fillers, and cement. Emerging small-volume uses include pharmaceutical processing and nontoxic insecticides.

EP Minerals, LLC, a subsidiary of EaglePicher Corp., and the second largest diatomite producer in the world, produces most of Nevada’s diatomite. EP Minerals’ Colado operation in Pershing County is the company’s most productive Nevada operation. It consists of a plant at Lovelock that mostly makes filtration products from diatomite mined about 15 miles to the northwest in the Velvet mining district. The diatomite occurs in thick beds interbedded with fresh-water tuffaceous sedimentary rocks of probable Miocene age. The company also produces diatomite used in fillers and absorbents at its Clark plant and mine in the Clark mining district in Storey County about 20 miles east of Reno and diatomite used in insulation from a pit near Hazen in Lyon County. The diatomite at Clark occurs with diatomaceous shale and thin beds of volcanic tuff within the Miocene-Pliocene Kate Peak Formation and consists of about 90% of the diatom *Melosira granulata*.

The Celite Corp. operates a mine at Hazen and plant in Fernley that produce diatomite fillers. The company started mining at their Nightingale deposit north of Fireball Ridge in Churchill County in 2008. Celite is a subsidiary of World Minerals Inc.,

the world's largest diatomite producer and a subsidiary of Imerys, a large French industrial minerals company.

The Moltan Company ships absorbent products, cat litter, and soil conditioner under several labels from a mine and plant complex in Churchill County about 20 miles northeast of Fernley in the Desert mining district. Diatomite deposits in western Churchill County are interbedded with Pliocene lacustrine tuffaceous shale, sandstone, and limestone and siliceous tuff.

The Grefco Minerals, Inc., Basalt diatomite mining operation near the Esmeralda/Mineral County line is small relative to other Nevada diatomite operations but has been producing diatomite for many years for fillers. The deposit is in Miocene-Pliocene lacustrine sedimentary rocks consisting of diatomite, argillaceous and calcareous diatomite, clay, sand, and volcanic ash, and the main diatoms are *Melosira granulate*, *Stephanodiscus aslraea*, and *Eunotia robusta*. Since 2004, production has been from stockpiled ore.

DIMENSION STONE

Mt. Moriah Stone Quarries, LLC, quarries flaggy quartzite of several colors from the Cambrian Prospect Mountain Quartzite at a quarry about 15 miles north of Baker in White Pine County. This material, which naturally splits into large slabs, is used for flagstone, ashlar (uncut facing stone), and other types of uncut building stone.

Las Vegas Rock produces flagstone, ashlar, boulders, and crushed landscape rock from its Rainbow Quarries near Goodsprings, about 32 miles southwest of Las Vegas at the base of Mount Potosi. The operation consists of a main quarry and a number of satellite quarries located according to the color of the stone. The stone is mined from the Jurassic Aztec Sandstone.

In 2007, D and H Mining mined "spicerite" (strong, bright white, hydrothermally altered tuff used to make bricks and blocks) and crushed stone for landscaping from their pits about 5 miles north of Beatty, but due to the major drop in demand because of the recession, their pit was inactive in 2008. D and H Mining had proposed to expand operations at their four pits referred to as the Chocolate, Gold, Orange, and Red Quarries. The disturbed area was proposed to be expanded about 53 acres to a total of about 60 acres, with a crushing and screening plant to be constructed in the Gold

Quarry and to accommodate all the pits. An environmental assessment was due out for review in 2009. The products are marketed in southern Nevada and southern California.

GEMSTONES

Precious opal is produced from several mines in the Virgin Valley area of northern Humboldt County. Virgin Valley is a well-known source of gemstones in North America. The best known mines there are the Royal Peacock, Rainbow Ridge, Bonanza, and Hidden Valley Mines. In 2008, the Bonanza, Rainbow Ridge and Royal Peacock Mines combined produced about 95 pounds from pay-to-dig operations. In addition, Nevada has probably produced more than $30 million worth of turquoise, mostly during the first half of the twentieth century when as much as 10,000 pounds were produced in a single year. In 2008, less than 100 pounds of turquoise were shipped from the Blue Ridge Mine, a family-owned property in the Bullion mining district of Lander County.

GYPSUM

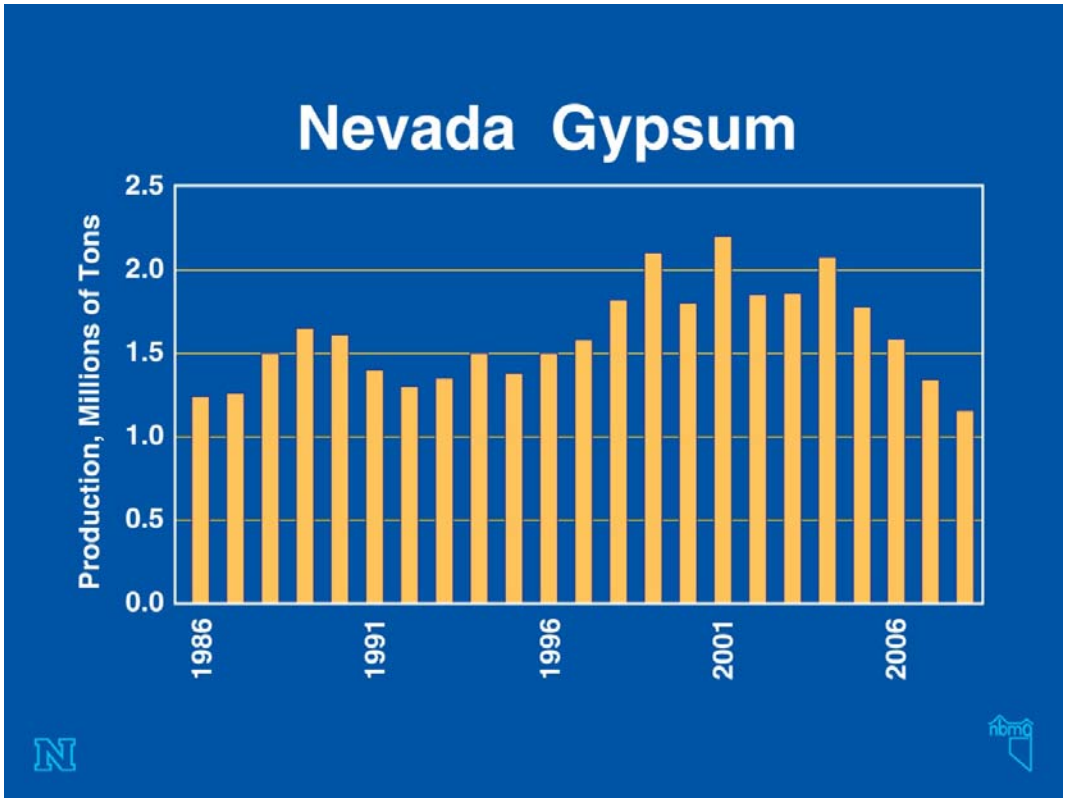
According to the U. S. Geological Survey, the United States crude gypsum production decreased 19% to an estimated 15.9 million tons valued at $125 million in 2008. Apparent consumption decreased 18% to 32.3 million tons, the second consecutive annual decrease and a decrease of over 30% since peaking at 49.2 million tons in 2006, largely due to the collapse of the housing construction market. The difference between production and consumption was mostly made up with imports (mainly from Canada and Mexico), which decreased 22% to 8 million tons in 2008. In 2008, the price of crude gypsum increased 16% to $7.89 per ton from the mine. The price for crude gypsum has decreased slightly since the $8.01 peak in 2006. For the previous ten years, the price has ranged between $6.26 and $8.01 per ton and averaged $6.74 per ton. Sales of synthetic gypsum, produced largely through scrubbed emissions from coal-fired power plants, decreased 9% to 8.5 million tons in 2008. It peaked in 2006 at 10.3 million tons but has decreased 17% since then. The construction of new large wallboard plants and the continued expansion of existing

facilities that began in 2005 using synthetic gypsum will eventually result in less use of mined gypsum.

In 2008, Nevada fell from third to fifth in the list of eight states which produce 77% of the country's total gypsum. According to data from the Nevada Division of Minerals, Nevada's gypsum production decreased 17% to an estimated 1.401 million tons, which is the fifth consecutive annual decline.

PABCO Gypsum in Clark County northeast of Las Vegas was the largest Nevada producer in 2008. Production fell 28% to about 829,800 tons in 2008 from about 1.15 million tons of crude gypsum in 2008. PABCO Gypsum processes the gypsum into wallboard at their plant adjacent to their mining operation. Processing yields about 70% by weight gypsum from the ore, which is in a nearly flat-lying late Miocene gypsite blanket atop a 5-square-mile mesa. Drilling indicates the gypsum is at least 120 feet thick in the area of current mining.

USG, the nation's largest wallboard producer, was the second largest Nevada producer in 2008. Production decreased 13% to 266,300 tons in 2008 from 307,000 tons in 2007. The company mines gypsum in western Pershing County and processes it into wallboard and plaster at a nearby plant at Empire in Washoe County. The gypsum is of Triassic or Jurassic age and forms several masses in a 2-square-mile area. The largest mass, the Selenite orebody, contains 85 to 95% gypsum.



The Art Wilson Company of Carson City produced about 152,000 tons of gypsum and anhydrite from the Adams Mine in Lyon County an 8% increase from about 140,500 tons in 2007. The Pioneer Gypsum Mining Company produced about 152,500 tons of gypsum from the Pioneer Mine about 10 miles east of Las Vegas. Material from these two smaller operations is used in cement and agricultural applications. The Adams deposit is a folded body associated with limestone in Triassic metavolcanic rocks. The Pioneer Mine exploits the same late Miocene gypsite deposit as the PABCO operation about 5 miles to the north.

An environmental assessment was completed in late 2007 for Meadow Valley Gypsum for their Meadow Valley Gypsum Project, also referred to as the Thrasher Gypsum Mine, in Lincoln County about 25 miles north of Moapa. The project calls for an open pit and associated facilities, dump, and stockpiles on 12 acres with production lasting about five years. A Finding of No Significant Impact and a Record of Decision supporting the proposed operation have been issued.

In 2008, CertainTeed Gypsum, which has a plant near Blue Diamond and is a subsidiary of the Saint-Gobain Corporation, located five millsites near the old Blue Diamond gypsum mine formerly owned by BHP Gypsum, Inc.

Georgia-Pacific Gypsum, LLC, operates a plant at Apex using synthetic gypsum and crude gypsum imported from St. George, Utah, for the production of drywall and related products. In 2008, Georgia-Pacific Gypsum, LLC, located seven lode claims in the vicinity of placer claims and the Weiser Ridge quarry owned by the company about 10 miles west of Overton. Georgia-Pacific Gypsum, LLC, has not actively mined the quarry since 1995 but is planning on resuming mining to provide crude gypsum for their Apex plant. In 2007, they received a reclamation permit from the Nevada Division of Environmental Protection for the Weiser Ridge quarry. Existing operations have disturbed 119 acres, and the proposed resumption of mining is expected to disturb another 126 acres. The Weiser Ridge quarry is in gypsum interbedded with limestone of the Permian Toroweap and Kaibab Formations.

LIME, LIMESTONE, AND DOLOMITE

According to the U. S. Geological Survey, the United States production of quicklime and hydrate decreased less than 2% to 21.9 million tons while the value increased 5% to

$1.84 billion in 2008. Apparent consumption decreased 2% to 22 million tons in 2008. In 2008, the average price at the plant increased 6% to $81.60 per ton for quicklime and increased 5% to $97.30 per ton for hydrate. Nevada has two large lime producers and several small producers of specialty limestone and dolomite. Nevada was sixth in the list of seven states with annual lime production of more than 1 million tons; these seven account for more than 60% of domestic production. Although Nevada's production is confidential, it fell between 1.25 million tons produced in Pennsylvania and 1.65 million tons produced in Texas.

Nevada's largest producer, the Pilot Peak high-calcium lime operation of Graymont Western US, Inc. (formerly Continental Lime, Inc.) is in the Proctor mining district in the Toano Range about 10 miles northwest of Wendover in Elko County. The plant has three kilns with a combined capacity of more than 700,000 tons of quicklime per year and a hydrated lime plant capable of producing 350 tons per day. Pilot Peak mainly markets lime to gold-mining operations for use in cyanide-solution pH control. Although Pilot Peak's production is confidential, gold production in Nevada declined 6% in 2008. In addition to lime, Pilot Peak also shipped crushed limestone. Production is mainly from the Middle to Late Devonian Devils Gate Limestone, which generally consists of interbedded limestone and dolomite.

Nevada's other large producer, Chemical Lime Co. produces lime at Apex in the Apex mining district about 20 miles northeast of Las Vegas. The operation makes high-calcium quicklime used in metallurgical processing, paper manufacturing, and environmental markets. The company also produces dolomitic lime and hydrated high calcium lime at Apex, mainly for construction uses. The company's Henderson plant processes Type S hydrated dolomitic lime for building and home construction. In addition to lime, Chemical Lime also shipped crushed limestone. In an effort to conserve non-renewable resources at the Henderson plant, mainly plain paper bags, Chemical Lime Co. started a long term program to convert customers from bagged to bulk product, which was estimated to approach 50% of their shipments in 2009. Because of the decline in demand caused by the drop in the housing market, Chemical Lime announced in 2008 that they would be idling their plant in Grantsville, Utah, but the production capacity at their Apex and Henderson operations would be adequate to cover that closing. Production is from the Middle to Late Devonian Sultan Limestone, which contains three members: the lower member (Ironside Dolomite) is mostly

dolomite; the middle member (Valentine Limestone) ranges from more than half limestone to mostly dolomite; and the upper member (Crystal Pass Limestone) is nearly pure limestone.

Of Nevada's small lime producers, the Nutritional Additives Corp. produced agricultural and nutritional dolomite products along the northwest edge of the Sonoma Range about five miles south of Winnemucca. Production is from the Late Triassic Dun Glen Formation, which consists mainly of massive black dolomite with minor limestone and shale in its lower section. Min-Ad, Inc., a subsidiary of Inter-Rock Minerals Inc. of Toronto, Canada, also produced dolomite from the Dun Glen Formation about three miles south of the Nutritional Additives Corp. operation. Their dolomite is mostly sold into the midwestern U.S. and as far as New York State and Alberta, Canada, for use in beef and dairy feed. Along with gypsum and anhydrite, the Art Wilson Company of Carson City also produced some pure calcitic limestone from the Adams Mine. The limestone is used for soil pH control and reportedly contains no detectable magnesium.

Graymont Western US, Inc., kept current 15 lode claims in section 6, T32N, R37E, in the Sierra mining district in Pershing County. These claims are underlain by massive limestone and dolomite of the Triassic Natchez Pass Formation in the East Range.

LITHIUM

According to the U. S. Geological Survey, the estimated United States consumption of lithium decreased 19% to 1,875 tons in 2008. Estimated consumption averaged 3,100 tons in the late 1990s to 2000, decreased rapidly to 1,200 tons in 2002, and increased rapidly to 2,750 tons in 2005 and 2006. Nevada is the only state with domestic production of lithium raw materials, and since this production is from one company, actual production and consumption figures are kept confidential to protect company proprietary data.

Subsurface brines have become the dominant raw material for lithium carbonate production worldwide because of low production costs compared to the mining and processing costs for hard-rock ores. Lithium was produced as a byproduct from brine in California since 1938; however, the Nevada operation, initiated at Silver Peak, Esmeralda County, in 1966 by Cyprus Mines, was the first to extract lithium as the sole

commercial product from brine. This operation was the world's dominant lithium producer until the late 1980s, when a Chilean lithium brine operation started up. South American sources, two brine operations in Chile and one in Argentina, where a second one is under development, now dominate the world market. U.S. lithium imports more than doubled between 2001 and 2005, though they have declined steadily 16% since then. Most of the increase was due to lithium-based rechargeable battery sales, which now account for 25% of the global lithium market. The U.S. price for lithium carbonate was about $2.00 per pound until the late 1990s, when large shipments of lithium carbonate began to be sold from the South American operations at about half list price. However, prices have risen recently due to increased demand for lithium for battery production. According to the journal *Industrial Minerals*, the price for lithium carbonate delivered in the U.S. was $2.70–3.00 per pound throughout 2008, the same as in 2007.

Chemetall Foote Co., a subsidiary of Chemetall GmbH, owns and operates the Silver Peak facility. The company produces lithium carbonate, lithium hydroxide monohydrate, and lithium hydroxide anhydrite. The lithium chemicals are produced by solar evaporation preconcentration and subsequent refining techniques from brine that is pumped from beneath the Clayton Valley playa. The brine varies between 100 and 300 ppm lithium. Production figures are confidential; the most recent public information, from 1998 Securities and Exchange Commission data, showed production of about 12 million pounds of lithium carbonate and 5 million pounds of lithium hydroxide. *Industrial Minerals* (July 2008) reported the remaining economic reserves to be about 44,000 tons. Through its subsidiary Sociedad Chilena de Lithio, Chemetall GmbH also runs a lithium operation in Antofagasta, Salar de Atacama, Chile.

In 2008, Western Lithium Corp., a spin-off from Western Uranium Corp., conducted exploration and evaluation of the lithium resources in their Kings Valley Project, Nevada. According to the company website and NI 43-101 report, Western Lithium has leased over 27,000 acres through almost 1,400 lode claims for lithium exploration, mainly in the Disaster mining district in northern Humboldt County, from Western Energy Development Corporation. The claims are within the McDermitt caldera, and cover several areas containing inferred uranium resources and broader zones of uranium, molybdenum, and lithium mineralization. The lithium largely occurs in high-lithium clays with significant amounts of hectorite in moat deposits in the western part of the caldera. These lithium-bearing moat deposits extend north through the

western Montana Mountains and Disaster Peak into Oregon. Significant lithium mineralization has been defined in five areas referred to as: North Lens, North Central Lens, South Lens, South Central Lens, and PCD. In 1985, Chevron estimated a total resource of about 2.3 million tons of lithium (12 million tons of lithium carbonate equivalent; non-NI 43-101 compliant) with a 0.25% cutoff grade and minimum 5-foot thickness for these areas. In each area, hectorite occurs in thick, apparently continuous accumulations with the zones of mineralization varying between about 3 and 300 feet thick. The hectorite is thought to be from hydrothermal alteration of the volcaniclastic sedimentary rocks making up the moat deposits. The 2008 drilling program on the PCD deposit showed it contained indicated resources of 53 million tons grading 0.27% lithium (736,000 tons lithium carbonate equivalent) and inferred resources 47 million tons grading 0.27% lithium (668,000 tons lithium carbonate equivalent), both with a 0.2% cut-off grade.

Black Pearl Minerals Consolidated, Inc., now Canada Lithium Corporation, formed an alliance with Gold Summit Corporation USA, headquartered in Reno, Nevada, to explore for lithium brine deposits in the Great Basin in parts of California, Nevada, and Utah. This includes a joint venture to explore and drill the Paymaster property in Esmeralda County. The Paymaster property covers about 12 square miles about 10 miles northeast of the Chemetall Foote Co. operation at Silver Peak.

MAGNESIA

According to the U.S. Geological Survey data, U.S. production of magnesium compounds decreased slightly to 375,000 tons in 2008 after a generally uneven decrease of 30% between 1997 and 2006 followed by a 21% increase in 2007. About 43% of U.S. magnesia production came from seawater and natural brines in 2008, and the rest was produced from magnesite (Nevada), brucite (Texas), and olivine (North Carolina and Washington). Apparent consumption increased 5% to 776,000 tons in 2008 with most of the difference between consumption and production being made up by imports from China. Consumption has varied between 643,000 tons and 782,000 tons and averaged 710,000 tons for the ten years prior to 2008.

Premier Chemicals, LLC, of Cleveland, Ohio, owns the Gabbs magnesia operation in Nye County, which is the only place in the U.S. where magnesite is mined.

Magnesite and some brucite (<5% of total production) have been mined at Gabbs since 1935, and in the 1940s were processed in Henderson, Nevada, to make magnesium metal. From the 1950s to the 1980s, mining and processing were done by Basic Industries, a major producer of refractory magnesia. During the 1990s, the availability of cheap foreign refractory magnesia caused production at Gabbs to be switched to light-burned (caustic-calcined) magnesia that is mainly marketed for wastewater treatment and agricultural uses. In 2008, Premier Chemicals, LLC, located three millsites, 23 lode claims, and 26 placer claims in the area around their mining operations. They also expanded their capacity for producing light-burned magnesia and magnesium hydroxide with the start-up of their third Herreshoff furnace. Citing the increased costs of raw materials, labor, energy, and freight, Premier raised its prices for all grades of magnesium oxide and magnesium hydroxide between 4% and 12% on January 1, 2008. According to the journal *Industrial Minerals*, the price for calcined magnesite delivered in the U.S. in 2008 was between $135 and $140 per ton between January and April, increased to $204 per ton in May, $290 per ton in July, and then to $395 per ton in December, a 190% increase over an 8-month period.

Although production of magnesia at Gabbs is still substantially below its peak in 1981, magnesia shipments from the Gabbs operation increased steadily between 1996 and 2005. Production then decreased in 2006, increased in 2007, and decreased again in 2008. Production is confidential, but the plant capacity is rated at about 150,000 tons per year. Also, Premier Chemicals, LLC, reports their annual production is about 300,000 tons of oxide and slurry products from their mine at Gabbs and their seawater extraction plant at Port St. Joe, Florida. The magnesite and brucite occur as complex replacement bodies in Triassic dolomite in an area of about 1,300 acres in the Paradise Range just east of the town of Gabbs. The resource was estimated to be about 13 million tons in 1973 and is thought to be sufficient for more than 50 years of production at present mining rates.

PERLITE

According to the U.S. Geological Survey, the amount of U. S. processed crude perlite sold or used increased 6% to 478,000 tons in 2008. Production had decreased 44% from about 800,000 tons in 1999 to about 451,000 tons in 2007, the lowest since 1964,

probably due to decreased use in construction and to increased imports. Until 2005 the U.S. was the world's largest producer of perlite, but since then, Greece has been the largest producer. Apparent consumption decreased 4% to 644,000 tons, and imports decreased 19% to 206,000 tons in 2008. Imports have decreased 24% from record levels in 2006. In 2008, the average price of processed crude perlite increased 5% to $44.11 per ton. Over the last few years, the cost of rail transportation from western U.S. mines to some areas of the eastern U.S. has burdened domestic perlite producers with strong disadvantages compared with Greek perlite exporters. However, rising fuel prices and competition for ocean freight have increased shipping costs resulting in some customers returning to buying domestic perlite.

Nevada has large perlite resources and several deposits of perlite that have been mined extensively; however, the state now produces only minor amounts of perlite. Current perlite production in Nevada is restricted to relatively small-scale mining of three deposits for niche markets, and the state produces less than 1% of the domestic total.

Wilkin Mining and Trucking Inc. mines perlite from the Tenacity Perlite Mine in the South Pahroc Range mining district about 25 miles west of Caliente in Lincoln County. The company has been mining perlite in the area for more than 25 years. The company has a small popping plant in Caliente, and present sales are almost exclusively of expanded perlite that is used for horticultural purposes. Most years, the company ships between 1,500 and 2,000 tons. The deposit consists of a large, flat-lying, 20-foot thick perlite flow with obsidian pellets in Tertiary rhyolitic volcanic rocks, and in the 1950s was estimated to contain a reserve of over 15 million tons.

Noble Perlite produces expanded perlite from a plant in Fallon. They have eight placer claims about 20 miles south-southeast of Fallon on the south side of the White Throne Mountains, but these claims were not mined in 2008. Noble purchased ore in New Mexico, which was brought in by truck and train. Most of their processed perlite is microspheres used for fillers.

EP Minerals produces a small amount of expanded perlite that is marketed as a filter aid from its Colado diatomite plant in Pershing County. Plant capacity is reportedly about 8,000 tons per year, but 2008 production is not available. The crude perlite comes from the Popcorn Mine about 15 miles south of Fallon in Churchill County, which is usually mined a week or two per year.

POTASSIUM ALUM

A small amount of potassium alum (kalinite) was shipped by Rulco in 2008 from a deposit in Esmeralda County about 10 miles north of Silver Peak. The kalinite, which occurs with sulfur as veins and stringers in rhyolitic rock, is being marketed for horticultural use.

POZZOLAN

Nevada Cement Co. proposed to start a shale-mining operation referred to as the Mustache Pozzolan Quarry on 25 acres of BLM land about 3 miles southwest of Fernley in section 28, T20N, R24E. The quarry is proposed to operate for 25 years and produce up to 100,000 tons of material. The site is largely in Miocene to lower Pliocene Chloropagus Formation, which mainly consists of basaltic and andesitic lava flows and breccias interbedded with rhyolitic tuffs and minor sedimentary rocks. Shale would be mined at the rate of up to 20 dump truck loads (20 to 30 tons each) per day, six days per week., and hauled to the Nevada Cement Co. plant to be heated and turned into pozzolan. This locally produced pozzolan would reduce costs by reducing the need to import the fly ash from coal-fired power plants presently being used as pozzolan. The proposal was sent to the BLM and was to be brought before the Fernley Planning Commission in 2009.

Advanced Pozzolan Products Company, LLC, is developing a pozzolan deposit on seven placer claims in sections 25 and 36, T1S, R67E, in Lincoln County, about seven miles south of Caliente. Advanced Pozzolan Products Company, LLC, took over the claims from the now defunct Natural Pozzolan of Nevada, LLC. The claims were adjacent to those of the Silver Bells Project of David Free. The Silver Bells project proposed to mine pozzolanic volcanic ash which occurred as a layer up to 15 feet thick in lacustrine rocks of the Pliocene Panaca Formation. The claims of the Silver Bells Project were dropped in 2008.

SALT

According to data from the Nevada Division of Minerals, the Huck Salt Company produced 26,000 tons of salt in 2008, up 63% from 2007. The salt is mainly used for de-icing roads, and production levels are dependent on weather. The salt is mined from a playa on Fourmile Flat about 25 miles southeast of Fallon in Churchill County, where it has been harvested almost continuously since the 1860s, when it was hauled to the mills that processed Comstock silver and gold ore.

SILICA

According to the U.S. Geological Survey, which reports silica as “Industrial Sand and Gravel”, the U.S. is by far the world’s largest producer of silica sand. In 2008, domestic production remained the same as in 2007 at 33 million tons, and apparent consumption decreased 1% to 30 million tons. After increasing 16% from 1991 through 1994, production between 1994 and 2003 ranged between 30 million and 32 million tons and averaged 31 million tons and apparent consumption ranged between 28 million and 30 million tons and averaged 29 million tons. However, between 2004 and 2008, production ranged between 32 million and 34 million tons and averaged 33 million tons and apparent consumption ranged between 30 million and 32 million tons and averaged 31 million tons. The average price in 2008 increased11% to $27.96 per ton and has risen steadily 60% between 1995 and 2007. About a third of the total is used in manufacturing glass and a fifth is used for hydraulic fracturing sand and well-packing and cement sand.

According to data from the Nevada Division of Minerals, Nevada’s major silica producer, Simplot Silica Products at Overton, Clark County, shipped about 495,000 tons of silica sand in 2008, a decrease of 20% from 2007 and a decrease of 34% from an average of about 750,000 tons produced in 2004 and 2005. The sand is mined from a large open pit in the relatively friable Cretaceous Baseline Sandstone, washed in the pit, and transported via a 5-mile slurry pipeline to a plant where it is screened and bagged. The facility produces four grades of sand based on coarseness: AFS 55, 60, 70, and 100. The main product is AFS 70, which is used mainly in manufacturing glass..

American Silica, Inc., a subsidiary of Fitch Industries, shut down their Mercury Mine about 3 miles southeast of Mercury in Nye County in April 2007. The mine produced silica sand until then but was closed through 2008. A Plan of Operations submitted to the U.S. Bureau of Land Management in 2001 called for annual production of as much as 80,000 tons. The product, which contains about 98% SiO2, is mainly used as construction sand and is mined from the Ordovician Eureka Quartzite. American Silica, Inc., did keep current 11 lode claims located in 2005 in the Arrow Canyon District about 15 miles north of Apex in Clark County. These claims are also underlain by the Ordovician Eureka Quartzite.

According to the BLM LR2000 database, James Hardie Building Products, Inc., produced 10,000 tons of high purity silica quartzite from their Kramer Hill Quartzite Quarry about 1.5 miles south of Golconda in Humboldt County. The quartzite is used as feed for the company's fiber-cement siding manufacturing plant in the Tahoe-Reno Industrial Park east of Sparks, Nevada. The quarry is in the Cambrian Osgood Mountain Formation, which generally consists of white to light gray, thinly bedded to massive, medium grained quartzite.

ZEOLITES

Nevada contains large known resources of zeolite; however, zeolite production has been small and no zeolite is currently mined in Nevada. In 2008, Zeox Mineral Materials Corp. operated the Ash Meadows plant which ships 1,000 to 5,000 tons annually of clinoptilolite used in water filtration, odor control, and nuclear clean-up from their plant in Amargosa Valley in Nye County. The plant, which has a 40,000 ton annual capacity, also produces zeolite-based cement for building materials and oil and gas projects. The clinoptilolite is mined from a small open pit just over the state line in Inyo County, California, in a large area of zeolite deposits that extends into Nevada.

KMI Zeolite, Inc. owns a plant in Sandy Valley about 32 miles southwest of Las Vegas and a deposit reportedly containing about 60,000,000 tons of largely clinoptilolite in California about 85 miles northwest of the mill. The mill is capable of producing 55,000 tons per year.

In the past, the Moltan Company has mined small amounts of mordenite in the Trinity Range in Churchill County about 40 miles northeast of Fernley, but none was

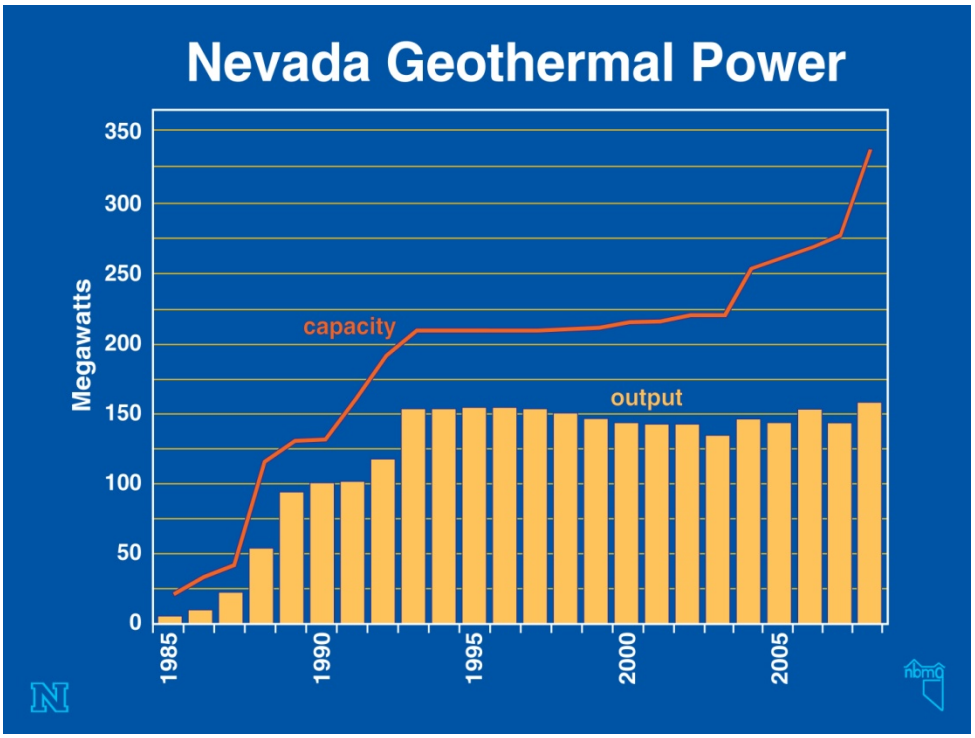
mined in 2008. The company uses mordenite to make absorbent products at its Fernley plant.

In 2008, Nevada Specialty Minerals, LLC, was formed as a joint venture to explore and develop the Lovelock zeolite deposit 13 miles northwest of Lovelock in the Trinity Range in the Gold Butte mining district of Pershing County. The new LLC's managers are listed as Castle Park Minerals, LLC, of Holladay, Utah, Steelhead Specialty Minerals, LLC, of Spokane, Washington, and Trabits Group, LLC, of Wasilla, Alaska. The Nevada Specialty Minerals, LLC, lease covers 1,280 acres. The Lovelock zeolite deposit contains ferrierite and mordenite with an outcrop area about 4,000 feet long from north to south, averaging 2,000 feet wide, and up to 55 feet thick near the center. The host rock is a series of Miocene or Pliocene unnamed sedimentary rocks and tuffs.

Geothermal Energy

by Ronald H. Hess and Lisa Shevenell

During 2008 the Nevada Division of Minerals issued 132 geothermal well permits: 6 project area permits, 38 industrial production well permits, 20 industrial injection well permits, two commercial well permits, nine domestic well permits, 25 gradient well permits, 31 observation well permits, and one permit for an office building heat pump well field installation. A total of 47 geothermal wells of all types (see table of Nondomestic Geothermal Wells for complete listing) were reported as drilled during 2008. (Nevada Division of Minerals, 2009)

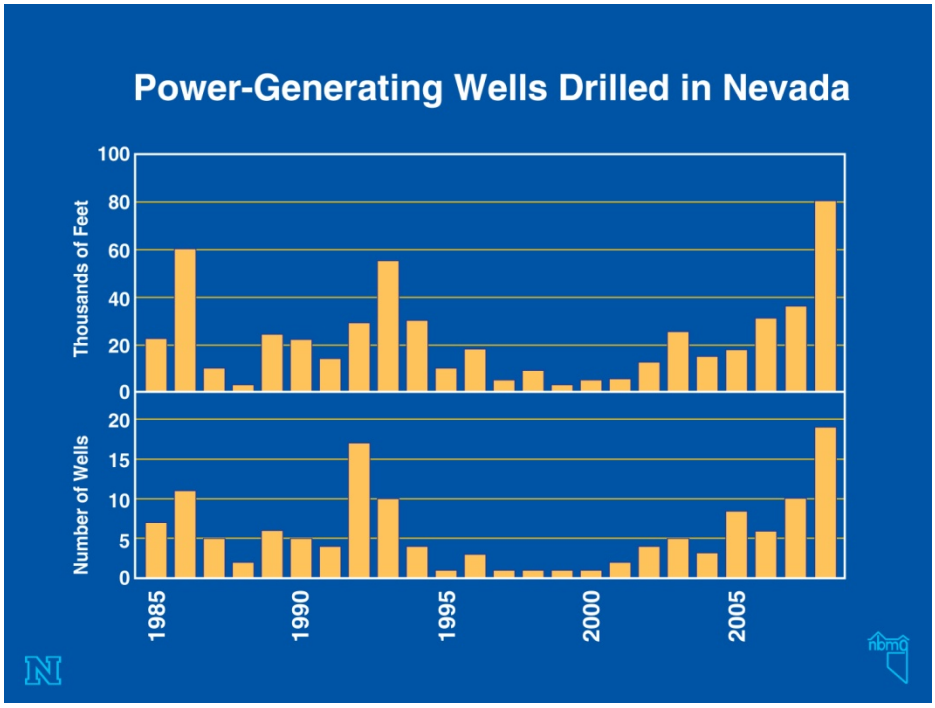


Currently developed resource capacity and average net output of Nevada geothermal plants, 1985–2008. Average net output is annual sales in megawatt-hours divided by the number of hours in a year (8,760). No commercial geothermal power was produced in Nevada before 1985.

Nevada geothermal electrical production in 2008 from federal and private lands combined was 1,755,200 MWh gross and 1,383,211 MWh net (Nevada Division of Minerals, 2009). This was an increase in gross production of 170,062 MWh and in net production of 140,115 MWh from 2007. According to the Nevada Department of Taxation, the total 2008 gross proceeds from geothermal power generation in Nevada was $95,099,540. Currently installed equipment, or nameplate, capacity at ten existing

geothermal power production sites in Nevada is 336.6 megawatts (MW), a 59.5 MW increase from 2007. The table of Nevada geothermal power plants lists operators, plant locations, and energy production for individual Nevada geothermal power producers at the end of 2008. Nevada is second only to California in total installed geothermal generating capacity.

In Nevada, during 2008, there were 388 federal leases covering approximately 674,185 acres, an increase from 2007 of 35 leases and 112,405 acres. Total lease rental revenue value for 2008 was $1,000,610, an increase from the previous year of $397,630. The 2008 lease rental income will be divided up with approximately $500,305 going to the State of Nevada, $250,152 going to the counties where the acreage is located, and $250,152 to the U.S. Department of Interior. For a national comparison, during 2008, there were 928,228 acres of geothermal leases on Federal lands nationwide with the acreage under lease in Nevada accounting for 73% of that total. During 2008, approximate total lease sale income in Nevada was $28 million with $14 million going to the State of Nevada, $7 million going to the counties where the acreage is located, and $7 million going to the U.S. Department of Interior to help support the geothermal program. Total Nevada lease sale income increased approximately $16.3 million from the same period in 2007. (Lorenzo Trimble, BLM, oral commun., 2009 and the U.S. Department of Interior Minerals Management Service, 2009)



Industrial-class (power generating) wells drilled in Nevada, 1985–2008. Depth taken from original drilling permit.

NEVADA GEOTHERMAL POWER PLANTS - 2008

Plant name (year on line)	Equipment Nameplate Capacity (MW) [1]	2008 Production (MWh) Gross	Net (sales)	Location	Operator
Beowawe (1985)	16.6	129,205	111,811	S13,T31N,R47E	Caithness Operating Beowawe Power, LLC 9590 Prototype Ct., #220 Reno, NV 89521 (775) 851-1125
Bradys Hot Springs (1992)	26.1	122,477	79,968	S12,T22N,R26E	Brady Power Partners P.O. Box 649 Fernley, NV 89408 (775) 322-7782
Desert Peak (1985) Desert Peak II (2006)[2]	23	106,445	78,896	S21,T22N,R27E	Brady Power Partners P.O. Box 649 Fernley, NV 89408 (775) 423-5800
Dixie Valley (1988) [3]	62.0	426,340	384,442	S7,T24N,R37E S33,T25N,R37E	Caithness Operating 9590 Prototype Ct., #220 Reno, NV 89521 (775) 851-1125
Empire (1987)	4.8	29,947	19,761	S21,T29N,R23E	USG Nevada LLC P.O. Box 10 Empire, NV 89405 (775) 557-2015
Soda Lake No. 1 (1987) Soda Lake No. 2 (1991)	26.1	93,872	60,477	S33,T20N,R28E	Constellation Operating Services 5500 Soda Lake Road Fallon, NV 89406 (775) 867-5093
Steamboat I, I-A (1986) [4] Steamboat II, III (1992) Galena (2005) Galena 2 (2007) Galena 3 (2008)	134.5	696,225	551,639	S29,T18N,R20E	Steamboat Development Corp. 1010 Power Plant Road Reno, NV 89511 (775) 852-1444
Steamboat Hills (1988, formerly Yankee Caithness)	20.1	74,982	53,102	S5,6,T17N,R20E	ORMAT Nevada 20590 Wedge Parkway Reno, NV 89521 (775) 849-1299
Stillwater (1989)[5]	21.0	64,916	36,096	S1,T19N,R30E S6,T19N,R31E	Enel Stillwater 4785 Lawrence Lane Stillwater, NV 89406 (775) 423-0322
Wabuska (1984)	2.4	10,791	7,019	S15,16,T15N,R25E	Homestretch Geothermal 10 Julian Lane Yerington, NV 89447 (775) 463-4633
TOTAL	**336.6**	**1,755,200**	**1,383,211**		

[1] Nameplate capacity is the manufacturer's rating of equipment's output capacity and does not necessarily reflect the capability of the currently developed resource.
[2] Desert Peak II is a new binary power plant that was built to replace the original steam turbine power plant at Desert Peak, which was permanently shut down on May 1, 2006. The new power plant came online on August 1, 2006 with a generation capacity of 23 MW, more than twice that of the original power plant.
[3] The Dixie Valley Power Plant was down January 4, 2008 through March 5, 2008 due to transmission line problems caused by a winter storm.
[4] SB Geo, Inc. and Ormat started decommissioning the Steamboat I plant.
[5] The Stillwater Power Plant reduced output during part of the construction phase of the new Stillwater power plant.

NONDOMESTIC GEOTHERMAL WELLS REPORTED AS DRILLED, REDRILLED, OR COMPLETED DURING 2008

Area	Company Name	Well Type and Number	Permit Number	Location	Permitted Depth (ft)
Churchill County					
Carson Lake Corral	Vulcan Power Company	P 58A-9	783	SW/4, SE/4, S. 9, T17N, R30E	750
	Vulcan Power Company	P 35A-11	784	NE/4, SW/4, S. 11, T17N, R30E	750
	Vulcan Power Company	P 47A-11	785	SE/4, SW/4, S. 11, T17N, R30E	750
	Vulcan Power Company	P 56A-14	786	NW/4, SE/4, S. 14, T17N, R30E	750
	Vulcan Power Company	P 86A-15	787	NE/4, SE/4, S. 15, T17N, R30E	750
	Ormat Nevada Inc.	P 84-31	807	SE/4, NE/4, S. 31, T18N, R30E	8,500
Desert Peak	Ormat Nevada Inc.	P 74-28	745	SE/4, NE/4, S. 28, T22N, R27E	1,500
Dixie Valley	Terra-Gen Dixie Valley	I 38A-32	788	SE/4, SW/4, S. 32, T25N, R37E	4,000
Eight Mile Flat Area	Carson Lake Basin Project	O 86-15	683	NE/4, SE/4, S. 15, T17N, R30E	2,500
	Carson Lake Basin Project	O 24-21	684	NW/4, NW/4, S. 21, T17N, R30E	2,500
	Carson Lake Basin Project	O 17-16	685	SW/4, SW/4, S. 16, T17N, R30E	2,500
	Carson Lake Basin Project	O 62-15	687	NW/4, NE/4, S. 15, T17N, R30E	2,500
	Enel Salt Wells, LLC	P 86-26	728	NE/4, SE/4, S. 26, T17N, R30E	1,500
	Enel Salt Wells, LLC	P 64-35	729	NW/4, SE/4, S. 35, T17N, R30E	1,500
	Enel Salt Wells, LLC	I 63-36	734	SW/4, NE/4, S. 36, T17N, R30E	1,500
	Enel Salt Wells, LLC	I 65-36 Redrill	735	SW/4, SE/4, S. 36, T17N, R30E	1,500
Fallon Naval Air Station	Ormat Nevada Inc.	P 82-36	717	NE/4, NE/4, S. 36, T18N, R29E	8,500
Fireball Ridge	Ormat Nevada Inc.	O 63-29	748	SW/4, NE/4, S. 29, T24N, R26E	3,000
	Ormat Nevada Inc.	O 85-31	749	NE/4, SE/4, S. 31, T24N, R26E	3,000
Hazen (Patua Hot Springs)	Vulcan Power Company	P 77-19	825	NE/4, SE/4, S. 19, T20N, R26E	10,000
	Vulcan Power Company	P 21A-19	870	NE/4, NW/4, S. 19, T20N, R26E	7,000
	Vulcan Power Company	P 33-23	874	SE/4, NW/4, S. 23, T20N, R26E	7,000
Stillwater	Enel Stillwater	I 28-36	746	SW/4, SW/4, S. 36, T20N, R30E	2,080
Esmeralda County					
Rock Hill Area	Ormat Nevada Inc.	O 75-2	791	NE/4, SE/4, S. 2, T3N, R36E	3,000
Humboldt County					
Blue Mountain	Nevada Geothermal Power Company	P 58-15	619	SW/4, SE/4, S. 15, T36N, R34E	2,000
	Nevada Geothermal Power Company	P 44-14	636	NE/4, SE/4, S. 14, T36N, R34E	6,000
	Nevada Geothermal Power Company	P 14-14	754	SW/4, NW/4, S. 14, T36N, R34E	6,000
	Nevada Geothermal Power Company	I 13-11	763	SW/4, NW/4, S. 11, T36N, R34E	6,000
	Nevada Geothermal Power Company	I 89-11	764	NE/4, SW/4, S. 11, T36N, R34E	6,000
	Nevada Geothermal Power Company	I 57-15	768	SE/4, SE/4, S. 15, T36N, R34E	6,000
	Nevada Geothermal Power Company	TG 16	770	NE/4, NE/4, S. 15, T36N, R34E	1,640
	Nevada Geothermal Power Company	TG 17	771	SW/4, SW/4, S. 11, T36N, R34E	1,640
	Nevada Geothermal Power Company	TG 18	772	NE/4, SW/4, S. 11, T36N, R34E	1,640
	Nevada Geothermal Power Company	I 58A-15	846	SW/4, SE/4, S. 15, T36N, R34E	6,000
Lander County					
Buffalo Valley	Ormat Nevada Inc.	O 72-23	839	SE/4, NE/4, S. 23, T29N, R41E	4,000
Hot Springs (Tipton)	Nevada Geothermal Power Company	TG 7	738	SW/4, NW/4, S. 3, T33N, R40E	1,000
Ranch (Pumpernickel	Nevada Geothermal Power Company	TG 9	740	NW/4, SW/4, S. 9, T33N, R40E	1,000
Valley)	Nevada Geothermal Power Company	TG 5	742	NW/4, NW/4, S. 9, T33N, R40E	1,000
Grass Valley	Ormat Nevada Inc.	O 47-15	820	SE/4, SW/4, S. 15, T24N, R47E	4,000
Reese River	Sierra Geothermal Power, Inc.	TG 13-4	711	SW/4, NW/4, S. 4, T23N, R43E	6,000
	Sierra Geothermal Power, Inc.	TG 88-5	712	SE/4, SE/4, S. 5, T23N, R43E	6,000
	Sierra Geothermal Power, Inc.	TG 62-4	715	NW/4, NE/4, S. 4, T23N, R43E	6,000
	Sierra Geothermal Power, Inc.	O 18-33	781	SW/4, SW/4, S. 33, T24N, R43E	2,000
Pershing County					
Jersey Valley	Ormat Nevada Inc.	P 18A-27	699	SW/4, SW/4, S. 27, T27N, R40E	7,000
	Ormat Nevada Inc.	P 14-27	701	SW/4, SW/4, S. 27, T27N, R40E	7,000
Washoe County					
San Emidio Desert	USG Nevada	P 68-9	816	SW/4, SE/4, S. 9, T29N, R23E	3,500
Warm Springs Valley	Newcore Energy, LLC	O Marshall No. 1	744	NW/4, NE/4, S. 22, T23N, R20E	3,000

[1] I = injection well; O = observation well; P = production well; TG = thermal gradient well.

BLUE MOUNTAIN GEOTHERMAL AREA, HUMBOLDT COUNTY

The Nevada Geothermal Power, Inc. (NGP) Blue Mountain project area covers approximately 17.2 square miles in Humboldt County, Nevada. NGP signed a fixed price, date-certain engineering, procurement, and construction (EPC) contract with Ormat Technologies Inc. to construct the Blue Mountain Faulkner I binary geothermal power plant by December 31, 2009. Ormat completed construction approximately three months ahead of schedule, and NGP brought the plant online in September 2009. As well-field development drilling has moved forward, it appears that the Blue Mountain geothermal resource should be able to eventually support power production at the level of 49.5 MW gross. NGP has completed construction of a 20-mile-long 120 kV overhead transmission line that connects to the electric grid just north of Mill City with an approved capacity for up to 75 MW of production. The path of the transmission line traverses a checkerboard of land ownership that is approximately 50% private land and 50% public land administered by the Bureau of Land Management. NGP has completed its production well drilling program for this phase of the project. The Blue Mountain area is located at T36N, R34E in south-central Humboldt County, Nevada. (Blue Mountain Geothermal Project, Nevada Geothermal Power, Inc., website: http://www.nevadageothermal.com/s/Home.asp)

EIGHT MILE FLAT (SALT WELLS), CHURCHILL COUNTY

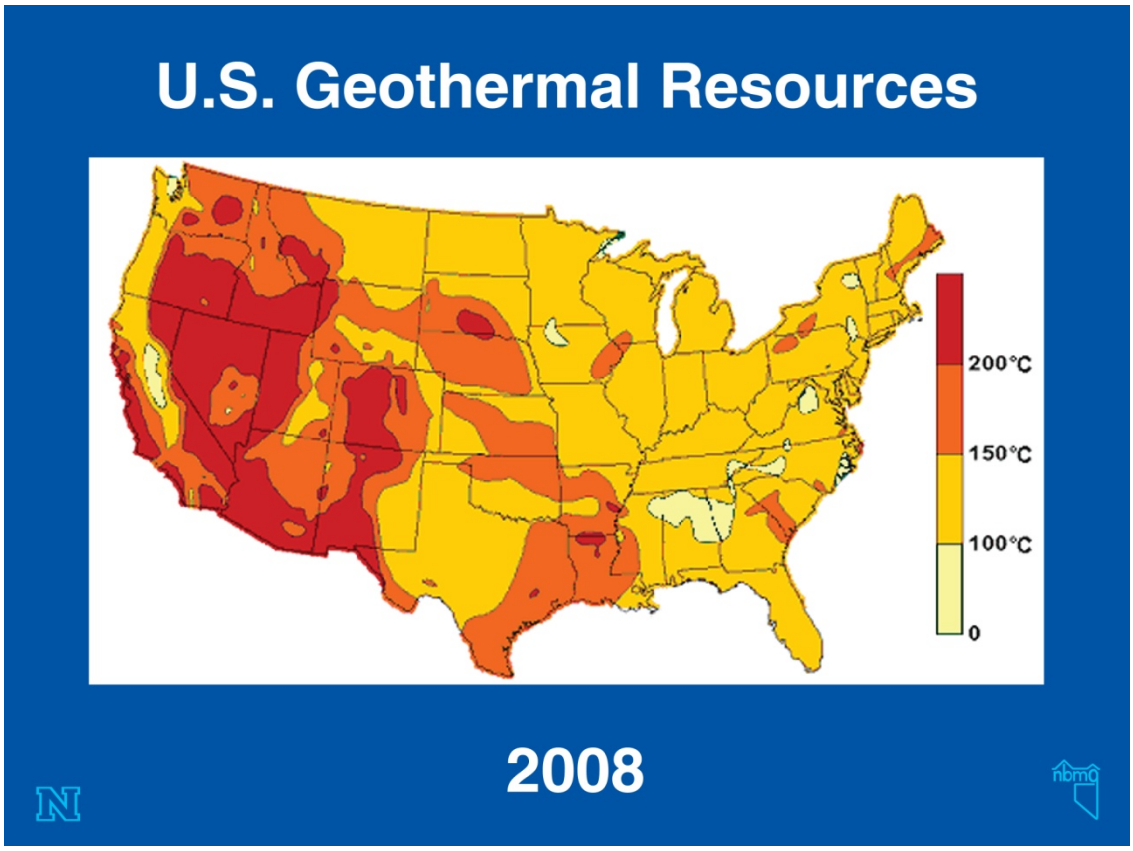
In April 2009, Enel North America, Inc., a subsidiary of Enel S.p.A., Italy, inaugurated its 18 MW gross-capacity binary geothermal power plant at Salt Wells and its new 47.3 MW gross-capacity Stillwater binary plant. The Nevada Division of Minerals issued a geothermal project area permit (#698PA) to Enel Salt Wells, LLC to drill up to eight production wells with estimated depths of 1,000 feet, eight injection wells with estimated depths of 3,000 feet, and 10 observation wells. The project area is located in Sections 23, 24, 25, 26, 35, and 36 of Township 17 North, Range 30 East. A transmission line to the site of the power plant near Salt Wells was completed. (Great Basin Center for Geothermal Energy, Current Geothermal Exploration Activity; and Enel North America, Inc.):
http://www.unr.edu/geothermal/explactivity.htm
http://www.enel.it/northAmerica/

SAN EMIDIO AND GRANITE CREEK GEOTHERMAL AREAS, WASHOE COUNTY

U.S. Geothermal, Inc. announced the completion of a transaction with Michael Stewart and Empire Geothermal Power to acquire the Empire geothermal power plant and 28,358 acres of geothermal leases and ground water rights. The total purchase price for the power plant and acreage was $16.62 million. The transaction included assets from two locations, San Emidio and Granite Creek. San Emidio includes the Empire power plant and approximately 22,944 acres of leases and ground-water rights. The Granite Creek assets are 5,414 acres of BLM leases about 6 miles north of Gerlach, Nevada. U.S. Geothermal plans to develop a 27-megawatt power project for the San Emidio resource with the plant planned to be online around 2011. Drilling has commenced on a new production well intended to expand the resource for development of the new power plant. This $75 to $85 million plan calls for the construction of twin binary cycle plants. It is anticipated that the current well field could provide approximately 75% of the geothermal fluid requirement for one of the binary plants, and an expanded production and injection well field could be drilled to provide the balance of the needed geothermal fluid for the second plant to make, in total, a 27-megawatt development. (U.S. Geothermal, Inc. http://www.usgeothermal.com and Nevada Geothermal Update, Nevada Division of Minerals, May 2008)

STEAMBOAT HOT SPRINGS, WASHOE COUNTY

The Galena No. 3 plant, Ormat's newest binary geothermal power plant at Steamboat Hot Springs is now online. The addition of this new plant brings the gross power production from the Steamboat Hot Springs area up to approximately 100 MW. Sierra Pacific Power Co., Sierra Pacific Resources northern Nevada utility (now NV Energy), and ORNI 14 LLC, a subsidiary of ORMAT Nevada, Inc., signed a 20-year 20-MW Power Purchase Agreement (PPA) for the Galena No. 3, project. SB Geo, Inc. and Ormat started decommissioning the original 7.4 MW Steamboat I power plant, which was brought online line in 1986. At present, there are no new power plants planned for the Steamboat geothermal area. (Nevada Division of Minerals, 2009)



Geothermal resources map of the United States showing the estimated subterranean temperatures at a depth of 6 kilometers. To estimate the Earth's internal temperature at any depth below the capabilities of normal well drilling, multiple data sets are synthesized. The data used for this figure are: thermal conductivity, thickness of sedimentary rock, geothermal gradient, heat flow, and surface temperature. (U.S. Department of Energy - Energy Efficiency and Renewable Energy Geothermal Technologies Program, original author SMU Geothermal Lab 2007, http://smu.edu/geothermal/).

GEOTHERMAL BIBLIOGRAPHY AND WEB LINKS TO OTHER GEOTHERMAL INFORMATION:

Map of Geothermal Resources in Nevada (second edition), NBMG Map 141, available online in pdf file format: http://www.nbmg.unr.edu/dox/m1412.pdf .

Nevada Bureau of Mines and Geology Geothermal Resources of Nevada Web site at http://www.nbmg.unr.edu/geothermal/gthome.htm .

Nevada Commission on Minerals, Nevada Division of Minerals at http://minerals.state.nv.us/ .

Great Basin Center for Geothermal Energy http://www.unr.edu/geothermal/. This site contains geothermal exploration data, interactive maps, lease and incentive program information, and numerous geothermal digital data sets.

GEO-HEAT CENTER, at http://geoheat.oit.edu/ , Oregon Institute of Technology, Klamath Falls, Oregon. This site focuses on direct use applications of geothermal energy.

DOE/INEEL Geothermal Resource Location Maps for 13 Western States in pdf, jpg, and e00 file formats at http://geothermal.id.doe.gov/maps/index.shtml .

The Nevada Geothermal Resources map in pdf file format is found at http://geothermal.id.doe.gov/maps/nv.pdf .

The Renewable Resource Data Center (RReDC) provides access to an extensive collection of renewable energy resource data, maps, and tools. Geothermal, biomass, solar, and wind resource data for locations throughout the United States on the RReDC site at http://www.nrel.gov/rredc/ .

Southern Methodist University Geothermal Lab, specializing in geothermal gradient data and maps of the entire country, post information at http://www.smu.edu/geothermal/.

Summary of Supporting Data for USGS Regional Heat-flow Studies of the Great Basin, 1970-1990, by John H. Sass, Susan S. Priest, Arthur H. Lachenbruch, S. Peter Galanis, Jr., Thomas H. Moses, Jr., John P. Kennelly, Jr., Robert J. Munroe, Eugene P. Smith, Frederick V. Grubb, Robert H. Husk, Jr., and Charles W. Mase; USGS Open-File Report 2005-1207 online version 1.0 on the Web at http://pubs.usgs.gov/of/2005/1207/.

Geothermal Industry Temperature Profiles from the Great Basin, by John H. Sass, Susan S. Priest, Arnold J. Blanton, Penelope C. Sackett, Stephanie L. Welch, and Mark A. Walters; USGS Open-File Report 99-425 online version 1.0 on the Web at http://pubs.usgs.gov/of/1999/of99-425/webmaps/home.html .

The Bureau of Land Management Land and Mineral Records-LR2000 system Web address is http://www.blm.gov/lr2000/ .

GeoCommunicator is the publication site for the Bureau of Land Management's National Integrated Land System (NILS). GeoCommunicator provides searching, accessing and dynamic mapping of data for federal land stewardship, land and mineral use records, and land survey information. GeoCommunicator provides spatial display for

land and mineral cases from BLM's LR2000 system. The Web address for the GeoCommunicator is http://www.geocommunicator.gov/.

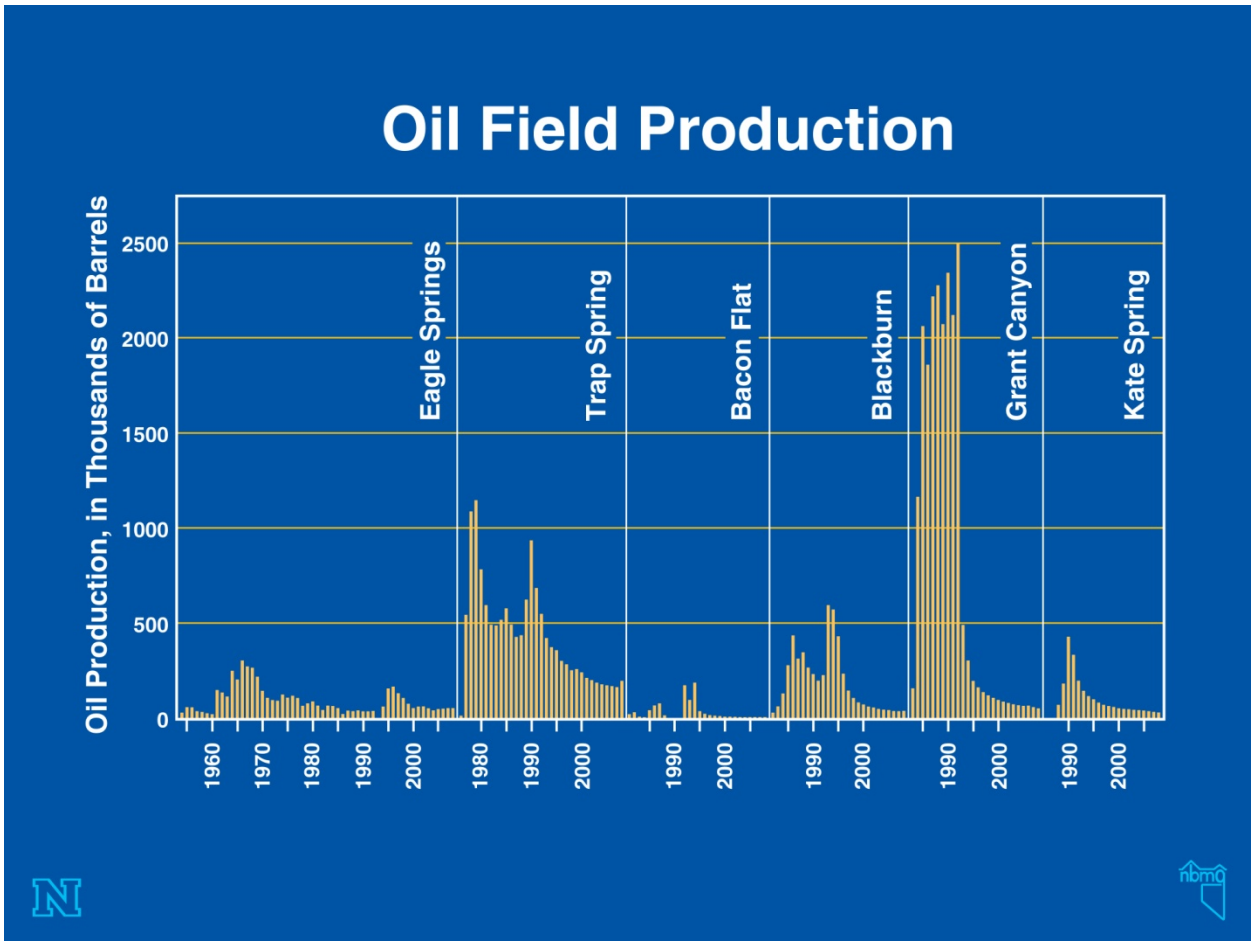
The U.S. Department of Energy (DOE) Geothermal Technologies Program and the DOE Office of Scientific and Technical Information (OSTI) have scanned approximately 3,300 agency and national lab technical reports. These files are in a PDF, full text searchable, format and accessible online at http://www.osti.gov/energycitations/ .

Oil and Gas

by David A. Davis

PRODUCTION

According to the Nevada Division of Minerals, Nevada's net oil production in 2008 was 436,271 barrels (0.0092% of total U. S. production), which was up 7% from 2007, the first increase since 1992. Production came from 66 actively producing wells in ten fields in Railroad Valley (Nye County, 90%), seven wells in two fields in Pine Valley (Eureka County, 10.0%), and one well in Elko County (~0.01%). One other minor field was shut in throughout 2007, two other minor fields are plugged and abandoned, and a fourth was plugged and abandoned during 2008. Nevada ranked 26 out of the 31 oil producing states in the country in 2008 (www.eia.doe.gov). According to the Division of Minerals, the average per barrel net wellhead price for Nevada crude oil was $76.38, which was an increase of 37% from $55.63 in 2007. The sales volume (or gross yield) increased 42% to $33,322,379 in 2008 from $23,544,547 in 2007.



PRODUCTION OF NEVADA'S OIL FIELDS (barrels)

Compiled from Producer's Reports filed with the Nevada Division of Minerals

Field (year discovered)	1954-1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Total
Eagle Springs (1954) (Railroad Valley)	4,811,741	59,394	67,024	67,908	57,946	45,176	54,362	54,708	56,992	58,683	5,333,934
Trap Springs (1976) (Railroad Valley)	12,372,684	246,725	218,198	206,424	193,191	181,937	170,896	163,299	159,821	196,089	14,109,264
Currant (1979) (Railroad Valley)	1,379	55	33	21	23	9	3	0	81	108	1,712
Bacon Flat (1981) (Railroad Valley)	918,155	14,766	13,898	12,647	11,763	10,612	7,556	8,112	8,301	7,968	1,013,778
Blackburn (1982) (Pine Valley)	4,783,664	78,136	66,899	62,412	54,623	51,372	45,369	41,491	39,477	43,600	5,267,043
Grant Canyon (1983) (Railroad Valley)	20,365,782	102,113	92,899	85,722	79,293	73,879	68,944	70,158	62,236	56,247	21,057,273
Kate Spring (1986) (Railroad Valley)	1,909,557	57,644	55,198	53,408	49,698	45,656	44,288	41,124	38,411	36,863	2,331,847
Tomera Ranch (1987) (Pine Valley)	21,978	488	0	11,901	1,981	124	0	0	0	0	36,472
North Willow Creek (1988) (Pine Valley)	44,324	146	144	573	349	377	2,064	2,552	1,256	56	51,841
Three Bar (1990) (Pine Valley)	23,837	0	0	0	0	0	0	0	0	0	23,837
Duckwater Creek (1990) (Railroad Valley)	15,414	116	968	869	436	200	185	122	150	120	18,580
Sans Spring (1993) (Railroad Valley)	231,046	6,990	6,356	5,532	4,775	4,169	3,324	3,265	2,971	2,407	270,835
Ghost Ranch (1996) (Railroad Valley)	261,900	41,454	36,173	31,814	26,129	36,423	37,874	30,255	26,070	23,615	551,707
Deadman Creek (1996) (Elko County)	367	0	0	0	0	0	0	0	0	0	367
Sand Dune (1998) (Railroad Valley)	27,587	12,624	13,461	14,211	13,123	13,124	11,878	10,618	10,562	10,467	137,655
Toano Draw (2007) (Elko County)									1,916	48	1,964
Total	45,789,415	620,651	571,251	553,442	493,330	463,058	446,743	425,704	408,244	436,271	50,208,109
Change from previous year		-12%	-8%	-3%	-11%	-6%	-4%	-5%	-4%	7%	

The production of Nevada's 74 actively producing wells ranged between 3 and 139 barrels of oil per day and between 0 and 2,506 barrels of water per day. They averaged 20 barrels of oil per day and 315 barrels of water per day. Thirty-three wells were strippers, and 21 produced more than 20 barrels of oil per day. Twenty-six wells produced less than 50 barrels of water per day, and 12 produced more than 500 barrels of water per day.

Ninety-eight wells in 13 fields were listed as producers in 2008. Of these, 23 were shut in for the entire year. At year's end, three wells had been shut in for more than 6 but less than 12 months, one of which was plugged and abandoned in late 2008. One well shut in since 2001 was brought back on line in 2008. Six wells have been shut in from one to five years, one of which was plugged and abandoned in late 2008. The

rest have been shut in from over five to 22 years, one of which was plugged and abandoned in late 2008.

PRODUCTION OF WATER FROM NEVADA'S OIL FIELDS (barrels)

Compiled from Producer's Reports filed with the Nevada Division of Minerals

Field (year discovered)	1994-2001	2002	2003	2004	2005	2006	2007	2008	Total
Eagle Springs (1954)	2,723,321	572,541	538,814	357,021	428,375	501,462	804,428	842,435	6,768,397
Trap Spring (1976)	22,808,869	1,844,621	1,802,383	1,727,583	2,427,226	2,298,300	2,371,513	2,356,016	37,636,511
Currant (1979)	0	0	0	0	0	0	0	0	0
Bacon Flat (1981)	711,501	27	5,080	3,479	4,694	4,899	2,153	10,204	742,037
Blackburn (1982)	15,196,529	2,008,218	1,805,820	10,728,237	1,840,581	1,537,556	1,582,937	1,558,039	36,257,917
Grant Canyon (1983)	2,658,612	435,004	425,905	438,911	391,017	506,854	442,826	638,822	5,937,951
Kate Spring (1986)	4,087,313	457,264	451,878	417,030	424,809	416,752	437,983	416,983	7,110,012
Tomera Ranch (1987)	211,089	94,643	169,487	23,393	0	0	0	0	498,612
North Willow Creek (1988)	2,710	0	52	97	268	83	0	0	3,210
Three Bar (1990)	5,958	0	0	0	0	0	0	0	5,958
Duckwater Creek (1990)	56,002	4,442	2,503	1,013	1,410	855	1,350	1,080	68,655
Sans Spring (1993)	2,280,570	326,943	290,961	317,230	238,854	261,500	244,756	217,288	4,178,102
Ghost Ranch (1996)	874,399	155,714	123,897	254,781	569,511	641,022	690,599	711,865	4,021,788
Deadman Creek (1996)	0	0	0	0	0	0	0	0	0
Sand Dune (1998)	144,127	32,123	32,624	30,807	31,935	27,043	31,044	32,684	362,387
Toano Draw (2007)							25,614	3,507	29,121
Total	51,761,000	5,931,540	5,649,404	14,299,582	6,358,680	6,196,326	6,635,203	6,788,923	103,620,658
Change from previous year		-7%	-5%	153%	56%	-3%	7%	2%	

Nevada’s highest volume producer was the new Munson Ranch 12-43, which averaged 139 barrels of oil and 1 barrel of water per day during 2008. Nevada’s second highest volume producer was Grant Canyon No. 7, which averaged 71 barrels of oil and 736 barrels of water per day during 2008. Grant Canyon No. 9, which had been Nevada’s highest ranking producer since 1996, dropped to fourth place, and was behind Blackburn No. 19.

The Bacon Flat Field, which produces from the Devonian Guilmette Formation (carbonate) between about 4,960 and 5,350 feet, averaged 22 barrels of oil and 29 barrels of water per day in 2008 and accounted for about 2% of Nevada’s total oil production. Oil production decreased 4% and water production increased 374%. Only one of its three producers was active. One well has been shut in since 1993 and the other since 1988.

The Blackburn Field, which produces from the Oligocene Indian Well Formation (tuff and tuffaceous sandstone), Mississippian Chainman Shale (sandstone), and Devonian Nevada Formation (carbonate) between about 6,700 and 6,750 feet, averaged 119 barrels of oil and 4,257 barrels of water per day in 2008 and accounted for about 10% of Nevada's total oil production. Oil production increased 10% and water production decreased 2%. Of the six active producers, oil production increased in three and decreased in two. Daily per well oil production ranged between 4 and 62 barrels and averaged 24 barrels. Daily per well water production ranged between 0 and 1,823 barrels and averaged 856 barrels. One producer had been shut in since 2001 and was brought back on line in October 2008. The one inactive producer, except for a brief production period in November 2005, has been shut in since 1998.

The Eagle Springs Field, which produces from Oligocene ignimbrites, the Eocene Sheep Pass Formation (lacustrine carbonates), and the Pennsylvanian Ely Limestone between about 5,780 and7,360 feet, averaged 160 barrels of oil and 2302 barrels of water per day in 2008 and accounted for 13% of Nevada's total oil production. Daily per-well oil production ranged between 5 and 26 barrels and averaged 11 barrels. Daily per-well water production ranged between 7 and 714 barrels and averaged 156 barrels. Oil and water increased 3% and 5% respectively. Of the 16 active producers, oil production increased in 12 and decreased in four. Of the five inactive producers, one has been shut in since 2004, three have been shut in since 1997, and one since 1986.

The Ghost Ranch Field, which produces from the Devonian Guilmette Formation between about 4,350 and 4,620 feet, averaged 64 barrels of oil and 1,945 barrels of water per day in 2008 and accounted for a little more than 5% of Nevada's total oil production. Daily per well oil production ranged between 6 and 24 barrels and averaged 16 barrels. Daily per well water production ranged between 359 and 692 barrels and averaged 492 barrels. Oil production decreased about 9% and water production increased 3%. Oil production decreased in all four producers.

The Grant Canyon Field, which produces from the Devonian Guilmette Formation between about 2,160-4,300 feet, averaged about 154 barrels of oil and about 1,745 barrels of water per day in 2008 and accounted for about 13% of Nevada's total oil production. Oil production decreased 10%, and water production increased 44%. Daily per well oil production ranged between 24 and 71 barrels and averaged 51 barrels. Daily per well water production ranged between 201 and 813 barrels and averaged 584

barrels. Oil production decreased in all three active producers. The one inactive producer has been shut in since 1992.

The Kate Spring Field, which produces from the Tertiary Horse Camp Formation (breccia) and the Devonian Guilmette Formation between about 4,450 and 4,820 feet, averaged 101 barrels of oil and 1,139 barrels of water per day in 2008 and accounted for 8% of Nevada's total oil production. Oil and water production decreased 4%, and 5% respectively. Daily per well oil production ranged between 12 and 56 barrels and averaged 25 barrels. Daily per well water production ranged between 101 and 430 barrels and averaged 285 barrels. Oil production decreased in all four active producers. Of the two inactive producers, one has been shut in since 1997 and the other since 1993. A total of 4,177 thousand cubic feet of gas was produced from the Kate Spring Field in 2008, a decrease of 7% from 2007. The gas is used to operate production and related equipment at the lease sites of Makoil, Inc., and Western General, Inc.

The Sand Dune Field's only producer, which produces from Permian and Pennsylvanian limestones between about 5,970 and 6,200 feet, averaged 29 barrels of oil and 90 barrels of water per day in 2008 and accounted for 2% of Nevada's total oil production. Oil production decreased less than 1% and water production increased 5%.

The Sans Spring Field's only active producer, which produces from the Oligocene Garret Ranch Group (volcaniclastic rocks and ignimbrites) between about 5,640 and 5,770 feet, averaged 9 barrels of oil and 852 barrels of water per day in 2008 and accounted for less than 1% of Nevada's total oil production. Oil and water production decreased 18% and 11% respectively. Of the two inactive producers, one has been shut in since 1998 and the other has been temporarily abandoned since 1993.

The Trap Spring Field, which produces from the Oligocene tuff of Pritchards Station between about 3,210 and 4,950 feet, averaged 536 barrels of oil and 6,437 barrels of water per day in 2008 and accounted for 45% of Nevada's total oil production. Oil production increased 23%, and water production decreased less than 1%. Oil production decreased in 20 active producers, increased in 13. One new producer came on line (see *New Producers*). One well was shut in for three months. Of the nine inactive producers one has been shut in since 1999, one since 1998, two since 1996, one since 1992, one since 1991, and one since 1986. One inactive producer shut in since 2003, Munson Ranch 12-44X, and another shut in since 1998, Munson Ranch 12-42, were plugged and abandoned in August 2008.

Four minor fields produced 332 barrels of oil in 2008. The Currant Field's only production well produced from the Eocene Sheep Pass Formation between about 6,850 and 7,080 feet. Its oil production increased 33% in 2008, and it produced no water. Oil and water production from the Duckwater Creek Field's only producer, which produces from the Oligocene Garrett Ranch Group between about 5,680 and 5,830 feet, both decreased 20%. Oil production from the North Willow Creek Field's only active producer, which produces from the Mississippian Chainman Shale between about 6,290 and 6,470 feet, decreased 95%, and no water was produced. North Willow Creek Field's one inactive producer has been shut in since 2002. Oil and water production from the Toano Draw's only producer, which produced from the Miocene Humboldt Formation between 8,820 and 8,950 feet, decreased by 97% and 86%, respectively, relative to 2007. It was plugged and abandoned in October 2008.

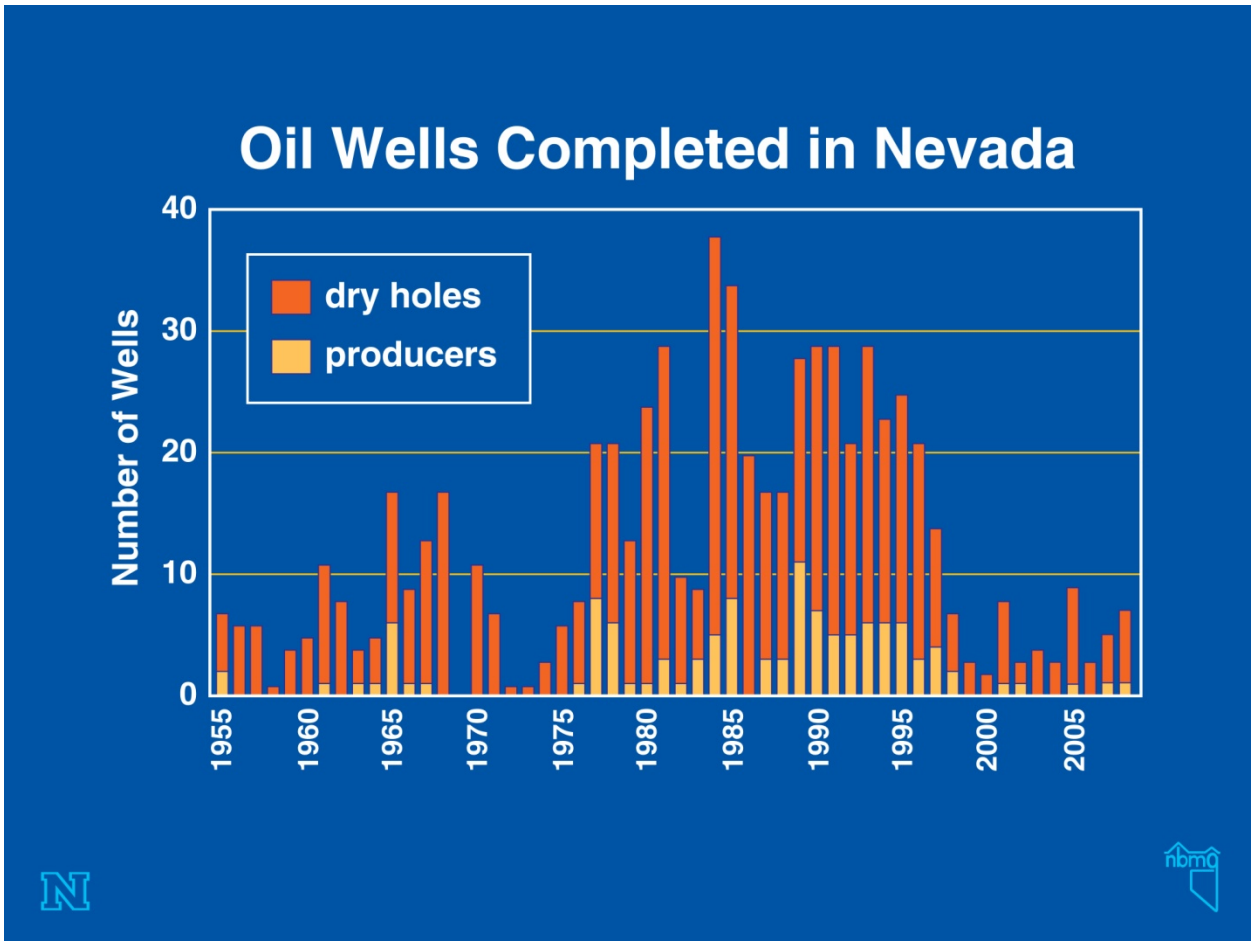
Three other minor fields recorded no production for 2007. The Three Bar Field's three production wells produced from the Miocene Humboldt Formation (sandstone and volcanic rock), the Oligocene Indian Well Formation, and the Cretaceous Newark Formation (sandstone and carbonate) between about 5,720 and 7,070 feet, and all were plugged and abandoned in 2000 and 2001. The Tomera Ranch Field's two production wells, which had produced from the Oligocene Indian Well Formation (chert and tuffaceous sandstone) between about 1,150 and 1,950 feet, were plugged and abandoned in 2007. Deadman Creek's only production well, which produced briefly from the Miocene Humboldt Formation between 8,165 and 8,850 feet, was plugged and abandoned in 1998.

Most Nevada oil is used to make such products as No. 1 and No. 2 diesel fuel, kerosene, stove oil, and asphalt. Income Fund, Inc. (EIF) of Longmeadow, Massachusetts, owns the two refineries in Nevada. Nevada crude oil was transported in batches by trucks to the 8,000-barrel-per-day capacity refinery near Currant in Railroad Valley in 2008. The EIF refinery and asphalt storage facility at Tonopah has not been in operation since 2002 and will likely not be in operation again. In 2008, several tanks were being used for diesel and gasoline storage, and the towers were still standing, but the facility is slowly being dismantled.

STATUS OF NEVADA OIL AND GAS PRODUCTION WELLS IN 2008

FIELD/OPERATOR/WELL	NEVADA PERMIT	DATE COMPLETED	STATUS	LOCATION	PRODUCTION OIL (BBL)	PRODUCTION WATER (BBL)	PRODUCTION GAS (MCF)	PRODUCTION DAYS
EAGLE SPRINGS (Nye Co., 1954)								
Meritage Energy Co., LLC								
Eagle Springs Federal No. 44-35	813	05/98	SI 2004	SE/4, NW/4, S35, T9N, R57E	0	0		0
Eagle Springs Federal No. 54-35	726	10/94	Prod	SW/4, NE/4, S35, T9N, R57E	4,084	23,558		355
Eagle Springs Unit No. 1-34	107	07/67	SI 1986	SE/4, NE/4, S34, T9N, R57E	0	0		0
Eagle Springs Unit No. 1-35	4	05/54	WD 1978	NE/4, NW/4, S35, T9N, R57E	0	0		0
Eagle Springs Unit No. 1-36	76	02/65	Prod	SW/4, NE/4, S36, T9N, R57E	545	9,464		92
Eagle Springs Unit No. 2-36	80	07/65	Prod; SI 1996-2006	NW/4, SE/4, S36, T9N, R57E	3,715	233,423		327
Eagle Springs Unit No. 4-36	86	10/65	SI 1997	NW/4, SE/4, S36, T9N, R57E	0	0		0
Eagle Springs Unit No. 5-36	94	04/66	Prod	NW/4, NE/4, S36, T9N, R57E	4,656	19,899		362
Eagle Springs Unit No. 15-35	21	07/55	Prod; SI 1995-2002	NW/4, SW/4, S35, T9N, R57E	2,849	25,726		357
Eagle Springs Unit No. 35-35	17	03/55	Prod	NE/4, SW/4, S35, T9N, R57E	1,954	20,567		361
Eagle Springs Unit No. 43-36	83	08/65	Prod	NE/4, SE/4, S36, T9N, R57E	1,767	31,442		357
Eagle Springs Unit No. 62-35	46	01/60	Prod	NW/4, NE/4, S35, T9N, R57E	2,463	80,184		365
Eagle Springs Unit No. 73-35	69	10/63	Prod	SE/4, NE/4, S35, T9N, R57E	8,133	77,815		358
Eagle Springs Unit No. 74-35	71	04/64	Prod; SI 1998-2001	SE/4, NE/4, S35, T9N, R57E	2,449	84,104		339
Eagle Springs Unit No. 84-35	77	01/65	SI 1997	SE/4, NE/4, S35, T9N, R57E	0	0		0
Eagle Springs/Plains Petroleum No. 13-36	744	02/96	Prod	SW/4, NW/4, S36, T9N, R57E	3,865	26,976		354
Eagle Springs/Plains Petroleum No. 23-36	733	10/95	Prod	SW/4, NW/4, S36, T9N, R57E	2,896	23,942		366
Eagle Springs/Plains Petroleum No. 24-36	737	11/94	Prod	SW/4, NW/4, S36, T9N, R57E	3,484	2,444		340
Eagle Springs/Plains Petroleum No. 55-35	761	11/95	SI 1997	SW/4, NE/4, S35, T9N, R57E	0	0		0
Eagle Springs/Plains Petroleum No. 64-35	755	09/95	Prod	SW/4, NE/4, S35, T9N, R57E	2,733	21,328		347
Eagle Springs/Plains Petroleum No. 82-35	734	10/94	Prod	NE/4, NE/4, S35, T9N, R57E	4,023	103,272		340
Eagle Springs/Plains Petroleum No. 83-35	754	07/95	Prod	SE/4, NE/4, S35, T9N, R57E	9,069	58,293		354
TRAP SPRING (Nye Co., 1976)								
J. N. Oil and Gas Federal No. 1	449	09/85	PA 1999	NE/4, NW/4, S34, T9N, R56E				
Frontier Exploration Co.								
Munson Ranch No. 13-1	435	08/85	Prod	SE/4, NW/4, S13, T9N, R56E	3,400	4,216		366
Munson Ranch No. 13-45	547	08/89	Prod	NW/4, SW/4, S13, T9N, R56E	1,924	2,886		342
Munson Ranch No. 13-46	548	07/89	SI 1992	NE/4, SW/4, S13, T9N, R56E	0	0		0
Munson Ranch No. 14-33	513	07/89	Prod	NW/4, SE/4, S14, T9N, R56E	1,780	4,235		365
Munson Ranch No. 14-49	550	08/89	Prod	NE/4, SE/4, S14, T9N, R56E	1,335	967		366
Munson Ranch No. 14-49X	562	02/90	Prod	NE/4, SE/4, S14, T9N, R56E	411	0		41
Trap Spring No. 14-42	523	10/88	Prod	SE/4, NE/4, S14, T9N, R56E	2,133	3,895		364
Makoil, Inc.								
Britton No. 13-21	224	04/78	SI 1991	NE/4, NW/4, S13, T9N, R56E	0	0		0
East Inselberg No. 36-33	860	04/05	SI 2006	NW/4, SE/4, S36, T10N, R56E	0	0		0
Munson Ranch No. 12-14	688	05/95	Prod	SW/4, SW/4, S12, T9N, R56E	563	192		79
Munson Ranch No. 12-23	596	11/90	SI 1998	NE/4, SW/4, S12, T9N, R56E	0	0		0
Munson Ranch No. 12-24	432	04/85	Prod	SE/4, SW/4, S12, T9N, R56E	5,681	17,234		363
Munson Ranch No. 12-32	559	12/89	Prod	SW/4, NE/4, S12, T9N, R56E	9,668	32,708		366
Munson Ranch No. 12-33	423	03/85	SI 1996	NW/4, SE/4, S12, T9N, R56E	0	0		0
Munson Ranch No. 12-34	406	10/84	Prod	SW/4, SE/4, S12, T9N, R56E	5,314	5,370		358
Munson Ranch No. 12-42	572	06/90	PA 2008	SE/4, NE/4, S12, T9N, R56E	0	0		0
Munson Ranch No. 12-43	880	03/08	Prod	NE/4, SE/4, S12, T9N, R56E	41,935	444		301
Munson Ranch No. 12-44X	445	07/85	PA 2008	SE/4, SE/4, S12, T9N, R56E	0	0		0
Munson Ranch No. 13-11	622	11/91	SI 2003	NW/4, NW/4, S13, T9N, R56E	0	0		0
Munson Ranch No. 13-11R	840	11/01	Prod	NW/4, NW/4, S13, T9N, R56E	5,791	28,331		366
Munson Ranch No. 13-14	623	09/91	Prod; SI 2001-2006	SW/4, SW/4, S13, T9N, R56E	7,124	112,251		355
Munson Ranch No. 13-21X	640	05/92	Prod	NE/4, NW/4, S13, T9N, R56E	5,834	34,121		360
Munson Ranch No. 13-24	218	08/79	Prod	SE/4, SW/4, S13, T9N, R56E	307	133		69
Munson Ranch No. 13-31	382	07/84	Prod	NW/4, NE/4, S13, T9N, R56E	5,214	36,554		364
Munson Ranch No. 13-32	373	08/84	Prod	SW/4, NE/4, S13, T9N, R56E	6,297	39,319		366
Munson Ranch No. 13-33	211	11/78	Prod	NW/4, SE/4, S13, T9N, R56E	1,783	6,971		357
Munson Ranch No. 13-41X	448	09/85	Prod	NE/4, NE/4, S13, T9N, R56E	10,521	66,548		358
Munson Ranch No. 13-42	222	11/78	Prod	SE/4, NE/4, S13, T9N, R56E	1,797	82,093		365
Munson Ranch No. 14-23	313	08/81	Prod	NE/4, SW/4, S14, T9N, R56E	2,290	34,948		362
Munson Ranch No. 14-24	354	10/83	SI 1996	SE/4, SW/4, S14, T9N, R56E	0	0		0
Munson Ranch No. 14-32	455	09/87	Prod	SW/4, NE/4, S14, T9N, R56E	5,435	96,489		366
Munson Ranch No. 14-34	287	11/80	Prod	SW/4, SE/4, S14, T9N, R56E	381	5,874		56
Munson Ranch No. 14-34X	522	08/88	Prod	SW/4, SE/4, S14, T9N, R56E	2,520	4,444		366
Munson Ranch No. 14-41	538	07/89	Prod	NE/4, NE/4, S14, T9N, R56E	5,374	68,448		366
Munson Ranch No. 14-44	528	08/89	Prod	SE/4, SE/4, S14, T9N, R56E	3,225	76,232		352
Trap Spring No. 2	185	02/77	Prod	SE/4, SW/4, S27, T9N, R56E	8,052	734		366
Trap Spring No. 3	188	04/77	Prod	NW/4, NE/4, S34, T9N, R56E	11,442	917,248		366
Trap Spring No. 8	196	09/77	Prod	SE/4, SW/4, S23, T9N, R56E	368	91		74
Trap Spring No. 9	197	09/78	Prod	NW/4, NW/4, S26, T9N, R56E	18,017	484,068		365
Trap Spring No. 16	232	09/78	Prod	NW/4, SE/4, S23, T9N, R56E	2,013	186,385		364
Trap Spring No. 19	219	12/77	Prod	SE/4, NW/4, S23, T9N, R56E	15,969	2,580		361
Trap Spring No. 23-41	574	06/90	Prod	NE/4, NE/4, S23, T9N, R56E	2,048	0		364
Zuspann No. 24-1	198	06/77	SI 1986	NW/4, SW/4, S24, T9N, R56E	0	0		0
Zuspann No. 24-3	208	09/77	Prod	NE/4, NW/4, S24, T9N, R56E	54	7		10
CURRANT (Nye Co., 1979)								
Makoil, Inc.								
Currant No. 1	241	10/78	Prod; SI 2005-2007	SE/4, SW/4, S26, T10N, R57E	108	0		9
BACON FLAT (Nye Co., 1981)								
Double D Nevada, LLC								
Bacon Flat No. 1	316	07/81	SI 1988	C, SW/4, S17, T7N, R57E	0	0		0
Bacon Flat Federal No. 23-17	657	09/92	SI 1993	NE/4, SW/4, S17, T7N, R57E	0	0		0
Bacon Flat Federal No. 23-17A	710	01/94	Prod	NE/4, SW/4, S17, T7N, R57E	7,968	10,204		356

FIELD/OPERATOR/WELL	NEVADA PERMIT	DATE COMPLETED	STATUS	LOCATION	PRODUCTION OIL (BBL)	PRODUCTION WATER (BBL)	PRODUCTION GAS (MCF)	PRODUCTION DAYS
BLACKBURN (Eureka Co., 1982)								
Blackburn Oil and Gas								
Blackburn No. 3	324	03/82	SI 1998	SW/4, SW/4, S8, T27N, R52E	0	0		0
Blackburn No. 10	350	09/83	Prod	SW/4, NW/4, S8, T27N, R52E	5111	7,381		358
Blackburn No. 14	442	07/85	Prod; SI 2001-2008	NE/4, SE/4, S7, T27N, R52E	627	0		45
Blackburn No. 16	458	12/85	Prod	SE/4, NE/4, S7, T27N, R52E	1216	63,272		324
Blackburn No. 18	660	11/92	Prod	NE/4, SE/4, S7, T27N, R52E	11430	659,877		362
Blackburn No. 19	724	06/94	Prod	NW/4, SW/4, S8, T27N, R52E	22735	494,206		366
Blackburn No. 21	802	09/97	Prod	NE/4, SE/4, S7, T27N, R52E	2481	333,303		366
GRANT CANYON (Nye Co., 1983)								
Grant Canyon Oil and Gas								
Grant Canyon No. 3	375	08/84	SI 1992	SW/4, SW/4, S16, T7N, R57E	0	0		0
Grant Canyon No. 7	625	08/91	Prod; SI 1993-2007	NW/4, NW/4, S21, T7N, R57E	25,904	267,993		364
Grant Canyon No. 9	642	04/92	Prod	NW/4, NW/4, S21, T7N, R57E	21,497	73,208		364
Grant Canyon No. 22-21	705	01/94	Prod	SE/4, NW/4, S21, T7N, R57E	8,850	297,621		366
KATE SPRING (Nye Co., 1986)								
Makoil, Inc.								
Kate Spring No. 12-2	544	08/89	Prod	NW/4, NW/4, S2, T8N, R57E	7855	101,418	1,521	366
Western General, Inc.								
Kate Spring No. 1	436	01/86	Prod	W/2, SW/4, S2, T8N, R57E	4,298	37,275	293	N/A
Kate Spring No. 1A	560	12/89	Prod	NW/4, SW/4, S2, T8N, R57E	20,492	157,377	1,977	N/A
Kate Spring No. 1C	592	09/91	SI 1997	SW/4, SW/4, S2, T8N, R57E	0	0	0	0
Taylor Federal No. 1	497	10/87	Prod	NE/4, SE/4, S3, T8N, R57E	4,218	120,913	386	N/A
Taylor Federal No. 2	536	06/89	SI 1993	SE/4, NE/4, S3, T8N, R57E	0	0	0	0
TOMERA RANCH (Eureka Co., 1987)								
Tomera Ranch No. 33-1	591	10/90	PA 1997	SW/4, SW/4, S33, T31N, R52E				
Southern Pacific Land Co. No. 1-5R	647	05/92	PA 2007	NE/4, NE/4, S5, T30N, R52E				
Tomera Ranch No. 33-2RR	841	01/02	PA 2007	SW/4, SW/4, S33, T31N, R52E				
Foreland Corp.								
Southern Pacific Land Co. No. 1-5	492	08/87	WD 1992	NE/4, NE/4, S5, T30N, R52E				
NORTH WILLOW CREEK (Eureka Co., 1988)								
North Willow Creek No. 5-27	646	06/93	PA 1998	SE/4, NW/4, S27, T29N, R52E				
Meritage Energy Co., LLC								
North Willow Creek No. 6-27	648	09/93	Prod; SI 1997-2002	NE/4, SW/4, S27, T29N, R52E	56	0		21
Southern Pacific Land Co. No. 1-27	503	02/88	SI 2002	NW/4, SE/4, S27, T29N, R52E	0	0		0
THREE BAR (Eureka Co., 1990)								
Three Bar Federal No. 25-A	556	10/90	PA 2001	C, NE/4, S25, T28N, R51E				
Three Bar Federal No. 24-13A	566	09/90	PA 2000	SW/4, SW/4, S24, T28N, R51E				
Three Bar Federal No. 5	679	07/93	PA 2001	SE/4, NE/4, S25, T28N, R51E				
DUCKWATER CREEK (Nye Co., 1990)								
Makoil, Inc.								
Duckwater Creek No. 19-11	542	03/90	Prod	NW/4, NW/4, S19, T9N, R57E	120	1,080		37
SANS SPRING (Nye Co., 1993)								
Double D Nevada, LLC								
Federal No. 5-14	635	02/93	SI 1998	SW/4, NW/4, S14, T7N, R56E	0	0		0
Sans Springs No. 5-14A	792	05/97	Prod	SW/4, NW/4, S14, T7N, R56E	2,407	217,288		255
Federal No. 12-14	673	06/93	SI 1993	SW/4, SW/4, S14, T7N, R56E	0	0		0
GHOST RANCH (Nye Co., 1996)								
Makoil, Inc.								
Ghost Ranch Springs No. 2-21X	800	08/97	Prod	NE/4, NW/4, S2, T8N, R57E	6,800	242,199		350
Meritage Energy Co., LLC								
Ghost Ranch Springs No. 38-35	793	01/97	Prod	SE/4, SW/4, S35, T9N, R57E	8,689	183,439		366
Ghost Ranch Springs No. 47-35	799	03/97	Prod	SE/4, SW/4, S35, T9N, R57E	2,242	131,253		366
Ghost Ranch Springs No. 48-35	779	07/96	Prod	SE/4, SW/4, S35, T9N, R57E	5,885	154,973		366
DEADMAN CREEK (Elko Co., 1996)								
Deadman Creel No. 44-13	342	01/96	PA 1998	SE/4, SE/4, S13, T39N, R65E				
SAND DUNE (Nye Co., 1998)								
Meritage Energy Co., LLC								
Sand Dune Federal No. 88-35	816	07/98	Prod	SE/4, SE/4, S35, T9N, R57E	10,467	32,680		365
TOANO DRAW (Elko Co., 2007)								
DY Exploration								
Toano Draw No. 15-19	856	12/06	PA 2008	NW/4, SW/4, S19, T39N, R66E	48	3,507		17



NEW PRODUCERS

One producer was completed in 2008. Makoil, Inc. spudded Munson Ranch 12-43 in the Trap Spring Field in September 2006 and drilled it to 3,755 feet by October 2006. The well was then temporarily abandoned for a year until October 2007 when it was redrilled to 3,836 feet by November 2007. It was completed as a producer in December 2007 with an initial 24-hour production of 3 barrels of fluid with no water and 1.4% sediment followed by 73 barrels of oil and 3 barrels of water during a 5-day period in January 2008. The initial gravity was 28.1°. Makoil redrilled the well again to 3,897 feet in March 2008 and recompleted it with an initial 24-hour production of 182 barrels of fluid with 6% water and no sediment in March 2008. The interval was not reported but production was from the Tertiary Garrett Ranch Group volcanic rocks.

OIL WELL DRILLING ACTIVITY IN NEVADA IN 2008

Company	Well	Permit No.	Location	Permit Date	Spud Date	Completion Date	Depth (Ft.)	Status
ELKO COUNTY								
Charter Oak Production Co., LLC	Ruby Valley No. 1-11	909	NE/4, SW/4, S11, T30N, R60E	OCT 08	NOV 08	DEC 08	4910	P&A
EUREKA COUNTY								
Trail Mountain Inc.	Palisades No. 1	897	SE/4, SW/4, S27, T31N, R51E	JUL 07	DEC 07	FEB 08	9,500	P&A
HUMBOLDT COUNTY								
KBE Energy	Well No. 1	900	NE/4, NW/4, S10, T34N, R43E	APR 08	MAY 08		*5,500	TA
NYE COUNTY								
Double D Nevada, LLC	Federal No. 12-14	673	NW/4, SW/4, S14, T7N, R56E	APR 93	MAY 93	JUN 93	6,106	TA
Wester Oil Co.	Gigante No. 1-4	837	NW/4, NE/4, S4, T12N, R35E	MAY 01	AUG 01	Dec 03	7,707	TA
Tri Valley Oil and Gas	Midland Trail No. 1-32	861	SW/4, SW/4, S32, T6N, R56E	SEP 04	JUN 05	JAN 06	7,063	Testing
Makoil, Inc.	Radio No. 6-31	865	NE/4, NW/4, S6, T9N, R57E	SEP 04	MAY 05	MAY 05	3,433	Drilled
V. F. Neuhaus Properties, Inc.	Currant Creek Ranch 31-1	872	SE/4, SW/4, S31, T10N, R57E	JUL 05	JUL 05		*2,200	Shut-in
Petro World Nevada Corp.	Cobble Questa No. 1-12	876	NW/4, SE/4, S12, T12N, R34E	DEC 05	SEP 06	APR 07	5,200	TA
Makoil, Inc.	Munson Ranch 12-43	880	NE/4, SE/4, S12, T9N, R56E	MAY 06	SEP 06	MAR 08	3,897	Producer
Makoil, Inc.	Dry Lake 21-21R	881	NE/4, NW/4, S21, T8N, R56E	JUN 06	MAY 08	MAY 08	3,735	P&A
Tierra Nevada Exploration Partners, LP.	Golden Eye 1	883	NW/4, SW/4, S10, T8N, R57E	AUG 06				Expired
Energy Operations Nevada LP.	Able Springs 1	884	NE/4, NE/4, S5, T5N, R55E	JAN 07				Expired
Energy Operations Nevada LP.	Able Springs 2	885	SE/4, SW/4, S8, T5N, R55E	JAN 07				Expired
Energy Operations Nevada LP.	Able Springs 3	886	SW/4, SE/4, S7, T5N, R55E	JAN 07				Expired
Eagle Exploration, Inc.	Rio Blanco 3	892	SW/4, NW/4, S18, T9N, R62E	APR 07				Expired
Makoil Inc.	East Inselberg 36-33X	893	NW/4, SW/4, S36, T10N, R56E	JUN 07				Expired
Meritage Energy Company	Eagle Springs 33-36	894	SE/4, NW/4, S36, T9N, R57E	JUN 07				Expired
Makoil Inc.	Trap Spring No. 27-41	899	NE/4, NE/4, S27, T9N, R56E	APR 08	DEC 08		*5,000	Idle
Makoil Inc.	East Inselberg No. 36-43	901	NE/4, SE/4, S36, T10N, R56E	MAY 08	JUN 08	JUL 08	1,575	P&A
Makoil Inc.	San Springs No. 15-41	902	NE/4, NE/4, S15, T7N, R56E	MAY 08				Not Drilled
Richardson Operating	RR Valley Federal No. 1	904	NW/4, NW/4, S10, T7N, R55E	SEP 08	OCT 08	OCT 08	1,680	P&A(?)
Richardson Operating	RR Valley Federal No. 2	906	SW/4, SW/4, S1, T7N, R55E	SEP 08				Not Drilled
Richardson Operating	RR Valley Federal No. 3	907	SW/4, SW/4, S23, T7N, R56E	SEP 08				Not Drilled
Makoil, Inc.	Munson Ranch No. 7-12	908	SW/4, SW/4, S7, T9N, R57E	OCT 08				Not Drilled
Makoil Inc.	Munson Ranch No. 13-34	910	SW/4, SE/4, S13, T9N, R56E	DEC 08				Not Drilled
Makoil Inc.	Munson Ranch No. 12-23X	911	NE/4, SW/4, S12, T9N, R56E	DEC 08				Not Drilled
PERSHING COUNTY								
Evans-Barton Ltd.	Kyle Spring No. 12-13D	759	NW/4, SW/4, S12, T29N, R36E	JUL 95	JUL 95	AUG 95	1,000	Testing
Evans-Barton, Ltd.	Kyle Spring No. 11-14	791	SW/4, SW/4, S11, T29N, R36E	OCT 96	NOV 96	NOV 96	2,622	Testing
Evans-Barton Ltd.	Kyle Spring No. 11-43	821	NE/4, SE/4, S11, T29N, R36E	JUL 98	SEP 98	DEC 02	865	Testing
Evans-Barton Ltd.	Kyle Spring No. 11-42A	838	NE/4, SE/4, S11, T29N, R36E	JUL 01	AUG 01		*625	Testing
Evans-Barton, Ltd	Kyle Spring No. 12-12	868	SW/4, NW/4, S12, T29N, R36E	OCT 04	DEC 04		*1,200	Testing
WHITE PINE COUNTY								
Geyser Petroleum	Pipeline Canyon No. 1	870	NE/4, SW/4, S28, T15N, R62E	JAN 05	MAR 05	SEP 05	5,280	Drilled
Energy Operations Nevada LP	Yankee Mine West No. 3	890	NW/4, NE/4, S21, T21N, R57E	FEB 07				Expired
Fasken Oil and Ranch, LP	Noah No. 1	895	SW/4, SE/4, S31, T26N, R55E	JUN 07	MAR 08	APR 08	7,080	P&A
EOG Resources	Sugarloaf No. 1-17	903	SW/4, SW/4, S17, T18N, R60E	SEP 08	NOV 08	DEC 08	3,500	P&A
Makoil, Inc.	Cabin Spring No. 18-44	905	SE/4, SE/4, S18, T21N, R59E	SEP 08				Not Drilled

P&A: Plugged and abandoned, TA: Temporarily abandoned, *: permitted depth, which is given when the actual depth is not available

EXPLORATION

Thirteen wells were permitted for oil and gas in 2008, down from 15 permitted in 2007. Eight wells were spudded in 2008, one more than in 2006. Drilling was completed on six of these wells, which were plugged and abandoned, one well was temporarily abandoned, and one was still being drilled at the end of the year. One well spudded in 2007 was completed in 2008 and plugged and abandoned. One well spudded in 2006 and redrilled in 2007 was completed to 3,897 feet as a producer in 2008. These wells totaled 35,877 feet, down 15% from 42,272 feet in 2007. One well permit issued in 2006 expired in 2008. One well drilled in 2005 was still waiting for a completion rig.

Ten wells drilled between 1993 and 2007 continued to be listed as either temporarily abandoned or testing.

One rig operated during the January/February, May/June, and July/August periods. No rigs operated during the March/April period. Two drill rigs operated during the September/October and November/December periods.

In 2008, 1,576 oil leases were in effect in Nevada, which is a decrease of 33% from 2007. These covered 4,158,721 acres, which an increase of 1%. This is about 9% of the public lands managed by the U. S. Bureau of Land Management (BLM) in Nevada and covers an area larger than the state of Connecticut.

On March 11, 2008, the Nevada State Office of the Bureau of Land Management (NSO-BLM) held an oil and gas lease sale on 225 parcels covering 400,145 acres in Elko, Esmeralda, Eureka, Mineral, Nye, and White Pine Counties. The bids totaled $1,090,434.75 on 63 parcels covering 90,746 acres, which averaged $12.02 per acre. The three highest bids were all made by Dolar Energy, LLC, of Midvale, Utah, and were $160.00 per acre for Parcel 101 covering 240 acres in a portion of section 32; $150.00 per acre for Parcel 100 covering 1,040 acres portions of sections 17, 20, 28, and 29; and $110.00 per acre for Parcel 99 covering 240 acres in a portion of section 16. All parcels were in T9N, R57E in Nye County. Five parcels brought between $25.00 and $70.00 per acre, four parcels brought between $10.00 and $16.00 per acre, 13 parcels brought between $2.50 and $9.50 per acre, and the rest went for the $2.00 per acre minimum (*IHS Drilling Wire*, Rocky Mountain Region, Newsletter Edition, Section I, February 1, 2008; *IHS Drilling Wire*, Rocky Mountain Region, Northern Edition, Section I, March 14, 2008).

On June 10, 2008, the NSO-BLM held an oil and gas lease sale on 94 parcels covering 157,947 acres in Elko, Eureka, Lincoln, Nye, and White Pine Counties. The bids totaled $949,539.00 on 20 parcels covering 24,074 acres, which averaged $39.44 per acre. The two highest bids were made by made by Focus Energy USA, Inc. of Houston, Texas, and were $575.00 per acre for Parcel 32 covering 789 acres covering portions of sections 16, 17, 18, and 19, T8N, R57E in Nye County and $125 per acre for Parcel 37 covering 240 acres in portions of sections 11 and 23, T13N, R57E in White Pine County. The highest bid is an apparent record for a Nevada tract offered at a BLM competitive lease sale. The third highest bid was $100 per acre by EQ Energy, LLC, of Las Vegas, Nevada, for parcel 29 covering 200 acres in section 25, T9N, R56E in Nye

County. Five parcels brought bids between $30.00 and $80.00 per acre, three parcels brought bids between $9.00 and $17.50, and the rest brought the $2.00 per acre minimum (*IHS Drilling Wire*, Rocky Mountain Region, Newsletter Edition, Section I, May 2, 2008; *IHS Drilling Wire*, Rocky Mountain Region, Northern Edition, Section I, June 16, 2008).

On September 9, 2008, the NSO-BLM held an oil and gas lease sale on 266 parcels covering 496,738 acres in Elko, Esmeralda, Eureka, Humboldt, Lincoln, Mineral, Nye, and White Pine counties. The bids totaled $666,199.00 on 135 parcels covering 256,775 acres, which averaged $2.59 per acre. The highest bid was $53.00 per acre made by Charter Post Exploration, LLC, of Reno, Nevada, for Parcel 154 covering 923 acres in portions of sections 4, 5, and 6, T7N, R57E in Nye County. The second highest bid was $11.00 per acre by Pacer Energy Acquisitions, LLC, of Gillette, Wyoming, for Parcel 169 covering 2,550 acres in portions of sections 30, and 31 and all of sections 29 and 32, T27N, R59E, in Elko County. The third highest bid was $8 per acre by Energy Operations Nevada of Tulsa, Oklahoma, for Parcel 34 covering 2,560 acres in all of sections 22, 23, 26, and 27, T18N, R50E, in Eureka County. Twelve parcels brought bids between $3.00 and $7.00 the $2.00 per acre minimum, and the rest brought the $2.00 per acre minimum (*IHS Drilling Wire*, Rocky Mountain Region, Four Corners Edition, Section I, July 30, 2008; *IHS Drilling Wire*, Rocky Mountain Region, Southeastern Edition, Section I, September 11, 2008).

On December 9, 2008, the NSO-BLM held an oil and gas lease sale on 194 parcels covering 386,480 acres in Elko, Eureka, Nye, and White Pine Counties. The bids totaled $416,154 on 96 parcels covering 207,731 acres, which averaged $2.00 per acre. The highest bid was $6 per acre made by the Makoil, Inc., of Las Vegas, NV, for Parcel 24 covering 162 acres in section 1, T9N, R56E in Nye County. All other bids brought the $2.00 per acre minimum (*IHS Drilling Wire*, Rocky Mountain Region, Four Corners Edition, Section I, November 12, 2008; U. S. Bureau of Land Management, written communication, 2009).

In 2004, Eden Energy of Vancouver, British Columbia, acquired about 190,000 acres in leases covering the Diamond Mountains along the border between Eureka and White Pine Counties. The leases, referred to as the Noah Project, cover a 53-mile long anticline, and the targeted potential reservoir rock is a 200- to 400-foot thick band of karsted Devonian dolomite. This dolomite is also the producing formation for the Grant

Canyon Field about 60 miles to the south. In April 2007, Eden Energy announced a farmout and joint venture agreement with Fasken Oil and Ranch, LP, of Midland, Texas. Fasken Oil and Ranch permitted Noah No. 1, which was completed to 7,080 feet as a dry hole in April 2008 and then plugged and abandoned. At a depth of 5,058 feet, the well reached its target, the sub-thrust Devonian Simonson dolomite, but no oil and gas shows were encountered, and no further tests were done. Neither Eden Energy nor Fasken Oil and Ranch decided to continue exploration on the Noah Project, and Eden Energy also announced it would not be renewing its Noah Project leases (www.edenenergycorp.com).

FEDERAL OIL AND GAS LEASES IN EFFECT IN FISCAL YEARS 2007 THROUGH 2008[1]

	NUMBER OF LEASES						ACREAGE					
	Competitive		Noncompetitive		Simultaneous[2]		Competitive		Noncompetitive		Simultaneous[2]	
County	FY07	FY08	FY07	FY08	FY07	FY08	FY07	FY08	FY07	FY08	FY07	FY08
Carson City	0	0	0	0	0	0	0	0	0	0	0	0
Churchill	2	2	2	2	0	0	5,100	5,100	5,093	5,093	0	0
Clark	0	0	6	5	0	0	0	0	9,340	7,100	0	0
Douglas	0	0	0	0	0	0	0	0	0	0	0	0
Elko	278	153	327	248	0	0	349,724	248,502	801,174	673,908	0	0
Esmeralda	11	0	7	0	0	0	16,535	0	10,172	0	0	0
Eureka	239	119	204	120	1	1	317,316	195,645	532,892	373,614	622	622
Humboldt	0	0	0	0	0	0	0	0	0	0	0	0
Lander	0	0	0	0	0	0	0	0	0	0	0	0
Lincoln	39	39	19	16	0	0	38,525	83,325	59,199	44,707	0	0
Lyon	0	0	0	0	0	0	0	0	0	0	0	0
Mineral	2	0	14	11	0	0	4,149	0	32,968	29,452	0	0
Nye	379	255	207	164	20	20	306,915	279,668	494,295	427,693	7,311	7,311
Pershing	0	0	0	0	0	0	0	0	0	0	0	0
Storey	0	0	0	0	0	0	0	0	0	0	0	0
Washoe	0	0	0	0	0	0	0	0	0	0	0	0
White Pine	218	158	367	263	0	0	295,875	282,304	831,209	684,677	0	0
Total	1,168	726	1,153	829	21	21	1,334,139	1,904,544	2,776,332	2,246,244	7,933	7,933

[1]Data from the U.S. Bureau of Land Management. Fiscal years (FY) run from October 1 through September 30.

[2]These are the remaining leases that were issued under the simultaneous leasing program that was terminated by the December 22, 1987 amendment to the 1920 Mineral Leasing Act.

TRANSFERS

No transfers occurred in 2008.

NEVADA OIL PRODUCERS AND REFINERIES (*Nevada Oil Patch*; unpublished well files)

Company	Field/Refinery	Contact	Addresses, Phone and FAX Numbers, and Websites
Meritage Energy Company, LLC	Eagle Springs Ghost Ranch North Willow Creek Sand Dune	Thomas J. Corley	1600 Broadway, Suite 1360 Denver, CO 80202 Phone: 720-932-0220 FAX: 720-932-0224 Website: http://www.meritageenergy.com
Double D Nevada, LLC	Bacon Flat Sans Spring	Steve Durrett	2016 Grand Avenue, Suite A Billings, MT 59102 Phone: 406-294-5990 FAX: 406-294-5992
Frontier Exploration Company	Trap Spring	Andy Pierce	3006 Highland Drive, No. 206 Salt Lake City, UT 84106 Phone: 801-486-5555 FAX: 801-486-5575
Makoil, Inc.	Currant Duckwater Creek Ghost Ranch Kate Spring Trap Spring	Gregg Kozlowski	25391 Commercentre Drive, No. 120 Lake Forest, CA 92630 Phone: 949-462-9010 FAX: 949-462-9012 Website: http://www.makoil.com
Blackburn Oil and Gas	Blackburn	Michael O'Neal Rod Prosceno	1801 Broadway, No. 350 Denver, CO 80202 Phone: 303-297-2777
Grant Canyon Oil and Gas	Grant Canyon	Michael O'Neal Rod Prosceno	1801 Broadway, No. 350 Denver, CO 80202 Phone: 303-297-2777
Western General	Kate Spring	Rick Taylor	801 Noahs Star Street Las Vegas, NV 89145-0609 Phone: 702-233-1490
D.Y. Exploration, Inc.	Toano Draw	Dick Knapp	P. O. Box 5405 Boise, ID 83705-0405 Phone: 208-342-8901
Energy Income Fund, Inc	Currant Refinery		66 Miles South of Ely Ely, NV 89301 Phone: 775-863-0229

OTHER DEVELOPMENTS

In 2008, Ruby Pipeline, LLC, a subsidiary of the El Paso Corporation of Houston, Texas, North America's largest pipeline company and a major natural gas producer, initiated cultural and environmental studies for its proposed Ruby Pipeline Project. Work on a draft environmental impact statement (issued in the second quarter of 2009) was also performed. The Ruby Pipeline Project will be a 680-mile, 42-inch pipeline to

carry natural gas from the Opal Hub, Wyoming, to the Malin, Oregon, interconnect where it will supply Nevada and west coast markets. The initial capacity will be 1.2 billion cubic feet per day, which can be expanded to 2 billion cubic feet per day. In Nevada, the preferred route will be to enter from Utah approximately near Tecoma, pass through Elko County north of Wells and Elko and Humboldt County north of Winnemucca and the Black Rock Wilderness and south of the Sheldon National Refuge, and enter Oregon near the far northwest corner of Washoe County. The pipeline is anticipated to connect with the Paiute Pipeline in Humboldt County and is estimated to be ready for use in the first quarter of 2011 (www.rubypipeline.com).

On November 18, the BLM published in the *Federal Register* its final rules to establish policies and procedures to implement a commercial leasing program for managing federally-owned oil shale on federal lands (*Federal Register*, vol. 73, no. 223, Tuesday, November 18, 2008, Rules and Regulations, p. 69414-69487, Oil Shale Management-General; Final Rules). Though the new rules are specific to Colorado, Wyoming, and Utah, it should be noted that northeastern Nevada has an estimated 600 million barrels of shale oil in the lacustrine Eocene Elko Formation (12,000 barrels were produced between 1917 and 1924) and a potentially large but unestimated resource in related rocks (L. J. Garside, 1983, *Nevada Oil Shale*, Nevada Bureau of Mines and Geology Open-File report 83-5; S. W. Moore, H. B. Madrid, and G. T. Server, Jr., 1982, Results *of Oil-Shale Investigations In Northeastern Nevada*, U. S. Mineral Management Service Administrative Report; G. T. Server, Jr., and B. J. Solomon, 1983, *Geology and Oil Shale Deposits of the Elko Formation, Pinion Range, Elko County, Nevada*, U. S. Geological Survey Map MF-1546; B. J. Solomon and S. W. Moore, 1982, *Geology and Oil Shale Deposits of the Elko West Quadrangle, Elko County, Nevada*, U. S. Geological Survey Map MF-1410; B. J. Solomon and S. W. Moore, 1982*, Geology and Oil Shale Deposits of the Elko East Quadrangle, Elko County, Nevada*, U. S. Geological Survey Map MF-1421).

The Energy Policy Act of 2005 directed the secretaries of Agriculture, Commerce, Defense, Energy, and the Interior to designate corridors on federal land in 11 western states for oil, gas, and hydrogen pipelines and electricity transmission lines and related structures. These “energy corridors” were designated to be in Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming. The results were published November 2008 in four

volumes as *West-wide Energy Corridor Programmatic Final Environmental Impact Statement (EIS)* a. k. a. *Programmatic Final Environmental Impact Statement, Designation of Energy Corridors on Federal Land in 11 Western States* (DOE/EIS-0386). For more information and to view the EIS, visit the following website: corridoreis.anl.gov.

U. S. OIL PRODUCTION AND CONSUMPTION

According to the Energy Information Agency of the U. S. Department of Energy (http://www.eia.doe.gov), the total petroleum products supplied to the U. S. averaged 19.50 million barrels per day in 2008, down 5.7% from 20.68 million barrels per day in 2007 and down 6.3% from the all time high of 20.8 million barrels per day in 2005. Domestic crude oil production averaged 4.95 million barrels per day in 2008, down 2.3% from 5.06 million barrels per day in 2007. The annual production for 2008 has been the lowest since 1946 when production was 4.75 million barrels per day. Imported crude oil averaged 9.78 million barrels per day in 2008, down 2.5% from 10.03 million barrels per day in 2007, and down 3.4% from the all time high of 10.13 million barrels per day in 2005. Import crude oil still accounted for 66.3% of the total in 2008, down slightly from 66.5% in 2007. The average price of domestic oil increased 41.4% to $94.04 per barrel in 2008 from an average of $66.52 per barrel in 2007.

Directory of Mining and Milling Operations

by David A. Davis

Compiled from information supplied by the Nevada Division of Minerals and the Mine Safety and Training Section of the Division of Industrial Relations.
Sand and gravel operations with less than 100,000 tons annual production are not listed.
CIL = carbon-in-leach, CIP = carbon-in-pulp, HL = heap leach, ML = mill, N/A = not available, OP = open-pit mine, OS = other surface, UG = underground

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
CARSON CITY							
Black and Red Cinder Pits	Cinderlite Trucking, Inc.	S21, 22, T16N, R20E	cinder decorative stone	OP, ML	mining screening	2	1665 South Sutro Terrace Carson City, NV 89706 Phone: 775-882-4483 FAX: 775-882-1671 Web: http://www.cinderlite.com
Goni Pit	Cinderlite Trucking Corp.	S28, T16N, R20E	decomposed granite sand gravel	OP, ML	mining crushing screening	6	1665 South Sutro Terrace Carson City, NV 89706 Phone: 775-882-4483 FAX: 775-882-1671 Web: http://www.cinderlite.com
CHURCHILL COUNTY							
Celite Mine	World Minerals, Inc.	S8, 17, T19N, R26E	diatomite	OP	mining	2	100 Front St. Fernley, NV 89408 Phone: 775-575-2536 FAX: 775-575-1570 Web: http://www.worldminerals.com
Hazen Pit	A and K Earthmovers	S3; T19N, R26E	aggregate sand	OP, ML	mining crushing screening	14	P. O. Box 1059 1200 Auction Rd. Fallon, NV 89407 Phone: 775-423-6085 FAX: 775-423-8410 Web: http://www.akearthmovers.com
Huck Salt	Huck Salt Co.	S11, 12, 13, T16N, R31E; S7, T16N, R32E	salt	OS	mining solar evaporation	9	2900 Phritzie Lane Fallon, NV 89406 Phone: 775-423-2055 FAX: 775-423-0467
Lahontan Pit	Jack N. Tedford, Inc.	S5, 7; T18N, R28E	aggregate	OP, ML	mining crushing	6	1995 Champion Hills Dr. Reno, NV 89523-3886 Phone: 775-746-3388 FAX: 775-746-3398 Web: http://www.jntinc.com
Moltan Mine and Plant	Moltan Company, LP	S28, 32, T23N, R27E	diatomite	OP, ML	mining crushing drying packaging screening	44	P. O. Box 860 I-80 Frontage Rd. Fernley, NV 89408-0860 Phone: 775-423-6668 FAX: 775-423-6411 Web: http://www.moltan.com
Nightingale Pit	World Minerals, Inc.	S17, 18, 19, 20, T24N, R26E	diatomite	OP	mining	N/A	100 Front St. Fernley, NV 89408 Phone: 775-575-2536 FAX: 775-575-1570 Web: http://www.worldminerals.com
Noble Perlite Plant	Noble Acquisition, LLC	S24, T19N, R27E	perlite	ML	expanding	16	7525 Rockwood Place Fallon, NV 89406 Phone: 775-423-3997 Web: http://www.dicalite.com
Popcorn Mine	EP Minerals, LLC	S24, T16N, R28E; S19, T16N, R29E	perlite	OP	mining	1	640 Clark Station Rd. Sparks, NV 89434 Phone: 775-824-7700 FAX: 775-824-7715 Web: http://www.epminerals.com
Salt Wells Gravel Pit	Churchill County Road Dept.	S34; T18N, R30E	sand gravel	OP, ML	mining screening	2	330 North Broadway St. Fallon, NV 89406 Phone: 775-423-4133 FAX: 775-423-7285 Web: http://www.churchillcounty.org/roads
CLARK COUNTY							
Apex Landfill Pit	Las Vegas Paving Corp.	S19, T18S, R64E	sand gravel	OP, ML	mining crushing screening	22	4420 South Decatur Blvd. Las Vegas, NV 89103 Phone: 702-251-5800 FAX: 702-251-1968 Web: http://www.lasvegaspaving.com
Apex Quarry	CEMEX	S14, 22, 23, 26, 27, 34, 35, T18S, R63E	aggregate sand	OP, ML	crushing screening washing	3	7150 Pollock Dr. Las Vegas, NV 89119 Phone: 702-260-9900 FAX: 702-260-9902 Web: http://www.cemexusa.com
Apex Quarry and Plant	Chemical Lime Co.	S14, 22, 23, 26, 27, 34, 35, T18S, R63E	limestone	OP, ML	mining calcining crushing screening	119	P. O. Box 363068 North Las Vegas, NV 89036 Phone: 702-643-7702 FAX: 702-643-9517 Web: http://www.chemicallime.com
Blue Diamond Pit	Las Vegas Paving Corp.	S26, T22S, R60E	sand gravel	OP, ML	mining crushing screening	20	4420 South Decatur Blvd. Las Vegas, NV 89103 Phone: 702-251-5800 FAX: 702-251-1968 Web: http://www.lasvegaspaving.com

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
Boulder Ranch Quarry	Quarry 187, LLC (Wadley Construction Co.)	S15, 22, T23S, R63E	sand gravel	OP, ML	mining crushing screening	7	250 Pilot Rd., Suite No. 160 Las Vegas, NV 89120 Phone: 702-597-1010 FAX: 702-597-3406 Web:http://www.impactsandandgravel.com
Cactus Pit	Impact Sand and Gravel	S27, T22S, R61E	sand gravel	OP, ML	mining crushing screening	36	250 Pilot Rd., Suite No. 160 Las Vegas, NV 89120 Phone: 702-597-1010 FAX: 702-597-3406 Web:http://www.impactsandandgravel.com
East Pit	Various (U.S. Bureau of Land Management manages pit)	S2, 11, 12, 14, T21S, R62E	sand gravel	OP, ML	mining crushing screening		Bureau of Land Management 4701 North Torrey Pines Dr. Las Vegas, NV 89130-2301 Phone: 702-515-5000 Web: http://www.blm.gov
El Dorado Quarry	CEMEX	S11, T23S, R63E	sand gravel	OP, ML	mining crushing screening washing	19	7150 Pollock Dr. Las Vegas, NV 89119 Phone: 702-260-9900 FAX: 702-260-9902 Web: http://www.cemexusa.com
Georgia-Pacific Gypsum Plant	Georgia-Pacific Gypsum, LLC	S34, 35, T18S, R63E	gypsum	ML	crushing	97	P. O. Box 337350 11401 U. S. Highway 91 North Las Vegas, NV 89033 Phone: 702-643-8100 FAX: 702-643-2049 Web: http://www.gp.com
Henderson Plant	Chemical Lime Co.	S12, T22S, R62E	lime	ML	calcining	29	P. O. Box 127 BMI Complex 8000 West Lake Mead Dr. Henderson, NV 89015 Phone: 530-878-7368 FAX: 413-451-2474 Web: http://www.chemicallime.com
Jean Pit	Service Rock Products	S28, T24S, R60E	sand gravel	OP, ML	mining crushing screening	9	151 Cassia Way Henderson, NV 89014 Phone: 702-798-0568 FAX: 702-798-0580 Web: http://www.servicerock.com
Jean Quarry	Tutor Saliba Corp. (TPC Aggregates, LLC)	S33, T25S, R60E	aggregate	OP, ML	mining crushing screening	9	11411 Southern Highlands Parkway, Suite 140 Las Vegas, Nevada 89141 Phone: 702-889-4155 FAX 702-889-1713 Web: http://www.tutorsaliba.com
KMI Zeolite Plant	KMI Zeolite, Inc.	S3, T25S, R57E	zeolite	ML	processing	6	HCR 37 Box 52 3100 East Sandy Valley Road Sandy Valley, NV 89019 Phone: 702-723-5415 Web: http://www.kmizeolite.com
Lee Canyon Sand and Gravel Pit	Ready Mix, Inc.	S9; T17S, R58E	sand gravel	OP, ML	mining crushing screening	10	3430 East Flamingo Road, Suite 100 Las Vegas, NV 89021 Phone: 702-433-2090 FAX: 702-433-0189 Web: http://www.readymixinc.com
Lone Mountain	American Sand and Gravel, LLC	S36, T19S, R59E	sand gravel	OP, ML	mining gravity	21 (Combined all pits)	5260 Beesley Dr. Las Vegas, NV 89115 Phone: 702-452-1900 FAX: 702-651-0375 Web: http://americansandandgravel.com
Lone Mountain	Diamond Construction	S36, T19S, R59E	sand gravel	OP, ML	mining gravity	25 (Combined all pits)	7885 Westwind Rd. Las Vegas, NV 89139 Phone: 702-644-1016 FAX: 702-644-6541
Lone Mountain	Hollywood Gravel, Inc.	S35, T19S, R59E	sand gravel	OP, ML	mining crushing screening	3	3560 South Polaris Ave., No. 3 Las Vegas, NV 89103 Phone: 702-870-7094 FAX: 702-870-8114
Lone Mountain	Impact Sand and Gravel	S24, 36, T19S, R59E	sand gravel	OP, ML	mining crushing screening	30	250 Pilot Rd., Suite No. 160 Las Vegas, NV 89120 Phone: 702-597-1010 FAX: 702-597-3406 Web:http://www.impactsandandgravel.com
Lone Mountain	Las Vegas Paving Corp.	S35, 36, T19S, R59E; S2, T20S, R60E	sand gravel	OP, ML	mining crushing screening	12	4420 South Decatur Blvd. Las Vegas, NV 89103 Phone: 702-251-5800 FAX: 702-251-1968 Web: http://www.lasvegaspaving.com
Lone Mountain	Nevada Ready Mix Corp.	S36, T19S, R59E	sand gravel	OP, ML	mining crushing screening	80	601 West Bonanza Las Vegas, NV 89106 Phone: 702-457-1115 Web: http://www.nevadareadymix.com
Lone Mountain	Quality Sand and Gravel	S1, T20S, R59E	sand gravel	OP, ML	mining crushing screening	4	281 Commerce Park Ct. North Las Vegas, NV 89032 Phone: 702-646-3846 FAX: 702-646-3484
Lone Mountain Stocks Pit	Southern Nevada Paving	S34, 35, T19S, R59E; S3, 4, 11, T20S, R59E	sand gravel	OP, ML	mining crushing screening	2	3555 Polaris Ave. Las Vegas, NV 89102 Phone: 702-876-5226

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
Lone Mountain Community Pit	Various (U.S. Bureau of Land Management manages pit)	S36, T19S, R59E; S1, T20S, R59E	sand gravel	OP, ML	mining crushing screening		Bureau of Land Management 4701 North Torrey Pines Dr. Las Vegas, NV 89130-2301 Phone: 702-515-5000 Web: http://www.blm.gov
Mesquite Community Pit	Precision Aggregate Produc t, LLC	S20, T13S, R71E	sand gravel	OP, ML	mining crushing screening	N/A	340 Falcon Parkway, Building 500C P. O. 2458 Mesquite, NV 89027 Phone: 702-346-1343 FAX: 702-345-3757 Web: http://www.precisionaggregate.com
Mesquite Community Pit	Rees's Enterprise	S20, T13S, R71E	sand gravel	OP, ML	mining crushing screening	5	1045 South Hoytsville Road Coalville, UT 84017-9741 Phone: 801-359-9781 Web: http://www.reesenterprised.net
Moapa Pit	CEMEX	S19, T13S, R66E	aggregate sand	OP	mining	16	7150 Pollock Dr. Las Vegas, NV 89119 Phone: 702-260-9900 FAX: 702-260-9902 Web: http://www.cemexusa.com
Moapa Pit	Ready Mix, Inc.	S2; T15S, R66E	aggregate	OP, ML	mining milling	16	3430 East Flamingo Road, Suite 100 Las Vegas, NV 89021 Phone: 702-433-2090 FAX: 702-433-0189 Web: http://www.readymixinc.com
Money Pit	Southern Nevada Liteweight, Inc.	S9, T25S, R61E	sand gravel	OP, ML	mining milling	10	1101 E. Alexander Rd. Las Vegas, NV 89030 Phone: 702-399-8621 FAX: 702-633-4062 Web: http://www.snlsand.com
North Jean Lake Pit	Various (U.S. Bureau of Land Management manages pit)	S22, T24S, R60E	sand gravel	OP, ML	mining crushing screening		Bureau of Land Management 4701 North Torrey Pines Dr. Las Vegas, NV 89130-2301 Phone: 702-515-5000 Web: http://www.blm.gov
PABCO Gypsum-Apex Pit	Pacific Coast Building Products, Inc.	S7, 18, T20S, R64E	gypsum	OP, ML	mining crushing washing	147	P. O. Box 364329 North Las Vegas, NV 89036 Phone: 702-407-3700 FAX: 702-643-6249 Web: http://www.paccoast.com
Pioneer Gypsum Mine	Pioneer Gypsum Mining Co.	S19, 20, 29, 30, T20S, R64E	gypsum	OP, ML	mining crushing screening	11	4880 Donovan Way North Las Vegas, NV 89081 Phone: 702-399-5939 FAX: 702-399-8353
Pipes Pit	Pipes Paving	S1, T20S, R59E	sand gravel	OP, ML	mining crushing screening	3	3529 Clayton St. North Las Vegas, NV 89032 Phone: 702-647-1162 FAX: 702-647-2387
Pittman Detention Pit	Aggregate Industries	S9, 10, T23S, R61E	sand gravel	OP, ML	mining crushing screening	5	3101 East Craig Rd. North Las Vegas, NV 89030 Phone: 702-649-6250 FAX: 702-642-2213 Web: http://www.aggregate-us.com
Providence Pit	Impact Sand and Gravel	S13, T19S, R59E	sand gravel	OP, ML	mining crushing screening	N/A	250 Pilot Rd., Suite No. 160 Las Vegas, NV 89120 Phone: 702-597-1010 FAX: 702-597-3406 Web:http://www.impactsandandgravel.com
Racetrack Pit	Las Vegas Paving Corp.	S24, T19S, R62E	sand gravel	OP, ML	mining crushing screening	4	4420 South Decatur Blvd. Las Vegas, NV 89103 Phone: 702-251-5800 FAX: 702-251-1968 Web: http://www.lasvegaspaving.com
Rainbow Quarries	Las Vegas Rock, Inc.	S34, T25S, R58E	gravel stone	OP, ML	mining crushing sawing	32	2 Prison Rd. P. O. Box 19118 Jean, NV 89019 Phone: 702-791-7625 FAX: 702-874-1881 Web: http://www.vegasrock.com
Salt Lake Highway Pit	Various (U.S. Bureau of Land Management manages pit)	S13, 24, T19S, R62E; S17, 18, 19, T19S, R63E	sand gravel	OP	mining		Bureau of Land Management 4701 North Torrey Pines Dr. Las Vegas, NV 89130-2301 Phone: 702-515-5000 Web: http://www.blm.gov
Sierra Ready Mix Quarry	Sierra Ready Mix, LLC	S6, 7, T25S, R60E	sand gravel	OP, ML	mining crushing screening	4	4150 Smily Rd. North Las Vegas, NV 89081 Phone: 702-664-3000 FAX: 702-664-1736 Web: http://www.sierrareadymix.com
Simplot Silica Products Pit	J. R. Simplot Co.	S11, T17S, R67E	silica sand	OP, ML	mining drying flotation screening	37	P. O. Box 308 Overton, NV 89040 Phone: 702-397-2667 FAX: 702-397-2798 Web: http://www.simplot.com
Sloan Quarry and Mill	Aggregate Industries	S13, T23S, R60E	sand gravel	OP, OS, ML	mining crushing screening	88	3101 East Craig Rd. North Las Vegas, NV 89030 Phone: 702-649-6250 FAX: 702-642-2213 Web: http://www.aggregate-us.com

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
Spanish Trails Pit	Hollywood Gravel, LP	S28, T21S, R60E	sand gravel	OP, ML	mining crushing screening	3	908 South Valley View Blvd. Las Vegas, NV 89107 Phone: 702-870-7094 FAX: 702-870-8114
Speedway Pit	American Sand and Gravel, LLC	S24, T19S, R62E	sand gravel	OP, ML	mining gravity	21 (Combined all pits)	5260 Beesley Dr. Las Vegas, NV 89115 Phone: 702-452-1900 FAX: 702-651-0375 Web: http://americansandandgravel.com
Speedway Pit	Diamond Construction	S19, T19S, R63E	sand gravel	OP, ML	mining gravity	25 (Combined all pits)	7885 Westwind Rd. Las Vegas, NV 89139 Phone: 702-644-1016 FAX: 702-644-6541
Spring Mountain Pit and Mill	Wells Cargo, Inc.	S10, 15; T21S, R60E	sand gravel	OP, ML	mining gravity	10	P. O. Box 81170 7770 West Spring Mountain Rd. Las Vegas, NV 89160 Phone: 702-876-5090 FAX: 702-876-3977 Web: http://www.wcilv.com
Starr Hills Pit	Diamond Construction	S35, T22S, R60E	sand gravel	OP	mining	N/A	7885 Westwind Rd. Las Vegas, NV 89139 Phone: 702-644-1016 FAX: 702-644-6541
Summerlin Pit	Aggregate Industries	S22, T20S, R59E	sand gravel	OP, OS, ML	mining crushing screening	5	3101 East Craig Rd. North Las Vegas, NV 89030 Phone: 702-649-6250 FAX: 702-642-2213 Web: http://www.aggregate-us.com
DOUGLAS COUNTY							
Bing Materials Pit and Plant	Bing Materials Co.	S16, T12N, R20E	sand gravel	OP, ML	mining crushing screening	9	P. O. Box 487 Minden, NV 89423 Phone: 775-265-3641
Dressler Pit	A and A Construction, Inc.	S32, 33, T12N, R20E	sand	OS, ML	mining screening	1	P. O. Box 995 Minden, NV 89423 Phone: 775-782-5957 FAX: 775-782-0322
ELKO COUNTY							
Big Ledge Mine and Dry Creek Mill	Spirit Minerals, LP	S26, T42N, R61E	barite	OP, ML	mining crushing grinding	28	P. O. Box 900 1120 Hacienda Ranch Rd. Wells, NV 89935 Phone: 775-782-5957 FAX: 775-782-0322
Elburz Pit	Vega Construction and Trucking Co.	S9, T33N, R52E	sand gravel	OP, ML	mining crushing screening	24	P. O. Box 1630 Elko, NV 89803 Phone: 775-738-5381 FAX: 775-738-6311
Hollister Mine	Rodeo Creek Gold, Inc., and Great Basin Gold, Inc.	N, R48E; S32, T	gold silver	UG	mining	135	P. O. Box 2610 Winnemucca, NV 89446 Phone: 775-623-6912 FAX: 775-623-5767 Web: http://www.greatbasingold.com
Jerritt Canyon Mine	Queenstake Resources USA, Inc.	T39-41N, R52-54E	gold silver mercury	UG, ML, CIL	mining heap leach milling roasting	N/A	HC31 Box 78 Elko, NV 89801 Phone: 775-738-5006 FAX: 775-758-9231 Web: http://www.yukon-nevadagold.com
Meikle Mine	Barrick Goldstrike Mines, Inc.	S12, 13, T36N, R50E	gold silver	UG, ML	mining milling roasting	774	P. O. Box 29 Elko, NV 89803 Phone: 775-778-8858 FAX: 775-778-8865 Web: http://www.barrick.com
Midas Mine	Newmont Mining Corp.	S21, 22, 27, 28, 33, 34; T39N, R46E	gold silver	UG, ML	mining milling	252	HC66 Box 125 Midas, NV 89414 Phone: 775-635-6423 FAX: 775-635-6460 Web: http://www.newmont.com
Pilot Peak Quarry and Plant	Graymont Western US., Inc.	S14, 15, 22, 23, 26, T34N, R68E	limestone	OP, ML	mining calcination rotary kiln	56	P. O. Box 2520 West Wendover, NV 89883 Phone: 775-483-5463 FAX: 775-483-5149 Web: http://www.graymont.com
Rossi Mine	BAROID/Halliburton Energy Services, Inc.	S14-16, 21-23, 26-28, 34-35, T37N, R49E	barite	OP, ML	mining	20	912 Dunphy Ranch Rd. Battle Mountain, NV 89820 Phone: 775-468-0515 FAX: 775-468-2060 Web: http://www.halliburton.com
Storm Project	Barrick Goldstrike Mines, Inc.	S12, 13, T36N, R49E	gold	UG, ML	mining roasting	104	P. O. Box 29 Elko, NV 89803 Phone: 775-748-1001 FAX: 775-748-1240 Web: http://www.barrick.com

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
ESMERALDA COUNTY							
Basalt Plant	Grefco Minerals, Inc.	S29, T2N, R34E	diatomite	OP, ML	drying milling	9	36994 Summit Lake Rd. Burney, CA 96013 Phone:775-573-2422 FAX: 775-573-2422 Web: http://www.dicalite.com
Blanco Mine	Vanderbilt Minerals Corp.	S22, T1N, R37E	clay	OP	bagging grinding screening	4	3561 East East Burgundy Dr. P. O. Box 6660 Pahrump, NV 89048 Phone: 775-537-6976 FAX: 775-537-6879 Web: http://www.rtvanderbilt.com
Lone Mountain Turquoise Mine	Lone Star Mining, LLC	S18, T1N, R41E	turquoise	OP	mining	2	P. O. Box 1601 Tonopah, NV 89049-1601 Phone: 775-482-5903
Royal Royston	Dean Otteson and Danny Otteson	S08, T5N, R40E	turquoise	OP	mining	2	P. O. Box 564 Tonopah, NV 89049 Phone: 775-482-9889
Rulco Potassium Sulfate Project	Rulco, LLC	S32, 33, T1N, R38.5E	potassium sulfate	OP, ML	crushing milling shipping	4	1019 CR330 Ignacio, CO 81137 Phone: 970-883-2468 FAX: 970-883-2469
Silver Peak Operations	Chemetall Foote Corp.	T2S, R39-40E	lithium carbonate	OS, ML	mining solar evaporation precipitation	66	P. O. Box 98 Silver Peak, NV 89047 Phone: 775-937-2222 FAX: 775-937-2250 Web: http://www.chemetall.com
EUREKA COUNTY							
Betze/Post Mine	Barrick Goldstrike Mines, Inc.	S23-26, T36N, R49E; S12, 20, 29, 30; T36N, R50E	gold	OP, CIL, HL, ML	mining heap leach milling roasting	1131	P. O. Box 29 Elko, NV 89803 Phone: 775-748-1001 FAX: 775-748-1240 Web: http://www.barrick.com
Carlin North - Genesis Complex	Newmont Mining Corp.	S33, T36N, R50E	gold	OP, HL, ML	mining bioleaching heap leach milling roasting	2224 (Combined Newmont Carlin Trend Operations)	P. O. Box 669 Carlin, NV 89822-0669 Phone: 775-778-4000 FAX: 775-778-4751 Web: http://www.newmont.com
Carlin North - Post and adjacent mines	Newmont Mining Corp.	S19, T36N, R50E	gold	OP, HL, ML	mining bioleaching heap leach milling roasting	2224 (Combined Newmont Carlin Trend Operations)	P. O. Box 669 Carlin, NV 89822-0669 Phone: 775-778-4000 FAX: 775-778-4751 Web: http://www.newmont.com
Carlin South - Carlin and adjacent mines	Newmont Mining Corp.	S14, T35N, R50E	gold	UG, HL, ML	mining bioleaching heap leach milling roasting	2224 (Combined Newmont Carlin Trend Operations)	P. O. Box 669 Carlin, NV 89822-0669 Phone: 775-778-4000 FAX: 775-778-4751 Web: http://www.newmont.com
Carlin South - Gold Quarry and adjacent mines	Newmont Mining Corp.	S3, T33N, R51E	gold	OP, HL, ML	mining bioleaching heap leach milling roasting	2224 (Combined Newmont Carlin Trend Operations)	P. O. Box 669 Carlin, NV 89822-0669 Phone: 775-778-4000 FAX: 775-778-4751 Web: http://www.newmont.com
Dunphy Mill	BAROID/Halliburton Energy Services, Inc.	S26, T33N, R48E	barite	ML	crushing gravity grinding	54	912 Dunphy Ranch Rd. Battle Mountain, NV 89820 Phone: 775-468-0515 FAX: 775-468-2060 Web: http://www.halliburton.com
Nevada Barth Iron Mine and Mill	Saga Exploration Co.	S7, T31N, R51E	iron	OP, ML	screening	3	2339 Dickerson Road Reno, NV 89503 Phone: 775-322-9994
Ruby Hill Mine	Barrick Goldstrike Mines, Inc.	S9-11, 14, 15, T19N, R53E	gold silver	OP, CIL, CIP, HL, ML	heap leach milling	136	P. O. Box 676 Eureka, NV 89316 Phone: 775-237-6060 FAX: 775-237-5408 Web: http://www.barrick.com
HUMBOLDT COUNTY							
Ashdown Mine	Ashdown Project, LLC	S14, T45N, R29E	molybdenum gold	UG, ML	mining flotation milling	78	1675 East Prater Way, Suite No. 102 Sparks, NV 89434 Phone: 775-941-0274 FAX: 775-941-0271 Web: http://www.win-eldrich.com/
Bonanza Opal Mine	Bonanza Opal Mines, Inc.	S6, 7, T45N, R26E	precious opal	OP	mining	1	P. O. Box 127 Denio, NV 89404 Phone: (Summer) 775-941-0111 Phone: (Winter) 864-597-1421 Web: http://www.bonanzaopals.net
Hycroft Mine	Allied Nevada Gold Corp	S26, T35N, R29E	gold silver	OP, HL	mining heap leach	156	P. O. Box 3030 Winnemucca, NV 89446 Phone: 775-623-5260 FAX: 775-623-0215 Web: http://www.alliednevada.com/

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
Kramer Hill Quartzite Quarry	James Hardie Building Prodt	S8, T35N, R40E	quartzite	OP	mining	N/A	3000 Waltham Way McCarran, NV 89434 (775) 355-3000 Web: http://www.jameshardie.com
Lone Tree Mine (Lone Tree Complex)	Newmont Mining Corp.	S1, 11, 13, 15, 23, T34N, R42E	gold silver	OP, HL, ML	mining flotation heap leach milling	57 (Combined Lone Tree, Mule Canyon, and Trenton Canyon)	P. O. Box 388 Valmy, NV 89438-0388 Phone: 775-635-6423 FAX: 775-635-6460 Web: http://www.newmont.com
Marigold Mine	Goldcorp, Inc.	S8, 9, 18-20; T33N, R43E	gold silver	OP, HL, ML	mining heap leach milling	260	P. O. Box 160 Valmy, NV 89438 Phone: 775-635-2317 FAX: 775-635-2551 Web: http://www.goldcorp.com
MIN-AD Mine	MIN-AD, Inc.	S28, T35N, R38E	dolomite	OP, ML	mining grinding	24	P. O. Box 39 Winnemucca, NV 89446 Phone: 775-623-5944 FAX: 775-623-9028 Web: http://www.min-ad.com
Rainbow Ridge Opal Mine	Rainbow Ridge Opal Mines, Inc.	S22, 23, T45N, R26E	opalized wood precious opal	OP	mining	1	P. O. Box 97 Denio, NV 89404 Phone: (Summer) 775-941-0270 Phone: (Winter) 541-548-4810 Web: http://www.nevadaopal.com
Royal Peacock Opal Mine	Walter Wilson	S30, T45N, R26E	precious opal	OP	mining	1	P. O. Box 165 Denio, NV 89404 Phone: (Summer) 775-941-0374 Phone: (Winter) 775-272-3201 Web: http://www.royalpeacock.com
Turquoise Ridge Joint Venture	Barrick Gold Corp.	S33, T39N, R42E	gold silver	UG	mining	392	HC 66 Box 220 Golconda, NV 89414-9702 Phone: 775-529-5001 FAX: 775-529-0753 Web: http://www..barrick.com
Twin Creeks Mine	Newmont Mining Corp.	S3-10, 15-22, 27-32, T39N, R43E	gold silver	OP, HL, ML	mining heap leach milling	570	P. O. Box 69 Golconda, NV 89414 Phone: 775-623-4300 FAX: 775-635-4602 Web: http://www.newmont.com
LANDER COUNTY							
3D Pit	John Davis Trucking Co.	S2, T32N, R45E	sand gravel	OP, ML	mining screening	5	P. O. Box 457 Battle Mountain, NV 89820 Phone: 775-635-2805 FAX: 775-635-8017
Argenta Mill	Baker Hughes Drilling Fluids	S6, T32N, R47E	barite	ML	gravity grinding	29	P. O. Box 277 Battle Mountain, NV 89820 Phone: 775-635-5441 FAX: 775-635-5455 Web: http://www.bakerhughes.com
Argenta Mine	Baker Hughes Drilling Fluids	S13, 14, T32N, R46E; S18, 19, T32N, R47E	barite	OP	mining	17	P. O. Box 277 Battle Mountain, NV 89820 Phone: 775-635-5441 FAX: 775-635-5455 Web: http://www.bakerhughes.com
Battle Mountain Grinding Plant	M-I Swaco	S18, T32N, R45E	barite	ML	gravity grinding	40	P. O. Box 370 2 North Second Street Battle Mountain, NV 89820 Phone: 775-635-5135 FAX: 775-635-2191 Web: http://www.miswaco.com
Blue Ridge Mine	Jay and Grace Wintle	S19, 20, 29, 30, T28N, R47E	turquoise	OP	mining screening sorting	3	810 Sheep Creek Road Battle Mountain, NV 89820 Phone: 775-635-5231
Cortez Hills Mine	Barrick Cortez, Inc.	S31, T27N, R48E	gold	UG, ML	mining milling	151	HC 66 Box 1250 Crescent Valley, NV 89821 Phone: 775-468-4400 FAX: 775-468-4496 Web: http://www.barrick.com
Cortez Pipeline Mine	Barrick Cortez, Inc.	S31, T28N, R47E	gold	OP, HL, ML	mining heap leach milling	659	HC 66 Box 1250 Crescent Valley, NV 89821 Phone: 775-468-4400 FAX: 775-468-4496 Web: http://www.barrick.com
Greystone Mine	M-I Swaco	S35, T28N, R45E	barite	OP, ML	mining gravity	48	P. O. Box 370 2 North Second Street Battle Mountain, NV 89820 Phone: 775-635-5135 FAX: 775-635-2191 Web: http://www.miswaco.com
Mule Canyon Mine (Lone Tree Complex)	Newmont Mining Corp.	S4, T31N, R47E	gold silver	OP	mining	57 (Combined Lone Tree, Mule Canyon, and Trenton Canyon)	P. O. Box 388 Valmy, NV 89438-0388 Phone: 775-635-6423 FAX: 775-635-6460 Web: http://www.newmont.com
Phoenix Mine	Newmont Mining Corp.	S22, 27, 33, 34, T31N, R43E	gold silver	OP, HL, ML	mining heap leach	497	P. O. Box 1657 Battle Mountain, NV 89820 Phone: 775-635-6423 FAX: 775-635-6460 Web: http://www.newmont.com

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
Trenton Canyon Mine	Newmont Mining Corp.	S7, 18, 19, T32N, R43E	gold silver	OP, HL, ML	heap leach	57 (Combined Lone Tree, Mule Canyon, and Trenton Canyon)	P. O. Box 388 Valmy, NV 89438-0388 Phone: 775-635-6423 FAX: 775-635-6460 Web: http://www.newmont.com
LINCOLN COUNTY							
Tenacity Perlite Mine and Mill	Wilkin Mining and Trucking Co., Inc.	S34, T4S, R62E	perlite	OP, ML	mining crusher	7	HC 34 Box 199 Caliente, NV 89008 Phone: 775-728-4463 FAX: 775-728-4456
LYON COUNTY							
Adams Claim Gypsum Mine	Art Wilson Co.	S25, T16N, R20E	gypsum limestone	OP, ML	mining crushing grinding screening pelletizing	47	P. O. Box 20160 Carson City, NV 89702-1160 Phone: 775-882-0700 FAX: 775-882-0790 Web: http://www.awgypsum.com
Celite Plant	World Minerals, Inc.	S11, T20N, R24E	diatomite	ML	classification drying grinding milling	12	100 Front St. Fernley, NV 89408 Phone: 775-575-2536 FAX: 775-575-1570 Web: http://www.worldminerals.com
Dayton Materials	Granite Construction Co.	S23, T16N, R21E	aggregate sand	OP, ML	mining crushing screening washing	12	P. O. Box 2087 1900 Glendale Ave. Sparks, NV 89432 Phone: 775-355-3434 FAX: 775-329-2803 Web: http://www.graniteconstruction.com
Hazen Pit	EP Minerals, LLC	S6, 9, T19N, R26E	diatomite	OP	mining	2	640 Clark Station Rd. Sparks, NV 89434 Phone: 775-824-7700 FAX: 775-824-7715 Web: http://www.epminerals.com
Mull Lane Pit	Gopher Construction Co.	24, T20N, R24E	aggregate	OP	mining crushing screen	4	1625 East Newlands Dr. P. O. Box 801 Fernley, NV 89408 Phone: 775-575-4333 FAX: 775-575-1137
Nevada Cement Mine	Nevada Cement Co.	S3-6, 9, T19N, R25E; S31-33, T20N, R25E	limestone	OP	mining	14	P. O. Box 840 Fernley, NV 89408 Phone: 775-575-2281 FAX: 775-575-4387 Web:http://www.eaglematerials.com
Nevada Cement Plant	Nevada Cement Co.	S10, 11, T20N, R24E	limestone clay	ML	crushing dry milling rotary kiln	109	P. O. Box 840 Fernley, NV 89408 Phone: 775-575-2281 FAX: 775-575-4387 Web:http://www.eaglematerials.com
MINERAL COUNTY							
Denton-Rawhide Mine	Kennecott Rawhide Mining Co.	S4, 5, 8, 16, 17, T13N, R32E	gold silver	OP, HL	heap leach	20	P. O. Box 2070 Fallon, NV 89407 Phone: 775-945-1015 FAX: 775-945-1213 Web: http://www.kennecottminerals.com
NYE COUNTY							
Ash Meadows Plant	Zeox Mineral Materials Corp.	S25, T18S, R50E	unaltered ash zeolite	ML	crushing screening packaging	6	HCR 70 Box 7006 East Spring Meadows Rd. Amargosa Valley, NV 89020 Phone: 775-372-5524 FAX: 775-372-5524 Web: http://www.zeoxcorporation.com
Cinder Cone Pit	Allied Building Materials, Inc./Cind-R-Lite Company	S36, T14S, R48E; S31, T14S, R49E; S1, T15S, R48E; S6, T15S, R49E	cinder	OP, ML	mining screening	17	4745 Mitchell St. North Las Vegas, NV 89081 Phone: 702-651-1550 FAX: 702-651-1551 Web: http://www.abmnv.com
Gabbs Mine	Premier Chemicals, LLC	S22, 23, 25-27, 34-36, T12N, R36E	magnesite	OP, ML	mining calcining sizing	91	P. O. Box 177 Gabbs, NV 89409 Phone: 775-285-2601 FAX: 775-285-4021 Web: http://www.premierchemicals.com
Gamebird Pit	Wulfenstein Construction Co., Inc.	S2, T20S, R53E	sand gravel	OP	mining crushing screening	2	2281 East Postal Dr. P. O. Box 38 Pahrump, NV 89048 Phone: 702-727-5900 FAX: 702-727-6010
IMV Pits	Mud Camp Mining Co., LLC	S28, 29, T17S, R49E	clay	OP, ML	mining classification crushing grinding screening	30	HCR 70 Box 549 Amargosa Valley, NV 89020 Phone: 775-372-5341 FAX: 775-372-5640 Web: http://www.imvnevada.com

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
New Discovery Mine White Caps Mill	Vanderbilt Minerals Corp.	S13, 24, T12S, R46E; S18, 19, T12S, R47E	clay	OP, UG, ML	bagging grinding screening	9	3561 East Burgundy Dr. P. O. Box 6660 Pahrump, NV 89048 Phone: 775-537-6976 FAX: 775-537-6879 Web: http://www.rtvanderbilt.com
Pahrump Community Pit	Various (U.S. Bureau of Land Management manages pit)	S28, 29, T20S, R54E	sand gravel	OP	mining		Bureau of Land Management 4701 North Torrey Pines Dr. Las Vegas, NV 89130-2301 Phone: 702-515-5000 Web: http://www.blm.gov
Round Mountain Mine (Smoky Valley Common Operation)	Round Mountain Gold Corp.	S19, 20, 29, 30, T10N, R44E	gold silver	OP, HL, ML	mining gravity heap leach milling	715	P. O. Box 480 Smoky Valley Mine Rd. Round Mountain, NV 89405 Phone: 775-377-2366 FAX: 775-377-3224 Web: http://www.kinross.com
PERSHING COUNTY							
Buff-Satin Mine	Vanderbilt Minerals Corp.	S2, T27N, R32E	clay	OP	bagging grinding screening	4	3561 East Burgundy Dr. P. O. Box 6660 Pahrump, NV 89048 Phone: 775-537-6976 FAX: 775-537-6879 Web: http://www.rtvanderbilt.com
Coeur Rochester Mine	Coeur Rochester, Inc.	S9-11, 15, 16, 21, 27, 28, T28N, R34E	silver gold	OP, HL, ML	mining heap leach milling	38	P. O. 1057 Lovelock, NV 89419 Phone: 775-273-7995 FAX: 775-273-7423 Web: http://www.coeur.com
Colado Mines	EP Minerals, LLC	S6, 7, 16, 18, 21, 25, T28N, R29E	diatomite perlite	OP, OS	mining	30	P. O. Box 959 150 Coal Canyon Road Lovelock, NV 89419 Phone: 775-824-7540 FAX: 775-824-7582 Web: http://www.epminerals.com
Colado Plant	EP Minerals, LLC	S33, T28N, R32E	diatomite perlite	ML	drying classification grinding calcining	87	P. O. Box 959 150 Coal Canyon Road Lovelock, NV 89419 Phone: 775-824-7600 FAX: 775-824-7633 Web: http://www.epminerals.com
Empire Quarry	United States Gypsum Co.	S31, T31N, R24E	gypsum	OP	mining	9	P. O. Box 130 Empire, NV 89405 Phone: 775-557-2341 FAX: 775-557-2212 Web: http://www.usg.com
Florida Canyon Mine	Florida Canyon Mining, Inc.	S1-4, 9-15, T31N, R33E; S37-39, T31.5N, R33E; S33-35, T32N, R33E	gold silver	OP, HL, ML	mining heap leach milling	127 (Combined Florida Canyon and Standard Mines)	P. O. Box 330 Imlay, NV 89418 Phone: 775-538-7300 FAX: 775-538-7324 Web: http://www.jipangu.co.jp
Nassau (Section 8) Mine	American Colloid Co.	S8, T27N, R33E	clay	OP	mining shipping	0	P. O. Box 2010 Belle Fourche, SD 57717 Phone: 605-892-6371 FAX: 605-892-3178 Web: http://www.colloid.com
Standard Mine	Florida Canyon Mining, Inc.	S1, 12, T30N, R33E; S35, T31N, R33E	gold silver	OP, HL, ML	mining heap leach milling	127 (Combined Florida Canyon and Standard Mines)	P. O. Box 330 Imlay, NV 89418 Phone: 775-538-7300 FAX: 775-538-7324 Web: http://www.jipangu.co.jp
W. Glen Sexton Family Trust	Nutritional Additives Corp.	S5, T34N, R38E	dolomite	OP, ML	mining milling	3	415 Wellington Street Winnemucca, NV 89445 Phone: 775-623-1151 FAX: 775-623-1153
STOREY COUNTY							
Sierra Stone Quarry and Plant	CEMEX	S26, 33, 34, T19N, R22E	sand gravel	OS, ML	mining crushing screening	8	333 Galletti Way Reno, NV 89512 Phone: 775-342-0500 FAX: 775-342-0554 Web: http://www.cemexusa.com
Basalite Dayton Pit	Basalite Concrete Products	S8, 9, 16, 17, T17N, R22E	sand gravel	OS, ML	mining crushing milling	5	2600 Boeing Way Carson City, NV 89701 Phone: 775-882-9336 FAX: 775-887-1025 Web: http://basalite.paccoast.com
Clark Mill	EP Minerals, LLC	S35, T20N, R22E	diatomite	ML	calcining classification drying grinding	54	640 Clark Station Rd. Sparks, NV 89434 Phone: 775-824-7700 FAX: 775-824-7715 Web: http://www.epminerals.com
Clark Mine	EP Minerals, LLC	S27, 33, 34, T20N, R23E	diatomite	OP	mining	12	640 Clark Station Rd. Sparks, NV 89434 Phone: 775-824-7700 FAX: 775-824-7715 Web: http://www.epminerals.com

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/Plant Name	Operator	Location	Commodity	Type	Process/Activity	Company/Contract Employees	Address
Trico Pit	Gopher Construction Co.	S33, T20N, R22E	aggregate	OP	mining crushing	7	1625 East Newlands Dr. P. O. Box 801 Fernley, NV 89408 Phone: 775-575-4333 FAX: 775-575-1137
WASHOE COUNTY							
Bella Vista Pit	A and K Earthmovers	S3, 4, T18N, R20E; 33, 34, T19N, R20E	sand rock	OP, ML	mining crushing screening	9	P. O. Box 1059 1200 Auction Rd. Fallon, NV 89407 Phone: 775-423-6085 FAX: 775-423-8410 Web: http://www.akearthmovers.com
CEMEX Paiute Pit and Plant	CEMEX	S2, 27, 34, T21N, R24E	sand gravel	OP	mining	22	10 Hill Ranch Road Wadsworth, NV 89442 Phone: 775-575-1162
Empire Mill	United States Gypsum Co.	S11, 13, T31N, R23E	gypsum	ML	calcining crushing	98	P. O. Box 130 Empire, NV 89405 Phone: 775-557-2341 FAX: 775-557-2212 Web: http://www.usg.com
Golden Valley Pit	A and K Earthmovers	S11, 12, T19N, R20E	aggregate	OP, ML	mining screening	3	P. O. Box 1059 1200 Auction Rd. Fallon, NV 89407 Phone: 775-423-6085 FAX: 775-423-8410 Web: http://www.akearthmovers.com
Hidden Canyon	Granite Construction Co.	S16, T20N, R20E	aggregate	OP, ML	mining crushing screening washing	12	P. O. Box 2087 1900 Glendale Ave. Sparks, NV 89432 Phone: 775-355-3434 FAX: 775-329-2803 Web: http://www.graniteconstruction.com
Lockwood Quarry	Granite Construction Co.	S17, T19N, R21E	aggregate	OP, ML	mining crushing screening washing	19	P. O. Box 2087 1900 Glendale Ave. Sparks, NV 89432 Phone: 775-355-3434 FAX: 775-329-2803 Web: http://www.graniteconstruction.com
Mustang Pit	Sierra Nevada Construction, Inc.	S4, T19N, R21E	aggregate	OP, ML	mining crushing screening	8	P.O. Box 50760 2055 East Gregg St. Sparks, NV 89435-0760 Phone: 775-355-0420 FAX: 775-355-0535 Web: http://www.snc.biz
Rilite Aggregate	Rilite Aggregate Co.	S23, T18N, R20E	sand rock	OP, ML	mining crushing	10	3025 Mill St. Reno, NV 89502 Phone: 775-329-8842 FAX: 775-329-3593
Spanish Springs Quarry	Martin Marietta Materials, Inc.	S15, 22, T21N, R20E	aggregate	OP, ML	mining crushing screening	25	11059 Pyramid Lake Rd. Sparks, NV 89436 Phone: 775-425-4455 FAX: 775-425-5131 Web: http://www.martinmarietta.com
Terraced Hill Clay Mine	Nevada Cement Co.	S13, 14, T27N, R19E	clay	OP, ML	mining milling	3	P. O. Box 840 Fernley, NV 89408 Phone: 775-575-2281 FAX: 775-575-4387 Web:http://www.eaglematerials.com
Tracy Pit	Western Nevada Materials	S27, 20N, 22E	sand gravel	OP	mining crushing	8	50 Freeport Blvd., No. 11 Sparks, NV 89431-6254 Phone: 775-359-9988
WHITE PINE COUNTY							
Bald Mountain Mine	Barrick Gold of North America	S14, 15, 19, 20, T24N, R57E	gold silver mercury	OP, HL, ML	mining heap leach milling	205	P. O. Box 2706 Elko, NV 89803 Phone: 775-237-7100 FAX: 775-237-5818 Web: http://www.barrick.com
Mount Moriah Quarry	Mount Moriah Stone Quarries, LLC	S22, 23, 26, 27, 33-36, T16N, R70E	building stone decorative stone	OP	mining	59	P. O. Box 70 No. 10 Hatch Rock Rd. Baker, NV 89311 Phone: 435-855-2232 FAX: 435-855-2332 Web: http://mtmoriahstone.com
Robinson Mine	Robinson Nevada Mining Co.	S6, 8, 17, 18, T16N, R62E	copper gold silver molybdenum	OP, ML	mining milling	540	P. O. Box 382 Ruth, NV 89319 Phone: 775-289-7000 FAX: 775-289-7104 Web: http://www.quadramining.com

Nevada Bureau of Mines and Geology

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