Nevada Bureau of
Mines and Geology

Special Publication MI-2000

The Nevada Mineral Industry 2000

Metals

Industrial Minerals

Oil and Gas

Geothermal

Exploration

Development

Mining

Processing

This report, twenty-second of an annual series, describes mineral, oil and gas, and geothermal activities and accomplishments in Nevada in 2000: production statistics, exploration and development including drilling for petroleum and geothermal resources, discoveries of orebodies, new mines opened, and expansion and other activities of existing mines. Statistics of known gold and silver deposits, and directories of mines and mills are included.

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Contents

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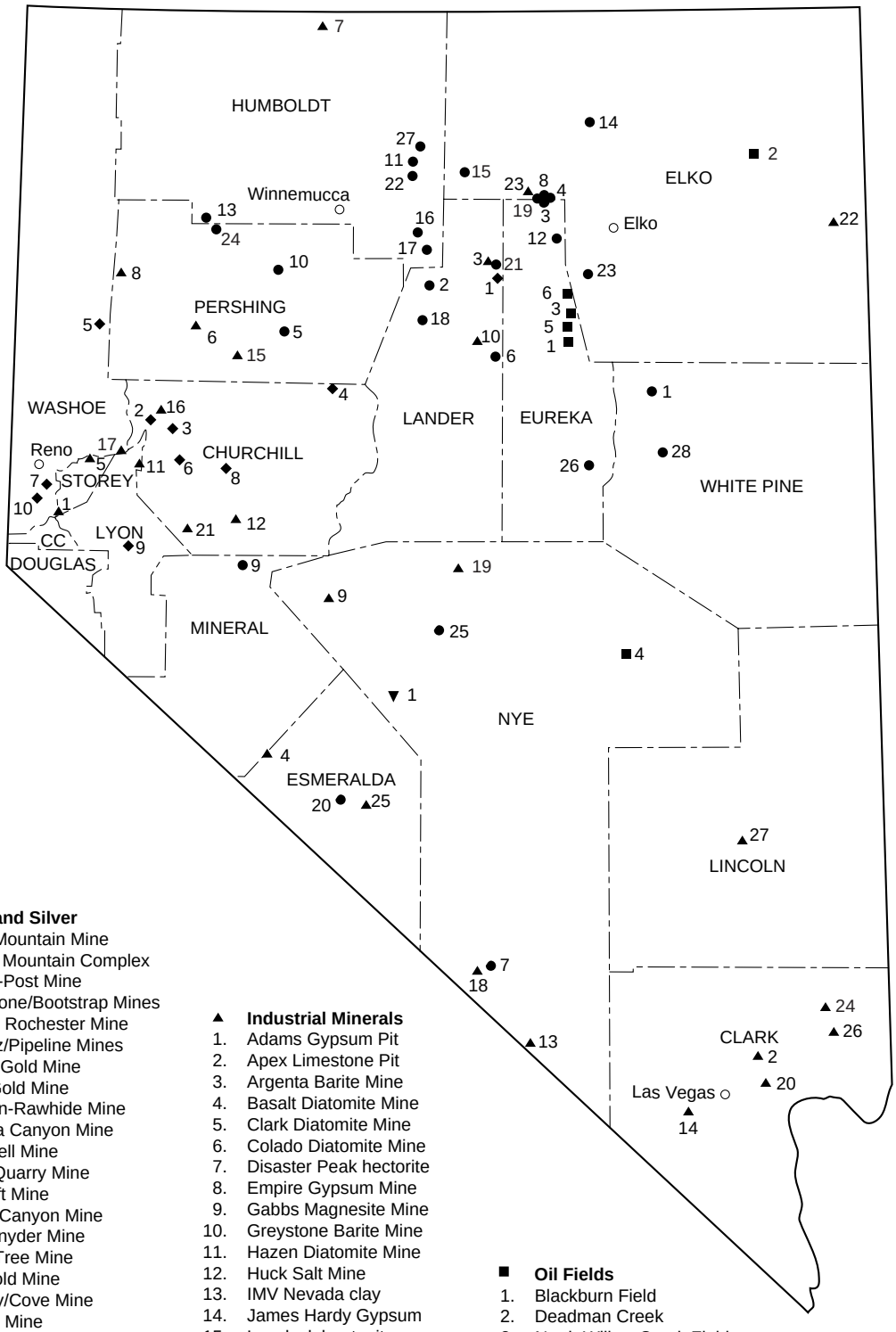


● Gold and Silver

1. Bald Mountain Mine
2. Battle Mountain Complex
3. Betze-Post Mine
4. Capstone/Bootstrap Mines
5. Coeur Rochester Mine
6. Cortez/Pipeline Mines
7. Daisy Gold Mine
8. Dee Gold Mine
9. Denton-Rawhide Mine
10. Florida Canyon Mine
11. Getchell Mine
12. Gold Quarry Mine
13. Hycroft Mine
14. Jerritt Canyon Mine
15. Ken Snyder Mine
16. Lone Tree Mine
17. Marigold Mine
18. McCoy/Cove Mine
19. Meikle Mine
20. Mineral Ridge Mine
21. Mule Canyon Mine
22. Pinson Mine
23. Rain Mine
24. Rosebud Mine
25. Round Mountain Mine
26. Ruby Hill Mine
27. Twin Creeks Mine
28. Yankee Mine

▼ Copper

1. Tonopah Mine

▲ Industrial Minerals

1. Adams Gypsum Pit
2. Apex Limestone Pit
3. Argenta Barite Mine
4. Basalt Diatomite Mine
5. Clark Diatomite Mine
6. Colado Diatomite Mine
7. Disaster Peak hectorite
8. Empire Gypsum Mine
9. Gabbs Magnesite Mine
10. Greystone Barite Mine
11. Hazen Diatomite Mine
12. Huck Salt Mine
13. IMV Nevada clay
14. James Hardy Gypsum
15. Lovelock bentonite
16. Moltan Diatomite Mine
17. Nevada Cement
18. New Discovery clay
19. P&S Barite Mine
20. PABCO Gypsum
21. Popcorn Perlite Mine
22. Pilot Peak Limestone Quarry
23. Rossi Barite Mine
24. Royal Cement
25. Silver Peak lithium carbonate
26. Simplot Silica Products
27. Tenacity Perlite Mine

■ Oil Fields

1. Blackburn Field
2. Deadman Creek
3. North Willow Creek Field
4. Railroad Valley (Eagle Springs, Trap Spring, Currant, Sand Dune, Grant Canyon, Bacon Flat, Kate Spring, Duckwater Creek, Sans Spring, and Ghost Ranch Fields)
5. Three Bar Field
6. Tomera Ranch Field

◆ Geothermal Power Plants

1. Beowawe
2. Bradys Hot Springs
3. Desert Peak
4. Dixie Valley
5. Empire
6. Soda Lake No. 1 and No. 2
7. Steamboat I, IA, II, and III
8. Stillwater
9. Wabuska
10. Yankee Caithness

Major mines, oil fields, and geothermal plants, 2000.

Overview

by Jonathan G. Price and Richard O. Meeuwig

Overall mineral and energy production in Nevada in 2000, valued at $3.0 billion, rose slightly from the previous year. Gold production increased from 8.26 million ounces in 1999 to nearly 8.6 million ounces in 2000, the second highest level in history. Nevada led the nation in the production of gold, silver, barite, and the specialty clays, sepiolite and saponite, and was the only state that produced magnesite and brucite (magnesia), lithium, and mercury. Other major commodities produced in Nevada in 2000 included construction aggregate (sand, gravel, and crushed stone), geothermal energy, lime, diatomite, gypsum, cement, and silica (industrial sand).

Nevada ranked second in the United States in terms of value of overall nonfuel (excluding oil, gas, coal, and geothermal) mineral production in 2000 (according to the U.S. Geological Survey, Mineral Commodity Summaries 2001, http://minerals.usgs.gov/minerals/pubs/mcs/). California, with its large population and commensurate demands for construction raw materials, was first, and Arizona, the nation's leading copper producer, was third.

Nevada's production of gold, valued at nearly $2.4 billion, was 76% of the U.S. total and helped make the U.S. the second leading gold producer in the world. Nevada alone accounted for 10% of world production of gold. Only the countries of South Africa and Australia produced more gold than the State of Nevada in 2000. Second to gold in terms of Nevada's mineral value in 2000 was construction aggregate, $126 million. Silver, chiefly a by-product or co-product of gold production, ranked as the third leading mineral commodity in 2000, with a value of $115 million.

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 jewelry and arts and some of which is sold for its superior qualities in computers and other electronics. The U.S. is a net exporter of few mined commodities; among the major mined products in Nevada, the U.S. relies upon imports for barite (71% of total U.S. consumption from imports, according to the U.S. Geological Survey), silver (52%), copper (37%), and gypsum (27%). Our exports of gold help offset the staggering U.S. trade deficit (difference between imports and exports of goods and services), which reached a record of $376 billion in 2000 (according to the Department of Commerce, Bureau of Economic Analysis, www.bea.doc.gov/bea/).

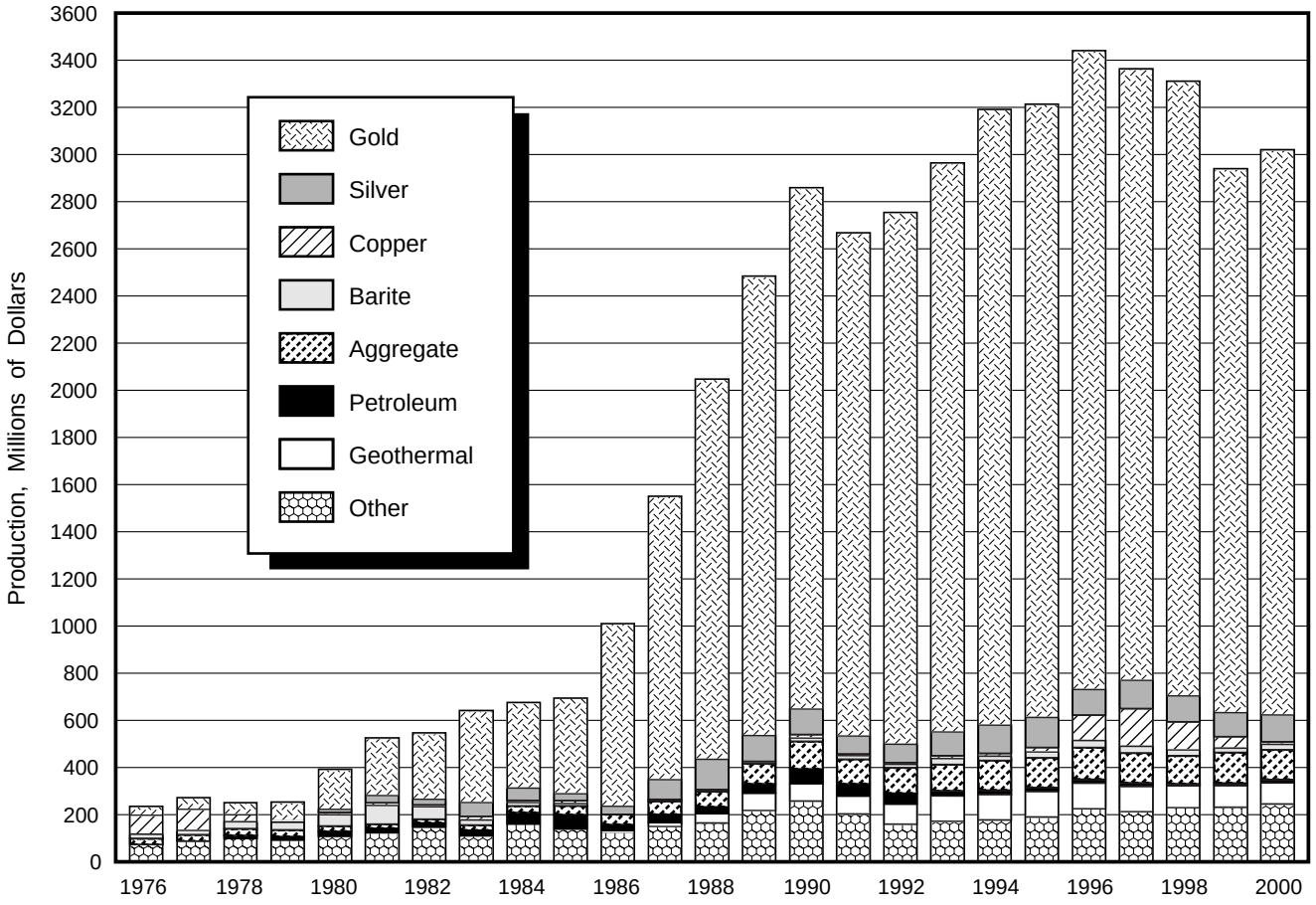
The local economy also benefits from mining. Construction of new homes, casinos, other businesses, schools, and roads continues the strong demand for local sources of sand, gravel, crushed stone, gypsum, and raw materials for cement, all of which are abundant in Nevada. The mining industry directly employed approximately 11,050 people in 2000, and the industry is responsible for another 36,000 jobs related to providing the goods and services needed by the industry and its employees (Driesner and Coyner, 2001).

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

Minerals	1999		2000 preliminary		% change from 1999 to 2000	
	Quantity	Value (millions)	Quantity	Value (millions)	Quantity	Value
Gold (thousand troy ounces)	8,261	$2,304.8	8,585	$2,395.2	+4	+4
Silver (thousand troy ounces)	19,470	101.6	23,205	115.1	+19	+13
Copper (thousand pounds)	64,764	49.2	11,670	10.4	-82	-79
Aggregate (thousand short tons)	29,000	130.5	28,000	126.0	-4	-4
Gypsum (thousand short tons)	2,103	33.6	1,800	29.7	-14	-12
Barite (thousand short tons)	357	17.9	480	24.0	+34	+34
Geothermal energy (thousand megawatt-hours)	1,289	92.0	1,260	90.0	-2	-2
Petroleum (thousand 42-gallon barrels)	706	9.8	621	14.1	-12	+44
Other minerals[2]	—	199.0	—	215.6	—	+8
Total	—	$2,938.4	—	$3020.1	—	+3

[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, perlite, salt, and silica sand.



Nevada mineral, geothermal power, and petroleum production, 1976–2000.

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 the world's leading producer, as well as consumer, of gypsum (with the U.S. accounting for 18% of world production in 2000) and industrial sand (27% of world production). In addition to gold, the U.S. is the third leading silver producer (10% of world production; Mexico and Peru tied for first with 14%) and copper (11% of world production; Chile first with 35%). The U.S. is essentially self sufficient, as are most countries, in construction aggregate, largely because of the high expense of transportation. Total U.S. production of construction sand, gravel, and crushed stone in 2000 was approximately 2.76 billion metric tons, according to the U.S. Geological Survey. Net imports of aggregate account for less than 1% of consumption. The U.S. is also self sufficient in the other major mined material, coal. According to the U.S. Energy Information Agency (www.eia.doe.gov), the U.S. produced and consumed approximately 980 million metric tons of coal in 2000. Although no coal is produced in Nevada, coal is the primary source of energy for generation of electricity in Nevada.

As a result of its favorable geology, Nevada has tremendous potential for the discovery of additional mineral deposits. Areas where prospective rocks are beneath 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 the Transvaal, the most productive region of South Africa, Nevada is a world leader in terms of gold production per unit area.

This report highlights activities through 2000 in metals, industrial minerals, geothermal energy, and petroleum. Numerous graphs and charts are incorporated for rapid inspection of trends in production and price.

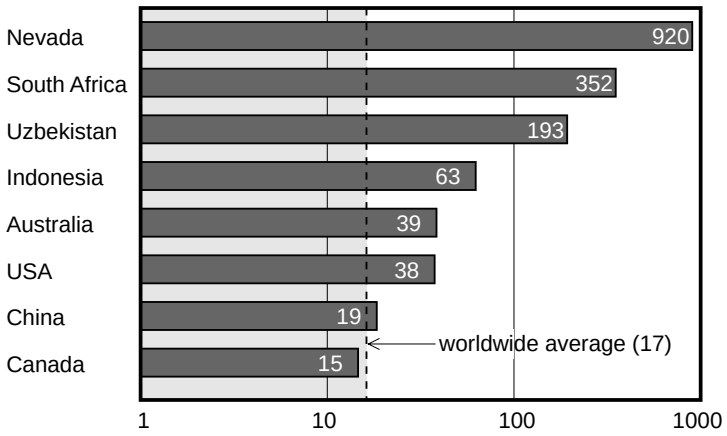
Through a survey conducted early in 2001, the Nevada Division of Minerals collected data for Nevada Bureau of Mines and Geology Special Publication P-12, Major Mines of Nevada 2000. This publication includes, in handbook form, location maps, names and telephone numbers of operators, numbers of employees, and preliminary, nonproprietary production figures for most mines in Nevada. It also contains a section on economic impacts of the industry. The full contents of this 28-page publication are available for free on the World Wide Web (www.nbmg.unr.edu), as are the contents of this report. The data from this survey are used, along with information from other sources, in this publication and will be used to update, revise, and check preliminary statistics collected and released by the U.S. Geological Survey.

2000 WORLD PRODUCTION OF SELECTED MINERAL COMMODITIES (metric tons)*

Country/State	Area (10^6 km^2)	Gold	Silver	Copper	Gypsum	Barite	Industrial Sand
Australia	7.68	300	1,850	829,000	3,800,000	20,000	2,500,000
Austria	0.08	—	—	—	1,000,000	—	6,800,000
Belgium	0.03	—	—	—	—	30,000	2,400,000
Brazil	8.51	—	—	31,800	1,500,000	45,000	2,700,000
Bulgaria	0.11	—	—	75,000	180,000	120,000	900,000
Canada	9.96	150	1,200	634,000	8,550,000	20,000	2,000,000
Chile	0.76	—	—	4,600,000	890,000	—	300,000
China	9.57	180	—	590,000	6,800,000	3,500,000	—
Egypt	1.00	—	—	—	2,000,000	—	600,000
France	0.57	—	—	—	4,500,000	75,000	6,500,000
Germany	0.36	—	—	—	2,500,000	120,000	7,000,000
India	3.28	—	—	35,500	2,210,000	550,000	1,350,000
Indonesia	1.90	120	—	1,010,000	5,000	—	300,000
Iran	1.65	—	—	145,000	11,000,000	185,000	1,000,000
Italy	0.30	—	—	—	1,300,000	25,000	3,000,000
Japan	0.38	—	—	1,200	5,600,000	—	2,800,000
Kazakhstan	2.72	—	—	430,000	—	14,000	—
Mexico	1.97	—	2,600	365,000	7,000,000	128,000	1,800,000
Morocco	0.45	—	—	7,100	450,000	350,000	—
Netherlands	0.04	—	—	—	—	—	5,000
Paraguay	0.41	—	—	—	4,000	—	10,000,000
Peru	1.28	130	2,600	554,000	52,000	11,400	1,600,000
Poland	0.31	—	—	456,000	1,700,000	—	250,000
Russia	17.07	140	—	570,000	700,000	60,000	—
South Africa	1.22	430	—	137,000	413,000	1,600	2,100,000
Spain	0.50	—	—	23,300	7,500,000	26,000	6,600,000
Thailand	0.51	—	—	—	5,830,000	49,000	350,000
Turkey	2.59	—	—	76,300	300,000	130,000	1,100,000
United Kingdom	2.44	—	—	—	1,500,000	70,000	4,000,000
USA	9.37	353	1,980	1,440,000	19,220,000	490,000	28,500,000
Nevada	**0.29**	**267**	**722**	**5,293**	**1,630,000**	**435,000**	**610,000**
Alaska	1.53	16	—	—	—	—	—
Arizona	0.30	—	—	936,000	242,000	—	—
California	0.41	17	—	—	1,210,000	—	—
Idaho	0.22	—	413	—	—	—	—
Uzbekistan	0.45	87	—	—	—	—	—
Zambia	0.75	—	—	241,000	10,000	—	—
WORLD	149.90	2,550	18,900	13,200,000	106,000,000	6,300,000	106,000,000

* 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 for some data from USGS mineral commodity specialists; production data for Nevada are from Driesner and Coyner (2001); gold production for Uzbekistan from the Gold Institute (www.goldinstitute.org/worldprod.html); USGS statistics are adjusted to be consistent with Nevada data; data for areas are from The World Almanac and Book of Facts, 1992, Pharos Books, New York, 960 p. There are some discrepancies between the Nevada and USGS data, particularly for gypsum (USGS reports 1,910,000 metric tons for Nevada) and barite (USGS reports 337,000 metric tons for Nevada), for which the USGS reports quantity sold and used rather than quantity produced in the year.

The section on **Metals** and the table of **Major Precious-Metal 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 2000 came from 28 major mining operations. The Carlin trend in northeastern Nevada accounted for 51% 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. Underground operations accounted for approximately 20% of total production.



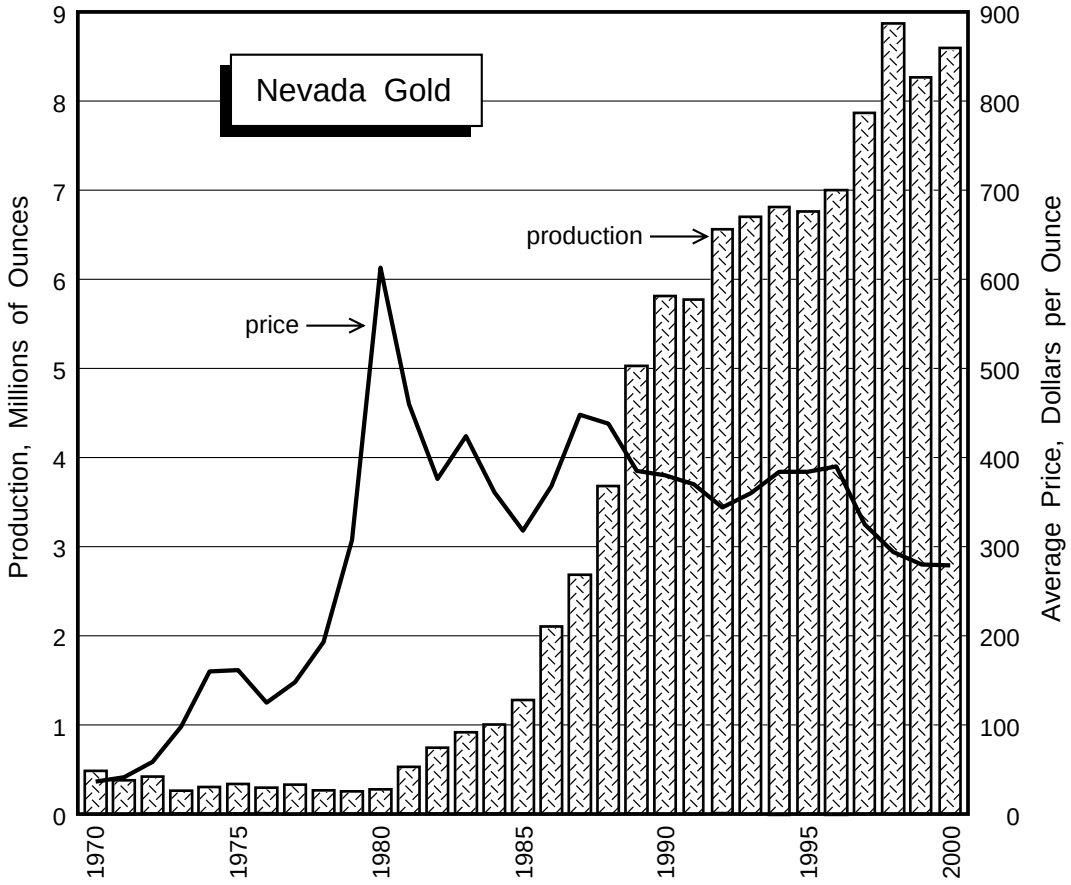
Gold production in 2000 (metric tons per million square kilometers, log scale).

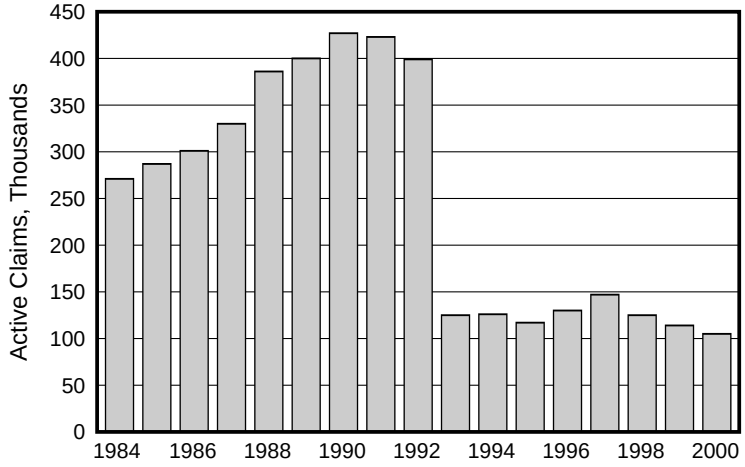
Barrick's Betze-Post Mine in Eureka County produced 1.6 million ounces, and its Meikle Mine in Elko County produced 805,718 ounces, making it the largest underground producer in 2000. Newmont's overall production from several mines on the Carlin trend, including its Carlin operations and Capstone/Bootstrap and Rain Mines, totaled 1,865,648 ounces. Placer Dome's Cortez operation (Pipeline and nearby deposits in Crescent Valley, Lander County) produced 1.0 million ounces of gold.

No new mines came into production in 2000, although some significant discoveries were reported in the Battle Mountain and Bullion districts in Lander County, the Carlin trend in Eureka and Elko Counties, and the Rochester district in Pershing County. Using the Midas (Ken Snyder) Mine in Elko County as an example, some companies are focusing exploration on high-grade veins. Exploration, including grass-roots activity, work in known mining districts, and development of extensions to known deposits, added to the Nevada resource base in 2000. New mineable deposits continue to be discovered. Exploration activities are summarized in the section on Metals. Companies explored in or near at least 92 Nevada mining districts in 2000. Reported activity included projects looking for gold, silver, copper, platinum-group elements (palladium and platinum in particular), tungsten, and zinc. As measured by the numbers of active claims on public lands, grass-roots exploration activity has continued, with over 100,000 active claims each year since 1993 (after dropping precipitously when a new claim-holding fee was imposed by the federal government), although active claims have declined steadily in since 1997, and initial reports for 2001 suggest a significant decline.

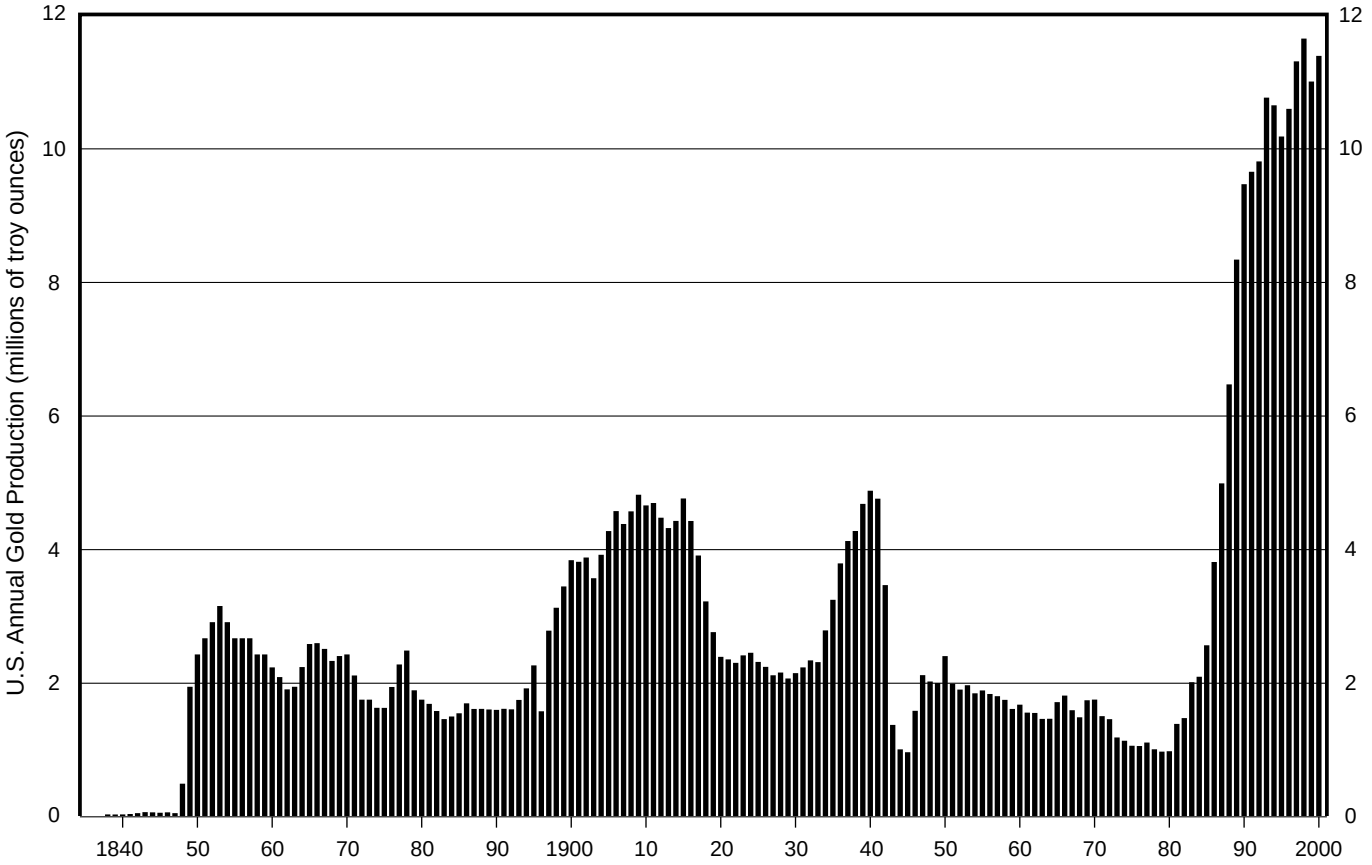
According to a survey of exploration activities by the Nevada Division of Minerals (D. Driesner, 2001, Nevada Exploration Survey 2000, available at http://minerals.state.nv.us), exploration activity has been steadily declining since 1997. The 33 companies responding to the survey reported spending $76.9 million on exploration in Nevada in 2000, down from $86.7 million in 1999, and they project spending $59.4 million in Nevada in 2001. Another measure of exploration activity is the number of exploration geologists employed by these companies: 125 in 2000, which is down sharply from 225 in 1999. These companies project employing 91 exploration geologists in 2001.

The decline is largely the result of low metal prices. These companies report similar (and in many areas, greater) declines in metal exploration activity in other parts of the U.S. and internationally. Because of its favorable geology and regulatory climate, Nevada continues to attract a large portion of the worldwide exploration expenditures of the companies actively exploring in Nevada.





Number of active claims in Nevada as of October 1, 1984 through 2000. Data from the Nevada State Office of the U.S. Bureau of Land Management.



U.S. gold production, 1835–2000. Data from The U.S. Gold Industry 1998 (NBMG Special Publication 25) by J.L. Dobra and from the U.S. Geological Survey, with adjustments for Nevada data from this report.

The Fraser Institute ranked Nevada first in terms of overall investment attractiveness for mineral exploration in its most recent survey of mining companies (www.fraserinstitute.ca). In this survey, fourteen states, twelve Canadian provinces and territories, and nine countries (Argentina, Australia, Brazil, Chile, Indonesia, Mexico, Papua New Guinea, Peru, and South Africa) were ranked. Nevada was rated first in terms of attractiveness based upon the respondents' perceptions of political effects on exploration, such as government policies on taxation, regulations, native-land claims, protected areas, infrastructure, labor, and socioeconomic factors, and second in terms of their perceptions of geological potential (behind only Ontario).

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 sediment-hosted (Carlin-type) gold deposits and other deposits in which fine-grained gold is widely disseminated in the ore. These deposits are primarily in Nevada. The U.S. production so far in the current boom, the period from

1980 to 2000, has been 150 million ounces. This is significantly greater than the total production during the era of the California gold rush (1849 to 1859, with 29 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 by-product production from copper mines in Arizona and Utah contributed to cumulative production of 95 million ounces. U.S. production in the decade from 1991 to 2000 alone was 107 million ounces.

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), totaled approximately 160 million ounces of gold, enough to sustain gold production at substantial levels for 15 to 25 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 low gold prices, some of the reserves of previous years have been downgraded to subeconomic resources. When prices rise or when new technologies allow mining and gold processing costs to be lower, subeconomic resources can become reserves.

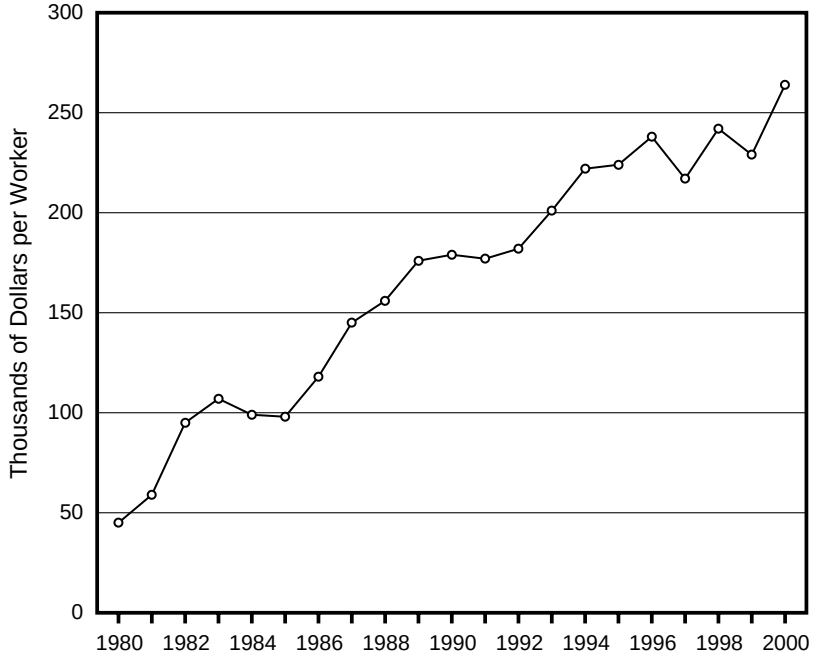
Productivity of Nevada mining operations is exceptionally high. Measured simply by the value of the commodities produced divided by the number of employees, productivity of Nevada miners is outstanding. On the average, each person in the nonfuel mineral industry in Nevada produced approximately $264,000 in mined products in 2000, an all-time high figure. Depressed gold prices had lowered the overall productivity in 1999, but cutbacks in the labor force combined with increases in production raised the figure for 2000.

Challenges that face the precious metal mines in Nevada include:

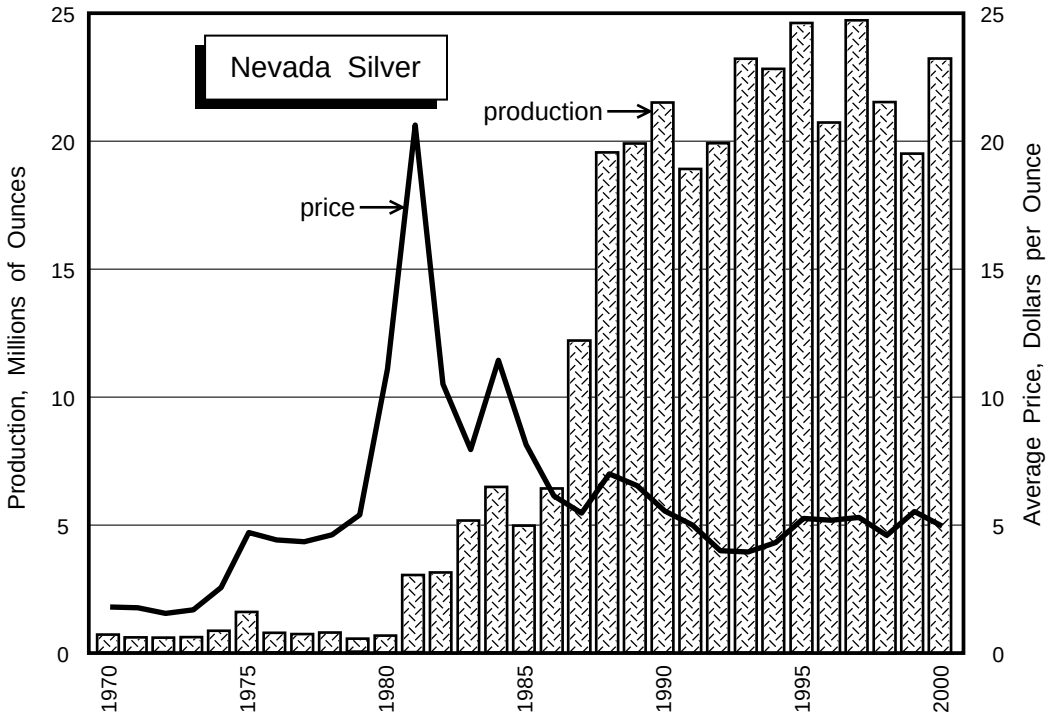
- economic, safety, and environmental concerns, particularly depressed metal prices;
- hazards of underground mining;
- regulatory changes;
- treating refractory (iron sulfide and/or carbon-bearing) ores;
- dewatering mines; ultimate chemical compositions of pit lakes;
- procedures for closure of heaps used for leaching gold and silver from ore; and
- treatment and disposal of large volumes of water, some of which may contain potentially toxic elements that need to be removed or may be too warm to introduce directly into streams.

Through research on new technologies and engineering approaches, industry is responding well to these challenges.

Much of Nevada's silver production in 2000, which totaled 23.2 million ounces, was a co-product or by-product of gold mining. With a ratio of value (average price of gold to average price of silver) of 56:1 in 2000, only those deposits with more than 56 times as much silver as gold can be considered primary silver deposits. Two such deposits operated in Nevada in 2000—the McCoy/Cove operation in Lander County (with a silver to gold production ratio of 76:1 and total silver production of 12 million ounces) and the Coeur Rochester Mine in Pershing County (with a silver to gold production ratio of 88:1 and total silver production of nearly 6.7 million



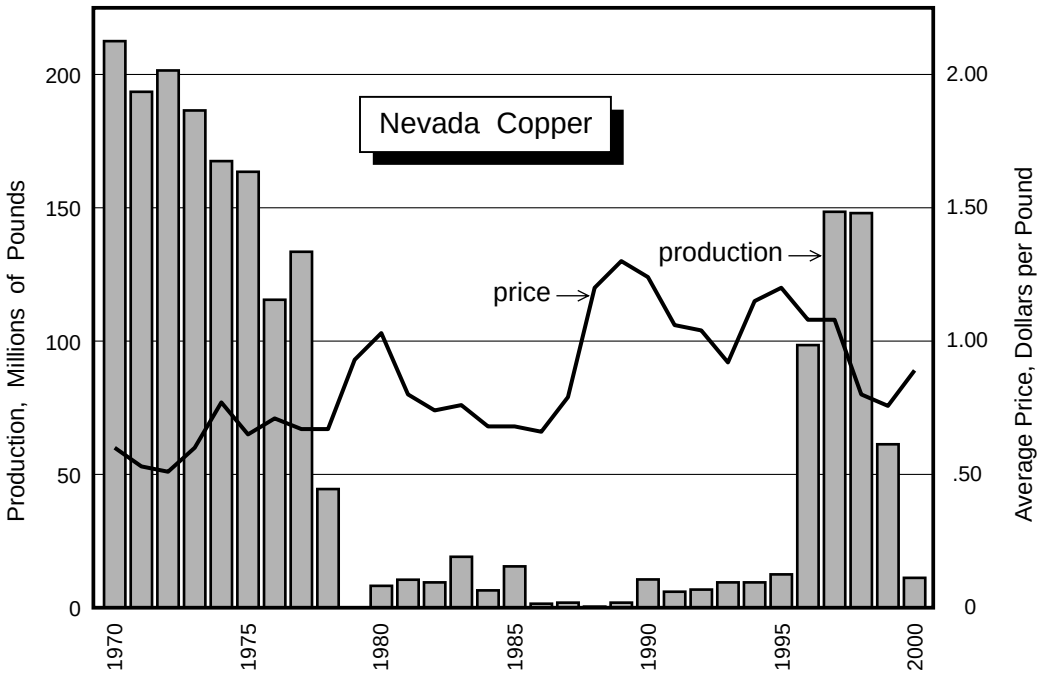
Total value of mined product per mine worker in Nevada (excluding petroleum and geothermal energy).



ounces). These largest two silver operations produced 82% of Nevada's silver in 2000. Nevada's production in 2000 accounted for 36% of the U.S. total and 4% of the world total. Depending on price, Nevada is likely to retain the present-day distinction of its nickname, the "Silver State."

Equatorial Tonopah, Inc.'s heap-leach, solvent-extraction-electrowinning copper operation near the Hall molybdenum mine in Nye County revived copper production in the state after the closure in 1999 of the BHP's Robinson operations near Ely in White Pine County.

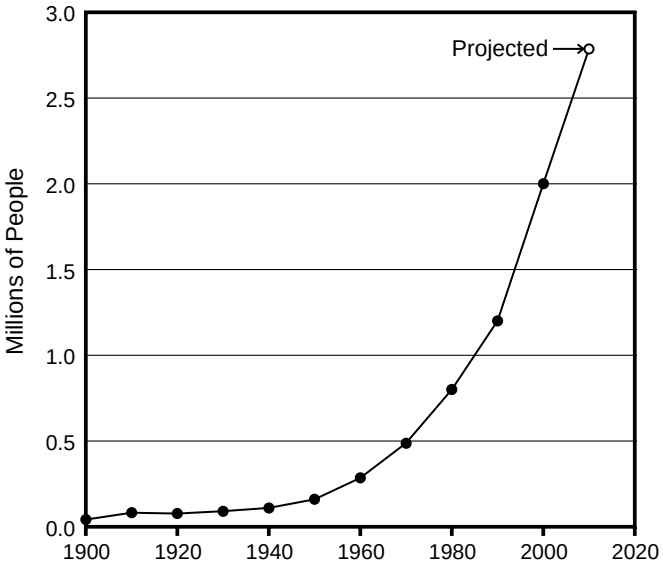
The section on **Industrial Minerals** covers developments during 2000 and gives details on important commodities produced from Nevada, such as aggregate, barite, brucite, cement, clays, diatomite, dimension stone, dolomite, gypsum, lime, limestone, lithium, magnesia, mordenite (a zeolite), perlite, salt, semiprecious gemstones (opal and turquoise), and silica.



Aggregate production remains high as a result of Nevada's expanding population with its needs for construction materials for homes, schools, streets, highways, airports, resort hotels, and other businesses. Demand for construction raw materials, including gypsum (for wallboard) and aggregate, is likely to remain strong owing to Nevada's booming population. According to the U.S. Census Bureau (www.census.gov), Nevada's population in 2000 reached 1,998,257, up 66% from 1,201,833 in 1990. The Nevada State Demographer has projected our population to be 2.8 million in 2010.

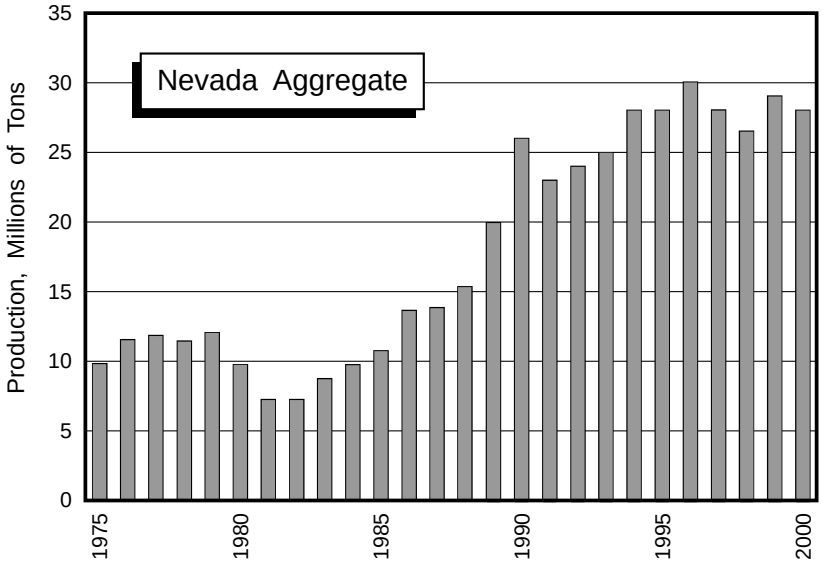
An interesting trend that is occurring nationwide as well as in the Las Vegas area is the combination of aggregate quarries with landfill operations. Planning for the eventual uses of quarries is vital in areas where urban expansion encroaches on the mineral resources that must be mined locally to reduce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

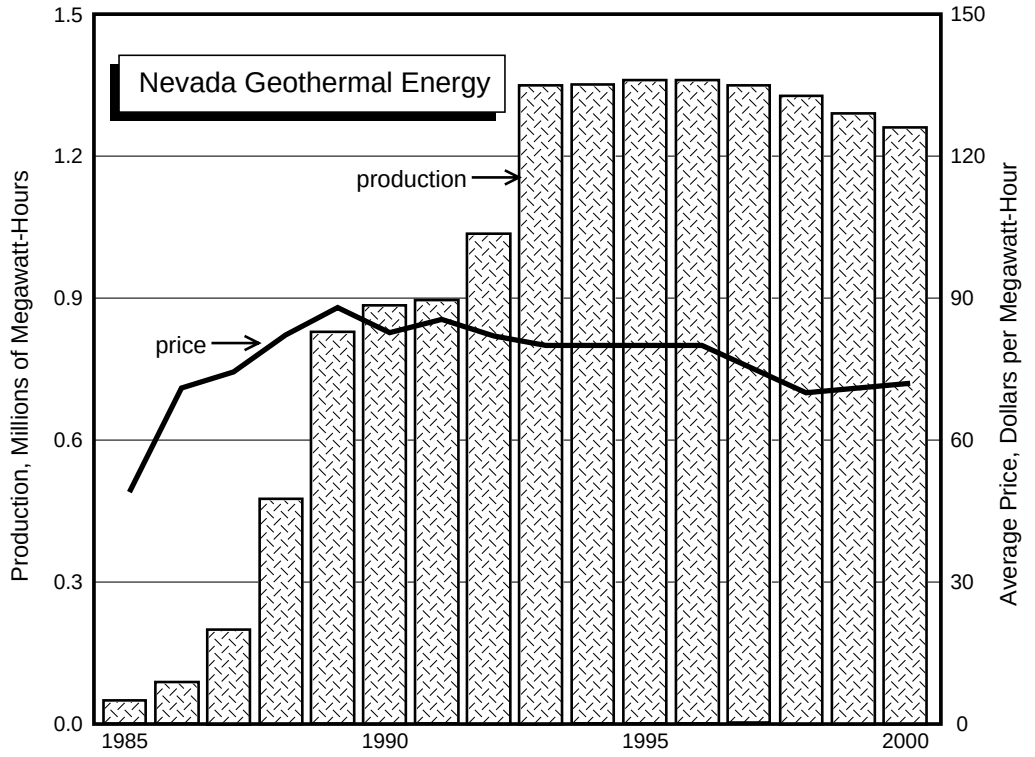
Developments in the geothermal industry are covered in the section on **Geothermal Energy**. Electric power production in 2000 was about the same as in the previous year. Plants operating at ten sites sold $90 million in electricity, far surpassing the value of petroleum production. Additionally, geothermal energy is used at numerous places in Nevada for space heating, warm water, recreation, and dehydrating vegetables, particularly onions and garlic. Until the recent energy crises in California and other western states, relatively low prices for coal have discouraged exploration and development of known geothermal resources. New programs in the U.S. Department of Energy, energy bills passed by the Nevada Legislature, and activities of the Great Basin Center for Geothermal Energy at the University of Nevada, Reno are stimulating geothermal development in Nevada. Nevada Bureau of Mines and Geology Map 126, Nevada Geothermal Resources, 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.

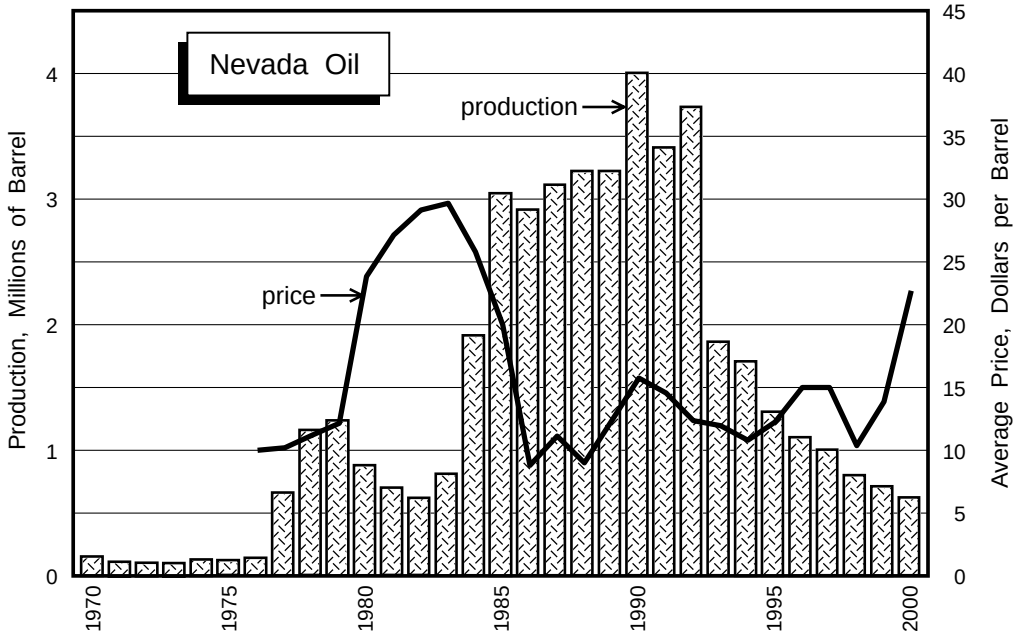


Nevada population. Data from the U.S. Census Bureau <www.census.gov>. Projection to 2010 by Nevada State Demographer.

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 $14 million in 2000) is a minor part of U.S. production. Although the value of oil production in Nevada increased from 1999 to 2000, the amount of oil production declined for the eighth consecutive year, and no new discoveries or producing wells were reported in 2000. Small amounts of natural gas are used to fuel equipment needed for oil production.







Exploration for oil in Nevada is encouraged by the cumulative production from the two premier fields in Railroad Valley, Grant Canyon and Trap Spring (20 million and 13 million barrels, respectively). Historically, few exploration wells have been drilled in the state (less 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, the potential for finding more multimillion-barrel fields remains high.

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.

Metals

by Joseph V. Tingley and Daphne D. LaPointe

Nevada produced 8.58 million oz (troy ounces) of gold in 2000, topping the 8 million oz mark for the third year in a row and exceeding 1999 production by 310,000 oz. Silver production was 23.2 million oz, exceeding 1999 production by 3.7 million oz. Nevada maintained its place as the leading gold and silver producing state in the United States with 28 mines reporting gold production and 25 mines producing silver during 2000.

Newmont Mining Corp.'s Nevada operations, which include Twin Creeks and the Lone Tree Complex as well as all of Newmont's Carlin trend mines and half of the production from the Rosebud Mine (50% owned by Hecla Mining Co.), reported production of 2,989,744 oz of gold in 2000, easily maintaining its place as the largest gold producing company in Nevada. Barrick Gold Corp., with production of 2,452,358 oz of gold remained in second place in Nevada output. Barrick Gold's Betze-Post Mine reclaimed its place as the most productive gold mine in Nevada, producing 1,646,640 oz in 2000. Placer Dome's Cortez operation (Pipeline Mine) dropped into second place in 2000 with 1,009,992 oz. Barrick's Meikle underground mine reported 2000 production of 805,718 oz, down from the 1999 figure of 977,356 oz. Newmont's Twin Creeks Mine produced 779,075 oz. Other major gold producers in 2000 included Smoky Valley Common Operation's Round Mountain Mine, 640,133 oz; Independence Mining Co.'s Jerritt Canyon Mine, 344,747 oz; Franco-Nevada Mining Corp.'s Ken Snyder Mine, 197,800 oz; Florida Canyon Mining Co.'s Florida Canyon Mine, 173,623 oz; Echo Bay Minerals, 162,784 oz from its McCoy/Cove operation; and Homestake Mining Co.'s Ruby Hill Mine, 125,193 oz.

Echo Bay's McCoy/Cove Mine was Nevada's largest silver producer in 2000, producing 12,328,297 oz. The Rochester Mine, operated by Coeur D'Alene Mines Corp., produced 6,195,169 oz of silver, and Franco-Nevada Mining Corp.'s Ken Snyder Mine produced 1,938,470 oz. Other large silver-producing operations included the Denton-Rawhide Mine, 665,000 oz; the Round Mountain Mine, 464,415 oz; Barrick Gold Corp.'s Meikle Mine, 263,225 oz; and the Rosebud Mine, operated by Hecla Mining Co., 247,900 oz.

Nevada's sole producer of copper, Equatorial Tonopah, Inc., produced 11,670,200 pounds of copper in 2000 from the Tonopah Copper Mine in Nye County.

No new precious metals mines came into production in Nevada in 2000, but both Newmont Mining Corp. and Barrick Goldstrike Mines have announced plans for new operations in 2001. Newmont plans to begin operations at Deep Post with annual production of 400,000 oz of gold, and Barrick plans to begin production at its Rodeo property which will produce 350,000 oz of gold per year. Placer Dome announced plans for a substantial production increase at its Pipeline Complex (Cortez Joint Venture) and plans to resume production at its Getchell property. Golden Phoenix Minerals also hopes to begin production during 2001 at its newly acquired Mineral Ridge Mine.

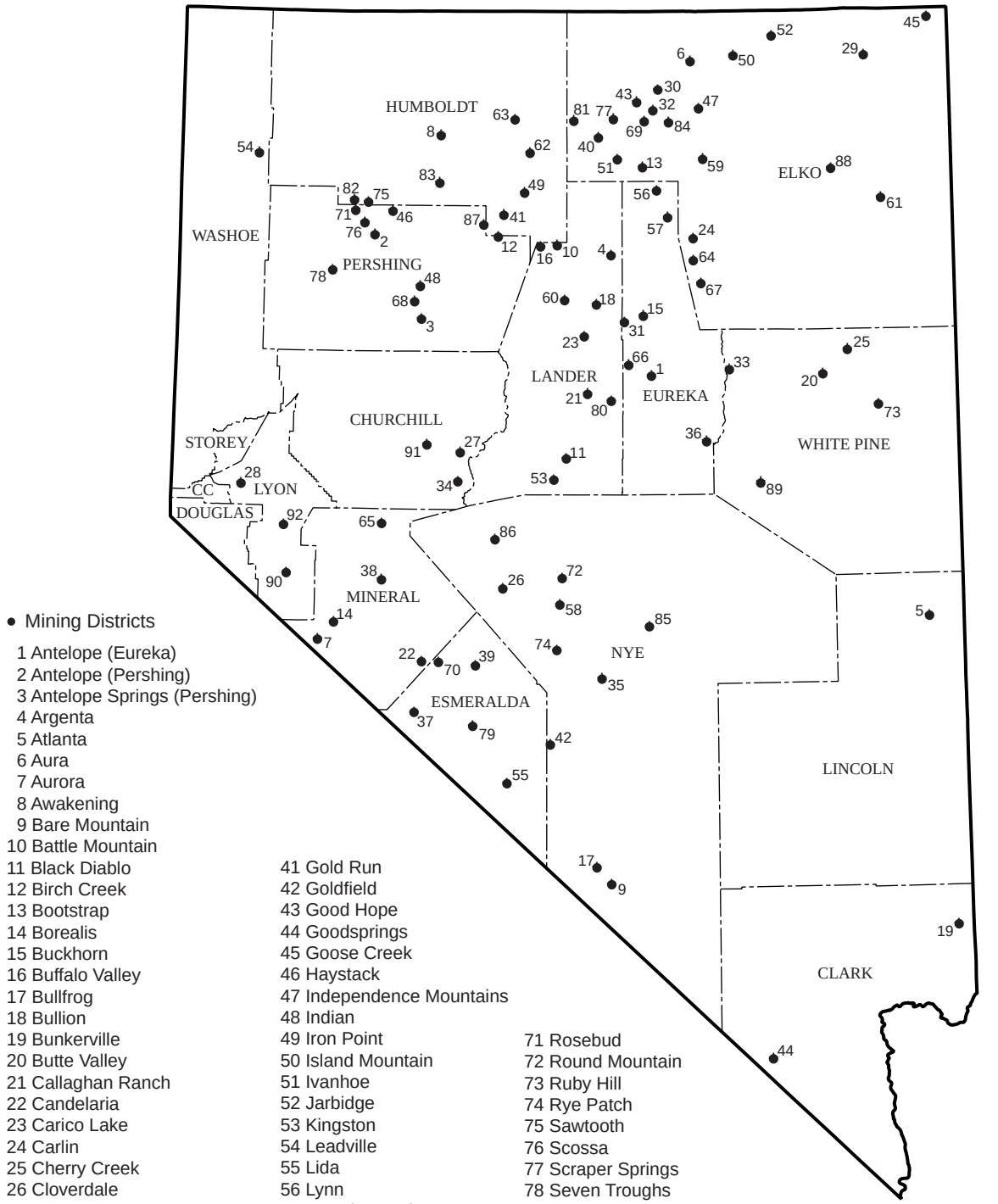
EXPLORATION

Mineral exploration in Nevada continued to decline in 2000. The major gold-producing companies explored mainly along the trends, Battle Mountain, Carlin, Getchell, and Midas. Several companies pursued what they hoped would become high-grade vein targets, such as feeder-vein systems beneath the former Hog Ranch open-pit mine in Washoe County and the Hollister open-pit mine in Elko County. The Bunkerville and Goodsprings districts in Clark County reported PGM (platinum-group metals) exploration activity, and one company explored for PGMs in the southern part of the Manhattan district of Nye County. Figure 1 shows the location of Nevada mining districts and areas in which exploration activity was reported during 2000. Specific 2000 exploration and development projects are summarized, by county and mining district, in the following section.

CHURCHILL COUNTY

Cold Springs Area

The Cordilleran Nevada syndicate (Cordilleran Exploration Co. LC, operator, Ranger Minerals Ltd, and Franc-Or Resources Corp., partners), has dropped its Cold Springs property. Five reverse-circulation holes totaling 3,240 feet were drilled in an attempt to detect a possible continuation of epithermal gold mineralization that might have been offset to the north along a northwest-trending fault. One of the holes encountered unaltered ash-flow tuff for 920 feet. Another encountered 350 feet of weakly altered lacustrine tuff, which had the project's highest gold value of 74 ppb over 5 feet. These results led to the conclusion that the northwest fault represents a post-mineral rim feature within the Desatoya caldera complex and that the offset surface mineralization is too deeply down-dropped to be economic. The property was returned to the owner in July (Franc-Or Resources Corp. press release, 8/31/2000).



- Mining Districts

1 Antelope (Eureka)
2 Antelope (Pershing)
3 Antelope Springs (Pershing)
4 Argenta
5 Atlanta
6 Aura
7 Aurora
8 Awakening
9 Bare Mountain
10 Battle Mountain
11 Black Diablo
12 Birch Creek
13 Bootstrap
14 Borealis
15 Buckhorn
16 Buffalo Valley
17 Bullfrog
18 Bullion
19 Bunkerville
20 Butte Valley
21 Callaghan Ranch
22 Candelaria
23 Carico Lake
24 Carlin
25 Cherry Creek
26 Cloverdale
27 Cold Springs area
28 Como
29 Contact
30 Cornucopia
31 Cortez
32 Divide
33 East Diamond Range area
34 Eastgate
35 Ellendale
36 Eureka
37 Fish Lake Valley
38 Fitting
39 Gilbert
40 Gold Circle
41 Gold Run
42 Goldfield
43 Good Hope
44 Goodsprings
45 Goose Creek
46 Haystack
47 Independence Mountains
48 Indian
49 Iron Point
50 Island Mountain
51 Ivanhoe
52 Jarbidge
53 Kingston
54 Leadville
55 Lida
56 Lynn
57 Maggie Creek
58 Manhattan
59 Merrimac
60 Mountain Springs
61 Pequop
62 Potosi
63 Poverty Peak
64 Railroad
65 Rawhide
66 Roberts
67 Robinson Mountan
68 Rochester
69 Rock Creek
70 Rock Hill
71 Rosebud
72 Round Mountain
73 Ruby Hill
74 Rye Patch
75 Sawtooth
76 Scossa
77 Scraper Springs
78 Seven Troughs
79 Silver Peak
80 Simpson Park area
81 Snowstorm Mountains
82 Sulphur
83 Ten Mile
84 Tuscarora
85 Tybo
86 Union (Nye)
87 Washiki
88 Wells
89 White Pine
90 Wilson
91 Wonder
92 Yerington

Figure 1. Nevada mining districts with reported 2000 metals exploration activity.

Eastgate District

Fairmile Gold Corp. reported that joint-venture partner Echo Bay Exploration completed its four-hole drilling program at Fairmile's Eastgate project. Drill results were not as anticipated, and the property lease was terminated (Fairmile Gold Corp. News Release, 7/20/2000).

Wonder District

Coeur d'Alene Mines Corp. signed an exploration agreement with an option to purchase the Wonder silver property from F.W. Lewis, Inc. The Wonder property consists of 70 patented lode claims and a 123-acre townsite. Coeur also has staked an additional 87 unpatented claims in the adjoining area, which gives it virtual control of the historical Wonder mining district.

Coeur believes that there is significant potential to discover and develop bulk tonnage deposits adjacent to the known steeply dipping high-grade vein systems, which are hosted in Tertiary volcanic rocks. To date, a preliminary oxide resource of 4.1 million tons at an average grade of 2.83 silver equivalent ounces per ton or approximately 11.5 million silver equivalent ounces has been calculated on a portion of the Wonder vein. The resource is still open in all directions. A comprehensive exploration program that will include drilling is underway (Coeur d'Alene Mines Corp. press release, 9/18/2000).

CLARK COUNTY

Bunkerville District

Royal Standard Minerals, Inc. has completed an agreement with Falconbridge Exploration U.S., Inc. to acquire the results of a 1996 airborne electromagnetic and magnetic survey encompassing the 60-square-mile Bunkerville property. This database includes no less than 15 untested electromagnetic conductors that will require detailed ground follow-up surveys. Royal Standard has staked 80 unpatented mining lode claims within the airborne survey block covering most of the favorable structures and important structural intersections (Royal Standard Minerals, Inc. press release, 2/14/2000). On this same property, Freewest Resources Canada entered into an exploration agreement with Royal Standard Minerals whereby Freewest can earn half of Royal Standards interest in their 80-claim block. Freewest must spend $100,000 in exploration and pay $25,000 cash in each of the next two years, plus a drilling commitment of $250,000 (The Northern Miner, 3/6/2000).

Trend Mining acquired four additional PGM lode claims at the Hard Rock Johnson prospect bringing its total to 13. Two principal properties, the Key West and the Great Eastern, comprise the core target area which extends for more than 1.4 miles. The property is an intrusive dike system containing PGM-Ni-Cu-Co-Pb-Au-Ag mineralization, which is hosted along a tectonic fault zone that intersects Precambrian gneiss and schist. This property exhibits excellent potential to discover economic PGM mineralization in the existing mine areas and to the northeast of the Great Eastern Mine. A secondary pediment target has also been identified, which may extend PGM mineralization for significant distances to the southwest of the Key West Mine (Trend Mining Co. website, 3/21/2000).

Goodsprings District

Royal Standard Minerals Inc. completed an option to acquire nine patented mining claims that include the Boss and nearby Azurite PGM properties. The agreements include a minimum one year work commitment to include geophysical and geological surveys in order to exercise the option. At the Boss property, Pt, Pd, and Au ore occurred in a pipe-like mass of cellular quartz along a minor fault zone separating dolomitized limestone from the basal Monte Cristo limestone. The quartz was impregnated with chalcopyrite and possibly pyrite containing high concentrations of Au, Pt, and Pd (Royal Standard Minerals, Inc. press release, 6/15/2000).

ELKO COUNTY

Aura District

Western Exploration, Inc. planned to construct about 2 miles of exploration roads on Forest Service lands and 1.3 miles of road on private land, and to drill 10 holes on its Cap Winn project. The exploration is in the Cap Winn Creek, North Fork, and Bull Run drainages (Preliminary Environmental Assessment, U.S. Forest Service, 5/1/2000).

Bootstrap District

Glamis Gold Ltd. suspended underground mining at its Dee Mine in late November 2000 and completed open-pit mining by year's end. Mine closure and reclamation activities will continue into 2001 utilizing funds previously set aside for this purpose. The suspension of mining activities at Dee will not affect the ongoing exploration efforts at the property. A 1997 agreement allows Barrick Gold Exploration Inc. to earn a 60% interest in the Dee property and Barrick continues to conduct a substantial drilling program (Glamis Gold Ltd. press release, 9/29/2000).

At Meridian's Rossi property, Barrick Gold has continued with surface exploration (Meridian Gold press release, 10/18/2000).

AngloGold has optioned Franco-Nevada's Orbel and Giant claims in the Bootstrap district (Northern Miner, 9/11/2000).

Carlin District

Nevada Pacific Gold Ltd. has acquired the Woodruff Creek property from Kennecott Exploration Co. The Woodruff Creek property is part of 11,500 acres controlled by Nevada Pacific on the Carlin trend. Exploration to date by Nevada Pacific at Woodruff Creek includes detailed surface mapping and rock chip sampling, soil surveys, geophysics, trenching, and the completion of an initial 8,560-foot, eight-hole, reverse-circulation drill program. Positive results from the initial drill program include multiple zones of altered rock containing anomalous Au and elevated amounts of 'pathfinder' elements (As, Sb, Ba), clay and silica alteration, brecciation and thin sediment-hosted massive sulfide layers. A magnetotelluric (MT) geophysical survey was completed in 2000 and the results are now being analyzed by Nevada Pacific's exploration team (Nevada Pacific Gold Ltd. press release, 1/12/2001).

Contact District

Golden Phoenix Minerals, Inc. completed a preliminary open-pit mining reserve evaluation on the Banner deposit at its Contact copper property. The company reported that at $0.90 per pound and 0.20% Cu cutoff grade, the mine reserve is 13,802,000 tons of mineable ore grading 0.965% Cu for a total of 278,248,700 pounds of recoverable copper (The Daily Prospector, 9/27/2000).

Cornucopia District

Bonanza Silver Corp. finished the first phase of reverse-circulation drilling at its Cornucopia project. The company drilled 13 holes totaling 9,120 feet. Anomalous to highly anomalous silver values were intersected in all holes within pervasive alteration envelopes but no drill hole intersected bonanza silver grades typical of the adjacent Cornucopia Mine which Bonanza Silver recently optioned. The last hole, drilled southerly at a point 1,500 feet northeast of the Leopard Shaft, encountered the basement of the caldera at 895 feet. The 170 feet of the basement encountered was very strongly altered, with quartz-illite-pyrite veins and disseminations common. The entire interval averaged about 10% pyrite, with anomalous gold and silver values (up to 25 ppb Au and 11.3 ppm Ag). The projection of the Panther vein, the original target, was not encountered.

Bonanza Silver is studying the geology as currently known, and will initiate a target-specific mapping and sampling project designed to better define the target geometry (Bonanza Silver Corp. press release, 7/11/2000).

Divide District

Bonanza Silver Corp. optioned the Falcon Mine property just southwest of the company's Cornucopia project. The Falcon Mine property consists of six patented and 20 unpatented lode mining claims. The Falcon Mine property is hosted within the northern, fault-controlled part of the Eocene Toe Jam Caldera. The Falcon Mine structure runs north-south for at least 15,000 feet, and is strongly veined for at least 9,500 feet. The vein is a typical bonanza silver vein with high Ag, Sb, and Hg values. Past drilling by Phelps Dodge explored the Falcon vein no more than 450 feet below the surface. Bonanza Silver will map and sample the entire vein structure, then formulate a drill plan (Bonanza Silver Corp. press release, 6/27/2000)

Gold Circle District

White Knight Resources Ltd. and Chapleau Resources Ltd. received disappointing results from a 10-hole drill program on their Squaw Creek property. Strongly anomalous Hg values were encountered in the upper parts of all drill holes and all holes intersected lengthy intervals of anomalous Au mineralization. However, ore grade mineralization was encountered in only one drill hole which intersected 5 feet grading 0.117 opt (troy ounces per short ton) Au at depths of 685 to 690 feet. Based on drill results, Chapleau Resources Ltd. has terminated its option to earn a 50% interest in the property. White Knight is currently reviewing data to determine a further exploration strategy. (White Knight Resources Ltd. news release, 8/9/2000).

Goose Creek District

The Cordilleran Nevada syndicate planned mapping and sampling at the 214-claim Goose Creek property. Coarse-fraction soil sampling of 500 samples over locally jasperized siltstone and silty limestone shows an upper threshold of 30 ppb Au, with a maximum value of 270 ppb Au. Approximately 150 rock-chip samples have been collected, with one sample in iron-oxide-stained silty limestone running 8.6 ppm Au. Additional mapping and geochemical sampling are scheduled for the project (Franc-Or Resources Corp. press release, 8/31/2000).

Independence Mountains District

AngloGold 's CACHE underground mine at Jerritt Canyon has been renamed the Lee Smith Mine in recognition of the many contributions that the late lobbyist and consultant made to the Nevada mining industry. The Lee Smith Mine is being developed out of the bottom of the DASH open pit and will be the fourth operating underground mine at Jerritt Canyon. By the end of 2000, crews at Smith had completed roughly 2,900 feet of drifting on the decline, and 4,000 feet of drifting total. Also, by year's end, AngloGold had started producing gold from its new MCE underground mine. MCE went into production in November 2000, and is the smallest of the four operating underground mines at Jerritt Canyon (Elko Daily Free Press, 2/12/2000, 12/30/2000).

Ivanhoe District

Great Basin Gold Ltd. announced that drill holes completed late last year encountered high-grade gold-silver veins on the company's Ivanhoe property. Drilling in the South Velvet area, located 1,400 feet north of the Clementine vein system, encountered high-grade gold mineralization in a new vein system. Rotary hole 204 returned 15 feet of 0.56 opt Au including 5 feet of 1.04 opt Au in a banded quartz vein intersection in Valmy quartzite. Drilling in the North Velvet zone, located 2,500 feet north of the Clementine vein system, encountered a new, east-trending zone of high-grade silver mineralization. Diamond-drill hole 188 intersected 6 feet of 30.2 opt Ag within Valmy argillite. Rotary drilling in the North Rowena area, located 1,300 feet south of the Gwenivere vein system, encountered 0.58 opt Au over 5 feet in hole 194 at the Tertiary-Valmy unconformity. This hole demonstrated continuity with mineralization encountered at the unconformity in nearby hole 151 (0.51 opt Au over 15 feet). Drilling in the Hatter area, located 1.5 miles east of the Clementine vein system, intercepted 2.39 opt Au and 1.4 opt Ag over a narrow 1.0 foot intercept in diamond-drill hole 174 within the Hatter Stock. Great Basin will redrill the South Velvet discovery hole (hole 204) with oriented diamond-drill core to define the strike and dip of the new vein. This important area has yielded several high-grade rotary holes and core hole 111, which cut 2.9 feet grading 1.82 opt Au. Preliminary results have been received for property-wide ESCAN resistivity surveys as well as soil and lithogeochemical surveys on the eastern two thirds of the property. Three strong, coincident ESCAN and geochemical anomalies have been defined similar to the ESCAN anomaly over the Clementine and Gwenivere vein systems. Drill sites are being permitted to test these targets. Great Basin was planning to recommence drilling in February 2001 with rotary pre-collar drilling of the high-grade targets in the South and North Velvet areas. Diamond-drilling will be used to test extensions of these new high-grade vein intercepts (Great Basin Gold Ltd. press release, 2/5/2001). In the southeastern part of the Ivanhoe district, AngloGold has optioned Franco-Nevada's Baxter claims (Northern Miner, 9/11/2000).

Merrimac District

White Knight Resources Ltd. announced that its partner, Kennecott Exploration Co. issued a notice of termination to the company on its Lone Mountain property. Kennecott completed a 2,000-foot drill program on the property, which yielded disappointing results (White Knight Resources Ltd. news release 9/27/2000).

Pequop District

At its Pequop project, Pittston Nevada Gold Co. planned to construct roads, drill pads, and to drill in a phased exploration project. The project is located in sections 26, 27, 34, and 35, T36N, R65E (Project and Planning Schedule, BLM Elko Field Office, July 2000).

Railroad District

Nevada Pacific Gold Ltd. received the technical summary report from Quantech Consulting Inc. of Reno, Nevada that incorporates data generated and interpreted from a magnetotelluric (MT) geophysical survey completed earlier this year on the company's South Carlin project. The MT survey totaled about 12 line miles and includes three parallel profile lines and one cross or tie line. The purpose of the survey was to assist in defining zones of alteration and silicification discovered in drilling completed by Nevada Pacific last year. Results from the survey will be used as a guide to target future drilling efforts. Nevada Pacific Gold Ltd. and Kennecott Exploration Co. have agreed to wind down the Carlin Trend Alliance between the two companies. To date, Nevada Pacific, either solely or in conjunction with Kennecott, has spent approximately $900,000 on the exploration, identification, and development of the gold targets that currently exist on the Carlin trend land holdings. Nevada Pacific will retain all rights, titles, and interest in all of the exploration properties currently included in the alliance except for the 640-acre Dixie Flat property, which was originally contributed to the alliance and will be retained by Kennecott. Nevada Pacific intends to continue advancing exploration on the gold targets currently identified within its project area, as well as to review potential acquisitions (Nevada Pacific Gold press releases, 11/16/2000, 2/12/2001).

Rock Creek District

Western Mine Development's Dry Creek project contains drill-indicated mineralization in host rocks similar to those of Carlin-type deposits. The prospect was first explored for a near-surface volcanic hosted deposit in the volcanic cover. One of the exploration drill holes penetrated through the volcanic cover and intersected more strongly mineralized siltstone, possibly the top of the lower plate Rodeo Creek Siltstone, which is the uppermost host for some Carlin-type deposits. The Popovich Limestone is projected to possibly occur at a depth of 1,300 feet, and a drill hole is proposed to test the potential of this limestone (www.newgold.com, 3/07/01).

Scraper Springs District

Echo Bay has leased the Ruby Ridge project, located 10 miles northeast of Midas, from Western Mine Development. The Ruby Ridge project was generated and staked by WMD, the exploration and development company for Newgold, Inc. Mineralization at Ruby Ridge occurs in siltstone along northeast- and northwest-trending faults. The project contains a drilled interval of mineralization in a very large alteration system. Echo Bay is mapping the project area in preparation for drilling in 2001 (www.newgold.com, 3/07/01).

Tuscarora District

Franco-Nevada acquired the Tuscarora project of Newcrest Exploration Ltd. and planned drilling on the property (www.franco-nevada.com, 9/11/2000).

Wells District

Tungsten Specialties LLC filed a small-miner notice with the BLM for work planned on a tungsten property near the Clover Valley turnoff from U.S. Highway 93 near Wells. The company is looking for surface mining targets and might do placer-type mining of surface ores and use a water-gravity concentrating process. Some sampling and testing has been done on the property, which is on private land. The next step will be depth testing. Tungsten Specialties is made up of Delta Mining Inc., and Highland Mining Inc. (Elko Daily Free Press, 6/10/2000).

In addition to the above described exploration, the following activity was reported in Elko County in 2000: Pittson Nevada Gold Co. staked the TS claim group in the Good Hope district early in January, and Homestake Mining Co. staked the Pony Claims in the Robinson Mountain district. Both Newmont Mining Co. and Bonanza Exploration Inc. staked claims in the Snowstorm Mountains district during the year, and Golden Hope Mines acquired the option to earn a 100% interest in the 40-claim Emigrant gold property, covering about 820 acres near Wells (The Daily Prospector, 6/24/2000).

ESMERALDA COUNTY

Fish Lake Valley District

Romarco Nevada Inc. has optioned its Mustang Canyon and Red Rock Properties to Victoria Resource Corp. and its wholly owned subsidiary Victoria Resources (US) Inc., and Victoria commenced drilling on both properties in the late fall. At Mustang Canyon, plans are to drill about 1,700 feet of reverse-circulation drilling to test potential mineralization underneath an interpreted large leached cap associated with a rhyolite dome. At Red Rock, Victoria completed over 5,000 feet of reverse-circulation drilling designed to test a reinterpretation of past drilling on the property. Highs from the work included 85 feet of 0.040 opt Au and 1.01 opt Ag, 5 feet of 0.418 opt Au and 0.20 opt Ag, and 5 feet of 0.377 opt Au and 0.42 opt Ag. Two holes also reportedly intersected broad zones of anomalous gold in the underlying limestone. Previous work on the Discovery Zone encountered numerous high-grade drill intersections over a 300- by 2,000-foot area underneath 200 feet of gravel. Additional work, consisting of geological mapping and geochemical sampling followed by drilling, is expected to get underway in the spring (Victoria Resource Corp. press release, 11/30/2000; The Daily Prospector, 2/1/2001).

Gilbert District

Seabridge Resources Inc. has acquired the Castle/Black Rock gold project which hosts a measured and indicated gold resource of 215,000 oz, and a total gold resource in excess of 300,000 oz. Gold mineralization at Castle/Black Rock is concentrated in four identified zones (Castle, Black Rock, Berg, and Boss) in near-vertical structures within Tertiary volcanic and sedimentary rocks. Significant exploration work has been completed by previous owners, including Kennecott and Rayrock (now Glamis). In 1999 Rayrock estimated a gold resource of 274,000 oz based on 82 drill holes. An independent resource analysis by Bikerman Engineering & Technology Associates, Inc., newly commissioned by Seabridge, identifies a measured and indicated gold resource of 13.64 million tons at an average grade of 0.016 opt Au (215,000 oz), based on 139 drill holes. An additional inferred gold resource of 8.76 million tons at 0.011 opt Au (93,000 oz) brings total gold resources to 308,000 oz. A separate geologic review of the project by Seabridge has also identified three distinct new targets that could result in a significant increase in gold resources (Seabridge Resources Inc. press release, 10/10/2000). Platoro West Inc. also staked claims in the Gilbert district.

Goldfield District

Romarco Nevada Goldfield Inc., a wholly owned subsidiary of Romarco Nevada Inc., completed a second phase drill program of 15 reverse-circulation drill holes, totaling 8,055 feet, in the Goldfield project area in Esmeralda and Nye Counties. Romarco currently owns or controls approximately 18,000 acres of patented and unpatented mining claims within the Goldfield district. The objective of the 2000 drill program was to complete some in-fill drilling on McMahon Ridge in order to evaluate the potential for a shallow open-pit gold deposit, and also to conduct initial drill tests on several other exploration targets (Romarco Minerals Inc. press release, 9/20/2000).

Rock Hill District

The Cordilleran Nevada syndicate has dropped the 171-claim Redlich property. A total of 28 holes and 19,590 feet of reverse-circulation drilling was completed through the end of July. In the first stage of eleven drill holes, four vein/fracture zones were encountered with grades of up to 0.27 opt Au over 10 feet, and 0.59 opt Au over 5 feet. The structures that hosted these promising intercepts were interpreted to trend both northwest-southeast and east-west. In addition to the granite veins, disseminated mineralization was encountered that ran up to 0.021 opt Au over 240 feet. Unfortunately, the following 16 holes failed to demonstrate either continuity of any given structure, or continuity of grade along any single structure. It now appears that the mineralization encountered by drilling at Redlich is unrelated to the boulders and cobbles of high-grade epithermal quartz vein material that had been discovered in surface exposures of Tertiary gravels. Despite diligent regional prospecting, the source of the vein fragments with high-grade gold values remains unknown. Cordilleran has dropped all the claims that it has staked, and it has returned two leased claim blocks back to the respective underlying owners (Franc-Or Resources Corp. press release, 3/1/2000).

Silver Peak District

Golden Phoenix Minerals, Inc. was successful with its bid to buy the Mineral Ridge Mine through the Federal Bankruptcy Court in Reno. Formal closing and takeover of the mining property was November 2, 2000. The company has evaluated the unmined gold reserve remaining in the property's Drinkwater and Mary pits. The remaining mineable reserve, at a $275 per ounce gold price, is 2.84 million tons grading 0.074 opt Au and containing 217,600 oz Au. Golden Phoenix plans to mine 648,000 tons of ore production annually and to produce a total of 180,406 oz of Au over the life of the mine, or approximately 40,000 oz annually. The life of the actual mining operation, as it is planned today, is expected to be 4.4 years, and leaching is scheduled for 6 years. On December 5, 2000, Golden Phoenix Minerals, Inc. poured its first gold-silver doré bar at the mine. The doré bar, weighing 257 oz with an approximate ratio of 55% Au and 45% Ag, was from the ongoing rinsing of the gold ore on the mine's leach pads and cleanup of the process plant as required by the Nevada Department of Environmental Protection under the current operating permit. Previous operators placed approximately 1.6 million tons of crushed ore on the pads, and normal circulation of the rinsing solutions is estimated to produce about 150 oz of gold per month. The Mineral Ridge Mine will expand gold production once actual mining begins early next year. A revised reclamation plan has been delivered to the government agencies responsible for overseeing the Mineral Ridge operation, other required permits are currently being transferred, and startup of mining is on schedule for early next year, subject to final approval by regulatory authorities. The company is negotiating with potential contractors to mine the ore currently exposed in the pit (Golden Phoenix Minerals, Inc. press releases, 10/24/2000, 10/31/2000, 12/5/2000).

Also in Esmeralda County, Anglogold (USA) Exploration Inc. staked two claim groups in the Lida district.

EUREKA COUNTY

Antelope District

White Knight Resources Ltd. and Chapleau Resources Ltd. received assay results from their reverse-circulation drill program on the Indian Ranch property. In this latest drill campaign, comprising 11,650 feet in 11 holes, several holes intersected lower-plate units, which are known to be favorable hosts for gold mineralization at other locales (White Knight Resources Ltd. News Release, 1/24/2001).

U.S. Gold Corp. reported that the results of the initial 25 holes drilled at its Tonkin Springs project in 2000 by its partner, Sudbury Contact Mines, have strengthened the gold resource within the established mine corridor and have discovered a new mineralized area some 9 miles to the north of any previous drilling on the property. Until recently, work at Tonkin Springs has been focused on the area around the previous mine development by U.S. Gold and the established gold resource. Sudbury's extensive surface work program during the eighteen months since it became U.S. Gold's partner has identified several new target areas. Initial drilling at Twin Peaks, the first target area outside the mine corridor to be drilled in 2000, indicates a new area of gold mineralization. The area, located in the northern part of the property, is covered by barren volcanic rocks, yet between 100 feet and 400 feet the four drill holes passed through the volcanics and encountered gold mineralization within the same package of rocks associated with deposits in the mine corridor. Holes drilled in this area encountered several long intervals of significant, although low-grade, gold mineralization. Additional drilling in this area is given high priority. Elsewhere on the property, drilling at the Indian Springs target area on the eastern part of the property and 2 miles north of the mine corridor continues to show a favorable geologic setting with anomalous gold values that support continued drilling. The only disappointment has been at Black Springs, located in the southwestern part of the property, where initial drilling did not show encouraging gold mineralization. Several other new target areas are yet to be drilled (U.S. Gold Corp., 10/8/2000).

Buckhorn District

Exploration on the Buckhorn South property is being done by AngloGold North America (Elko Daily Free Press, 11/11/2000).

Cortez District

Cortez Gold Mines, Inc. proposes to amend the approved mineral exploration project, outlined in Horse Canyon Plan of Operations (12/10/99), by expanding the original 14,118-acre area through an incorporation of an additional 16,430 acres to create the Horse Canyon/Cortez Unified Exploration Project. The area covered is located in both Eureka and Lander Counties, and consists of both private lands and public lands administered by the BLM. The proposed exploration activities would be conducted in three phases, and would consist of the construction of access roads, drill sites, and sumps, and the drilling of approximately 620 exploration holes (Environmental Assessment NV063-EA-35, 11/1/2000).

In July, Newmont Mining Co. staked two groups of claims in this district.

Eureka District

Homestake concluded an agreement with European American Resources Inc. to option its Prospect Mountain properties, consisting of about 1,200 acres of mining claims south of Homestake's Ruby Hill Mine. These claims contain widespread gold showings that have not been comprehensively explored in modern times (Homestake Mining Co. press release, 6/8/2000).

Lynn District

Barrick Goldstrike Mines Inc. is completing work on its Rodeo Mine, which includes the Goldbug and North Betze deposits. The mine is expected to begin production in the second half of next year at a rate of roughly 270,000 oz Au per year and increase to about 400,000 oz Au per year by 2003 (Elko Daily Free Press, 2/8/2000, 12/30/2000).

In both this district and the nearby Maggie Creek district, Newmont Mining Co. expects to expand its Gold Quarry open pit and is proposing a new underground mine, Leeville. In addition, Newmont is completing its new underground Deep Post Mine, which is reached through Barrick Goldstrike Mines Inc.'s Betze-Post open pit. Newmont is planning to begin production from Deep Post early next year. The project remains ahead of schedule to produce 425,000 oz Au per year. The Gold Quarry expansion plan, called South Operations Area, covers not only the Gold Quarry open pit but also the nearby Mac and Tusc open pits 6 miles northeast of Carlin (Elko Daily Free Press, 12/30/2000).

Roberts District

Nevada Pacific Gold Ltd. announced that exploration at the Keystone property has identified several new surface targets containing strong base and precious metal anomalies. Nevada Pacific is exploring for skarn-type mineralization formed along the contact zone granodiorite intrusion, as well as structural/replacement gold deposits located farther away from the intrusion. The project covers 2.5 square miles and consists of 85 unpatented mining claims (1,700 acres) located in sections 22, 23, 26, 27, T24N, R48E. In September the company acquired the O'Dair and Keystone patented mining claims, which include the historical Keystone Mine workings (Nevada Pacific Gold Ltd. press release, 9/8/2000).

HUMBOLDT COUNTY

Awakening District

X-Cal Resources Ltd. is preparing to exercise its purchase option on the Kinross Gold Corp. interest in the Sleeper gold project. X-Cal has a drilling program planned and will undertake a financing to fund that drilling and other work. X-Cal will also assume responsibility for reclamation costs at the project site, which are estimated to be $5.6 million over the next 5 years. Kinross will continue to back the reclamation bond as an interim step and will have a security interest in the project until they have been released as bond backer, at which time the security interest will dissolve. The Kinross technical team will continue to manage the reclamation program during the interim period (X-Cal Resources Ltd. press release, 3/14/2000).

Battle Mountain District

Glamis Gold Ltd announced that exploration efforts at its Marigold Mine have resulted in the discovery of a new gold deposit located in the south part of the property. Glamis operates the Marigold joint venture, owned 66.7% by Glamis and 33.3% by Homestake Mining Co. The discovery is referred to as the "Millennium Project." Based on 90,000 feet of reverse-circulation drilling contained in 172 drill holes, the company reports new mineral resources to be 52,667,000 tons grading 0.028 opt Au containing 1,453,600 oz Au. The presently known extent of the deposit occurs from 80 to 600 feet below the surface. The deposit remains open along strike and at depth, and drilling will recommence in the spring. Marigold's exploration budget for 2001 is tentatively set at $2.4 million, a substantial part of which will be devoted to expansion of this new discovery (Glamis Gold Ltd. press release, 11/2/2000).

Gold Run District

Aur Resources has optioned a part of Franco-Nevada's Adelaide claims on the southern part of the Getchell trend and, following mapping and sampling last year, plans a drill program (www.franco-nevada.com, 9/11/2000).

Potosi District

Newmont Mining Co. completed the first year of a $2.4 million option on Franco-Nevada's Knolls property located 4 miles east of the Twin Creeks Mine and plans additional drilling (Northern Miner, 9/11/2000).

At the Pinson property, Homestake is planning to test potential deep high-grade targets (www.franco-nevada.com, 9/11/2000).

Sulphur District

At the Hycroft Mine, pit mapping and chip logging on the Central Fault pit area has identified areas of additional oxide mineralization that can be extended to the southeast with additional drilling. This is in addition to those areas that have been identified and reported previously which could yield an additional 400,000-450,000 oz of oxide mineral resources with more drilling. A hypogene vein system has also been identified in the Cut 4 area of the Central Fault pit; it has a strike length in excess of 1,300 feet; with true widths varying from 5 to 25 feet and grade averaging 0.15 opt Au. Continued compilation of geologic and drill hole data shows that Hycroft is a large epithermal gold system with multiple targets for high-grade mineralization (greater than 0.1 opt Au). (Vista Gold Corp. press release, 11/8/2000).

In addition to the above described exploration, the following claim-staking activity was reported in Humboldt County in 2000: Gold Field Exploration Inc. staked claims in the Buffalo Mountain district, Franco Nevada Mining Co. staked claims in the Iron Point district, Echo Bay Mining Co. staked claims in the Poverty Peak district, and Newmont Mining Co. staked claims in the Blue Mountain area of the Ten Mile district.

LANDER COUNTY

Argenta District

Newmont Mining Corp. temporarily stopped mining at the Mule Canyon Mine on August 31, 2000, and planned to resume mining in early March of 2001. Newmont decided to put the mine on hold because there was not much demand for its mainly sulfide ore to feed the autoclave at Lone Tree, autoclaves at Twin Creek, or the roaster at Carlin (Elko Daily Free Press, 8/22/2000).

Battle Mountain District

In June 2000, Newmont Mining Corp. announced that it acquired Battle Mountain Gold Co. for about $555 million in stock. The merger was finalized in early January 2001. The prime attraction in this acquisition for Newmont is Battle Mountain Gold's Phoenix project. Development drilling on the project during the summer continued to yield good results, and proven and probable reserves at Phoenix now stand at 6.03 million oz Au and 515 million pounds Cu. Plans now call for deeper mining at the current Phoenix, Greater Midas, Reona, and Iron Canyon open pits. Phoenix is expected to produce 415,000 oz Au per year from surface mining, milling, and heap-leaching on site and processing of a gold-copper concentrate at Newmont's Lone Tree Mine at Valmy (Newmont Mining Corp., 6/21/2000; Battle Mountain Gold Co., 10/4/2000; Elko Daily Free Press, 12/30/2000).

Birch Creek District

In September 2000, White Knight Gold (US) notified the U.S. Forest Service that it is proposing to drill a total of 36 holes and to construct approximately 23,800 feet of new road in three different areas of the Quito property. The project is on hold pending Forest Service action.

Buffalo Valley District

Fairmile GoldTech Inc. announced that it has signed an agreement allowing participation in the commercial application of a biotechnology process that uses microbes to greatly enhance the recovery of gold and silver in existing heaps. The process also shows promise as a replacement for cyanide in heaps, and may be ultimately utilized with in situ mining. Pintail Systems, Inc. a private Colorado corporation, developed the environmentally friendly process as an outgrowth of their remediation work on cyanide-bearing heaps. Recent advancements in Pintail's process were funded by Science Applications International Corp. (SAIC). Fairmile will contribute to the program the Buffalo Valley heap and gold mineralization in section 28 of Fairmile's Buffalo Valley project. Initial test work on the heap has been encouraging, and final testing is in progress. Microbial leaching of the Buffalo Valley heap was anticipated to begin in the spring of 2001, pending continued successful testing and modification of permits. Pintail and SAIC will provide technology and funding for the program, with Fairmile retaining 1/3 of all gold produced after deducting operating and capital expenses (Fairmile Gold Mining Inc. Co. news release, 10/2/2000).

Bullion District

Exploration at the Cortez Joint Venture property has discovered a new zone, Crossroads, which contains an indicated resource of approximately 12.6 million tons of oxide mineralization, at an average grade of 0.044 opt Au (at a 0.01 opt cut-off), containing approximately 559,000 oz Au. In addition to the oxide mineralized material, carbonaceous gold mineralization was intercepted. The deposit remains open in several directions and exploration is continuing. Another nearby deposit, the Pediment, is near the old Cortez operations southeast of Pipeline and may become a project in the future. At South Pipeline, stripping is underway, but there is an appeal and request for stay on the project filed by environmental organizations to stop the project. South Pipeline is planned to become part of the Pipeline open pit. The Cortez Joint Venture is a joint venture between Placer Cortez, a subsidiary of Placer Dome Inc. (60%) and Kennecott Explorations (Australia) Ltd., a subsidiary of Rio Tinto (40%) (Royal Gold, Inc. press release, 10/2/2000; Placer Dome Inc. press release, 10/4/2000; Elko Daily Free Press, 12/30/2000).

The New Mayflower property, occupying about 1 square mile about 6 miles northwest of the Pipeline Mine, has been acquired by South Malartic Exploration. The property is located in section 28, T29N, R49E (Northern Miner, 9/11/2000).

Kingston District

Western Mine Development, a wholly owned subsidiary of Newgold Inc., is currently producing gold from the Victorine Mine in Kingston Canyon. The underground operation has production capacity of 1,000 oz Au per month and anticipated increasing that level to 2,500 oz per month by mid-2001. The property consists of 130 mining claims, covering 2,200 acres. Current proven, probable, and possible reserves total 320,000 oz Au (www.newgold.com, 3/07/01).

In addition to the above described exploration work, the following activity was reported in Lander County in 2000: Anglogold staked claims in the Carico Lake district, Newmont Mining Co. staked claims in the Mountain Springs district, Kennecott Exploration staked claims in the Simpson Park Mountains, and Golden Hope Mines acquired the option to earn a 100% interest in the 16-claim McGuiness gold property in the Callaghan Ranch district (The Daily Prospector, 6/23/2000).

LINCOLN COUNTY

Atlanta District

The Cordilleran Nevada syndicate signed a lease agreement on the ground adjoining its Atlanta claim block that will add 183 unpatented claims to the Cordilleran property. The total land position now consists of 447 unpatented claims. The lease does not include the 26 unpatented and 13 patented claims that cover the existing Atlanta Mine pit, dumps, and milling facilities. Work at Atlanta consists of geologic mapping and surface geochemical sampling, a ground magnetic susceptibility survey, and a compilation of existing drill data from prior work by Goldfields and Kinross. In addition, the Cordilleran syndicate ran an airborne magnetic survey over the entire district last spring (Franc-Or Resources Corp. press release, 8/31/2000).

LYON COUNTY

Wilson District

Inmet Mining (US) Inc. planned additional mineral exploration drilling and temporary drill roads on its Rockland Project located just east of the old town of Rockland and approximately 3 miles southeast of Pine Grove (U.S. Forest Service, Quarterly Report of Proposed Projects, Sierra Ecounit, 7/1/2000).

Yerington District

International Taurus Resources reached an agreement in principle to a revision of the terms of its existing exploration and option agreement for the Lyon copper project in Nevada, which was signed with Cyprus Exploration and Development, Phelps Dodge's new subsidiary. The company says the revised terms will allow the payment of US$108,665 to be paid with 628,301 shares at C$0.25/share. Cyprus also reportedly agreed to eliminate all work requirements and to defer property payments until after commercial production (The Daily Prospector, 3/21/2000).

Also in Lyon County, AngloGold staked claims in the Como district in 2000.

MINERAL COUNTY

Aurora District

Metallic Ventures Inc. has acquired the claims and properties comprising the Aurora property of Nevada Goldfields Inc., which has declared bankruptcy. The U.S. Forest Service has requested that all of the previous plans of operation be consolidated into one before further exploration commences (Quarterly Report of Proposed Projects, Sierra Ecounit, 7/1/2000).

Borealis District

Golden Phoenix Minerals, Inc. announced that it has completed the resource study over the Northeast Ridge target within its Borealis property, and has completed evaluation of the separate Orion Belt mineralized zone, which is located on its western area claim block at Borealis. The Northeast Ridge resource study, which is part of the Polaris zone, concluded that the measured and indicated resource is 3,345,800 tons grading 0.021 opt Au for 71,100 oz Au and 0.11 opt Ag for 295,500 oz Ag. The Orion Belt consists of three gold deposits, Cerro Duro, Jaime's Ridge, and Purdy's Peak deposits. The evaluation identified a combined measured and indicated resource of 2,523,400 tons grading 0.03 opt Au for 76,200 oz Au and 0.267 opt Ag for 464,000 oz Ag. Both Cerro Duro and Purdy's Peak deposits remain open at depth. The cumulative resource for the project, which includes the resource studies over the main Borealis and Polaris zones and the Orion Belt, now totals 33,396,100 tons averaging 0.044 opt Au containing 1,454,700 oz Au, and 0.22 opt Ag containing 6,901,900 oz Ag. Golden Phoenix is awaiting approval of drilling permits from the U.S. Forest Service to drill for evaluation of the five reclaimed leach pads, which hold 10.7 million tons of previously mined ore, for residual leachable Au. The company is also moving forward with economic studies of the deposits and preparing drilling plans and budgets. This information will be used in a feasibility study to support future mining plans (Golden Phoenix Minerals, Inc. press releases, 5/22/2000, 8/1/2000).

Candelaria District

Silver Standard reported positive results of two drill programs completed at the Candelaria Mine, under option from Kinross Gold Corp. Silver Standard completed 10 holes totaling 6,460 feet to test the down-dip extension of the Diablo Zone, one of two zones containing substantial in-situ resources at the mine site. On November 30, 2000, Silver Standard reported that Kinross Gold Corp. extended their option to purchase a 100% interest in the Candelaria Mine to March 31, 2001 to facilitate transfer of permits and reclamation bonds from Kinross to Silver Standard and to receive all regulatory approvals. Silver resources at the Candelaria Mine are estimated to total about 150 million oz and are contained in extensions to the Northern Belle and Diablo open pits, inactive heap-leach pads, and low-grade stockpiles. Silver Standard plans to hold the property on a care and maintenance basis until silver prices warrant reactivation (Silver Standard Resources Inc. press release, 3/28/2000, 11/30/2000).

Fitting District

Cordilleran Nevada syndicate has placed surface work at the Fitting property (77 unpatented claims) in north-central Nevada on hold until a complicated land ownership situation is resolved on adjoining ground. The property hosts a Carlin-type system, with shales and shaly limestones that locally display broad zones of decalcification, sanded dolomite, and brecciated jasperoid that may run up to 0.06 opt Au (Franc-Or Resources Corp., 8/31/2000).

Rawhide District

Dayton Mining Corp. announced that it has purchased 49% interest in the Denton-Rawhide Mine from Kinross Gold Corp. The Denton-Rawhide Mine is an open-pit, gold-silver heap-leach operation located near Fallon. Kennecott Minerals Co. is the operator of the mine, owning 51% (Dayton Mining Corp. press release, 2/14/2000).

NYE COUNTY

Ellendale District

Drilling in the West Face area of South Monitor tested one of two parallel-banded feeder vein systems. The veins are about 500 feet apart. Assay results show that the drilled vein zone widens at depth with values of up to 0.025 opt Au occurring in a silicified and mildly argillized volcanic ash sequence. The zone dips about 60 degrees into the other main vein structure and intersects it at about 1,000 feet depth. It has been estimated that the underlying Paleozoic limestone-shale sequence occurs at about 800 feet depth. The juncture of both veins plots, therefore, in the underlying limestone and presents a priority target for Carlin type limestone-shale hosted gold mineralization. Deep drilling to intersect this juncture is planned (Golconda Resources Ltd. news release, 2/15/2000).

Manhattan District

Calais Resources Inc. has agreed to purchase Nevada Manhattan Mining Corp.'s 24.5% interest in 28 patented lode mining claims and 105 unpatented lode mining claims in the Manhattan district. Calais also owns 42 unpatented lode mining claims, not subject to this agreement, bringing Calais's land position to 175 claims in the heart of the district, centered around the productive White Caps Mine. Gold occurs at Manhattan as replacement deposits and vein stockworks in Paleozoic sedimentary and metamorphic rocks sandwiched between a complex of Cretaceous and Tertiary intrusions, and in placers derived from those deposits. Following compilation and interpretation of its large geologic database, Calais plans to initiate aggressive and systematic exploration of its claim block (The Mining Record, 10/27/2000).

Trend Mining Co. has staked claims in the Willow Creek part of this district.

Round Mountain District

Homestake Mining Co. and Case Pomeroy & Co., Inc. agreed to the purchase by Homestake of Case Pomeroy's 25% interest in the Round Mountain Mine for $42.9 million. The acquisition increases Homestake's ownership of the mine from 25% to 50%. The Round Mountain Mine is now Homestake's largest U.S.-based contributor of gold. Since Round Mountain began operations in 1977, it has produced over 6 million oz of gold (Homestake Mining Co., Case Pomeroy & Co., Inc. press release, 6/28/2000).

Rye Patch District

Drilling has started at the Ralston Valley prospect. The target is Carlin type gold mineralization in a Paleozoic limestone sequence that is covered by a thick layer of sand and gravel.

Targets have been selected after a new innovative technology, SMX Surface Geochemistry, showed anomalous values that coincide with a color anomaly recognized by Golconda (Golconda Resources Ltd. news releases, 1/14/2000, 2/15/2000).

Tybo District

Boulder Minerals plans to spend $50,000 to earn 75% interest in the Tybo West silver-gold property 50 miles northeast of Tonopah. Exploration targets are large, sediment-hosted manto and chimney-style deposits with high-grade values. To date, the company has identified six targets through basic prospecting (Northern Miner, 6/12/2000).

Union District

Ione Gold Mining Co. submitted a plan to the U.S. Forest Service to drill six holes above the upper part of Shamrock Canyon in section 1, T12N, R39E.

In addition to the above described exploration, the following claim-staking activity was reported in Nye County in 2000: Cathedral Gold U.S. staked claims in the Bare Mountain district; Barrick Bullfrog staked claims in the Bullfrog district; and Miranda USA Inc. staked claims in the Secret Basin area of the Cloverdale district.

PERSHING COUNTY

Antelope Springs District

Emgold Minerals Ltd. has signed a 20-year lease on the 34-claim Holly Gold property. The property was acquired from David C. Mough, Mark Payne, and Mountain Gold Exploration Inc. of Nevada. Property work to date has defined two targets believed to have potential for bulk-

mineable gold mineralization: auriferous breccia bodies associated with the Relief thrust fault which underlies the area of the Holly antimony mine, and disseminated, stratigraphically controlled, sediment-hosted gold mineralization (The Mining Record, 10/1/2000). Newmont Mining Co. also staked claims in this district.

Haystack District

Sur American Gold released results from surface and underground sampling on its Lone Star project. All known mineralization is oxidized, meaning that it could be amenable to open-pit mining and heap leaching. The reported weighted average of all 98 samples is about 0.053 opt Au, though Sur American reports that the underground samples alone averaged 0.061 opt Au. Gold highs from surface sampling include 0.186 opt Au, 0.207 opt Au, 0.660 opt Au and 0.887 opt Au, while underground highs include 0.307 opt Au over 30 feet, 3.8 opt Au over 10 feet, 2.1 opt Au over 20 feet, and 0.155 opt Au over 16 feet (The Daily Prospector, 9/28/2000).

Nevada Pacific Gold (US) Inc. completed an initial evaluation of the Free Gold project which included compilation of existing data, acquisition of additional ground and reconnaissance geological mapping and sampling of several historical workings, prospects and gold placers. The work identified numerous gold-related occurrences, and samples of outcrop at some of the targets returned gold values ranging from about 0.10 to 1.50 opt gold. The project is located 30 miles west-southwest of Winnemucca and includes parts of northern Pershing and southern Humboldt Counties. The property consists of 47,500 acres of fee land optioned from Nevada Land and Resources and additional unpatented mining claims located by Nevada Pacific Gold in T31, 32, 33, and 34N, R30, 31, and 32E encompassing the Haystack, Sawtooth, and parts of the Antelope and Scossa mining districts. The property hosts hundreds of historical workings and prospects that date back to the turn of the century. Most of the prospects are on quartz-gold veins hosted in altered granodiorite dikes or plugs (The Daily Prospector, 6/7/2000).

Indian District

The Cordilleran Nevada syndicate has dropped the 66 unpatented claims that were held over the Moonlight property in north-central Nevada owing to disappointing results from surface geochemical and geophysical surveys (Franc-Or Resources Corp. press release, 8/31/2000).

Rochester District

Beginning in the second quarter of 2000, Coeur d'Alene Mines Corp. commenced a major drilling program at the Rochester Mine. The initial phase focused on areas within and around the perimeter of the main pit. The second phase was designed to follow up on favorable results of the initial phase to test areas even further outside of the ultimate pit boundary, especially to the east and south of current operations. The program consisted of 161 reverse-circulation holes that in total amounted to 61,545 feet. The 2000 drill program succeeded in defining new proven and probable reserves of 9.6 million oz Ag and 127,000 oz Au before considering 2000 production, as well as contributing to a much better understanding and recognition of the structural elements that control the mineralization.

In conjunction with its drill program at the Rochester Mine, Coeur drilled 73 reverse-circulation holes totalling 23,920 feet at the Nevada Packard deposit located approximately 1½ miles to the south of Rochester. Final compilation and analysis of drill data have not been completed, but drilling to date has successfully extended and deepened previously known mineralization and resulted in the discovery of new east and west ore zones. Permitting of the Nevada Packard satellite deposit is progressing and production in expected to start in early 2002.

Due to the success of the 2000 program, an additional 40,000 feet of reverse-circulation drilling at Rochester and Nevada Packard has been planned for 2001 (Coeur d'Alene Mines Corp. press release, 2/26/2001).

Rosebud District

Mining at the Rosebud Mine, a 50/50 joint venture between Hecla and Newmont Mining Corp., ceased in July and milling was completed in August. Economic gold reserves at the mine have been depleted. The Rosebud Mine was a consistently low-cost producer until the end of mine life. Unfortunately, Hecla was not able to develop additional reserves through exploration at Rosebud (Hecla Mining Co. press release, 8/3/2000).

Scossa District

Romios Gold Resources Inc. completed its initial program of diamond-drilling on its Scossa Gold property. In all, 14 holes totaling 3,633 feet were completed to test a number of gold-bearing, epithermal quartz breccia veins on the property. The results of all the exploration that has been carried out on the property to date are being compiled and analyzed in order to formulate the next phase of exploration. Further diamond-drilling on the property will include a series of deep holes to test the known gold-bearing structures at depth as well as a series of shallow holes to assess known gold-bearing veins upon which little or no meaningful work has been carried out to date. In addition to diamond-drilling, ground geophysical and geochemical surveys together with structural mapping will be carried out over the entire property in an attempt to identify potentially significant gold-bearing structures under the extensive soil cover on the property and to provide greater control to future drilling (Romios Gold Resources Inc. press release, 10/10/2000).

Seven Troughs District

Franco-Nevada drilled 28 reverse-circulation holes on the Seven Troughs project, located approximately 20 miles south of the Rosebud Mine, and a second phase of drilling is planned (Northern Miner, 9/11/2000).

Washiki District

Significant drill results were obtained at the Clear property on the west flank of the Sonoma Range. Intercepts from the 12 holes drilled in different areas of this 5-mile holding included 100 feet at 0.025 opt Au and 25 feet at 0.036 opt Au. These results, combined with earlier work, suggest that significant potential exists on these properties (www.minefinders.com, 1/14/2000).

In addition to the above described exploration activity in Pershing County in 2000, Western Exploration Inc. staked claims in the Black Diablo district.

WASHOE COUNTY

Leadville District

Seabridge Resources Inc. acquired the Hog Ranch gold project in northern Washoe County. Previous drilling has confirmed that Hog Ranch hosts high-grade gold mineralization (0.5 to 5.7 opt Au) within quartz-adularia banded veins similar in texture and mineralogy to the Sleeper and Midas gold projects in northern Nevada. Seabridge is planning a drilling program to further test the high-grade zones along strike. Seabridge plans to undertake a diamond-core drill program in early 2001 (Seabridge Resources Inc., press release 11/7/2000).

WHITE PINE COUNTY

Butte Valley District

Nevada Pacific Gold Ltd. reports that exploration at the Company's Limousine Butte project, being conducted by Newmont Mining Corp., continues to develop new drill targets. Recently generated exploration data combined with the compilation of historical data reveal the presence of a series of (currently eight) significant exploration targets along a 10-mile-long structural corridor. In preparation for Phase Three drilling Newmont continues to evaluate the extensive target areas of alteration and mineralization with mapping, soil and rock chip sampling as well as CS-AMT geophysics to assist with structural interpretation. Phase Three drilling will follow up on the significant gold intercepts encountered in the initial drill programs and also test the newly identified exploration targets (Nevada Pacific Gold Ltd. press release, 10/10/2000).

Cherry Creek District

Nevada Pacific Gold acquired part of the previously mined Golden Butte property in Nevada. The portion comprises all the rights to six unpatented mining claims sold to Nevada Pacific by court order as part of Alta Gold's bankruptcy proceedings. Alteration and sporadic gold mineralization was reportedly encountered by Alta during exploration drilling on the acquired claims (The Daily Prospector, 4/19/2000).

East Diamond Range area

Cypress Development Corp. and Mid-North Resources Ltd. optioned the Gunman property, a base metal property consisting of 25 lode claims situated on the east flank of the Diamond Range, from White Pine Minerals Corp. The property is located in sections 2,3,10,11,14,15, T23N, R55E, and sections 34,35, T24N, R55E approximately 40 miles northeast of Eureka.

Zinc-silver mineralization on the property occurs in carbonaceous limestone, siltstone, and shale in outcrop and at depth. Interbedded sandstone and conglomerate overlie the carbonaceous units and are the host to at least five, copper-silver-zinc showings. Polymetallic jasperoid bodies are also present. Drilling has concentrated on three of many mineralized targets and assay results have been very encouraging. Zinc highs from two of the holes include 37.44% over 5.0 feet, 35.26% over 5.0 feet, 29.34% over 10.0 feet, 24.31% over 50.0 feet, 26.88% over 75.0 feet and 24.31% over 90.0 feet, while silver highs included 12.4 opt over 10.0 feet, 10.7 opt over 35.0 feet and 6.2 opt over 110 feet (Cypress Development Corp.-Mid-North Resources Ltd. joint news releases, 4/28/2000, 6/12/2000, 11/16/2000).

Ruby Hill District

Inmet Mining Inc. proposed to drill 18 holes for gold exploration in sections 21 and 28, T21N, R65E (U.S. Forest Service scoping document, 8/15/2000).

White Pine District

Latitude Minerals released what it says are encouraging assays from the latest drilling in the Red Hill-Pilot Ridge area of its Pan gold deposit in Nevada. The company says results confirm higher-grade structures and expand the open-ended higher-grade mineralization in the Red Hill target area. Gold highlights from recent drilling include 225 feet grading 0.036 opt, including 85.0 feet of 0.061 opt, 240 feet grading 0.024 opt, including 65.0 feet of 0.052 opt, and 130 feet grading 0.050 opt and including 45.0 feet of 0.097 opt. Latitude says the mineralization at Red Hill is particularly shallow, with most intercepts starting at or near the surface and extending to depths of 200 to 250 feet (The Daily Prospector, 6/29/2000).

Major Precious-Metal Deposits

by Joseph V. Tingley

The information in this compilation was obtained from the Nevada Division of Minerals and from published reports, articles in mining newsletters, and company annual reports and press releases. Locations of most of these deposits are shown on NBMG Map 120, 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	1989: 1,065 oz Au, 87 oz Ag 1990: 12,000 oz Au	Triassic slate and phyllite	Cretaceous
New Pass property (New Pass district)	1994: 3.4 million tons, 0.042 opt Au 1997: 3.1 million tons, 0.055 opt Au		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	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
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, page 36 1996: 19,800 oz Au 1999: 147,088 oz Au, 28,395 oz Ag 2000: 131,979 oz Au, 13,402 oz Ag	dacitic dikes, Paleozoic siltstone and laminated limestone/chert	Eocene
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	1987–88: ~97,000 oz Au 1989–92: 135,000 oz Au, 142,000 oz Ag 1993–95: 95,079 oz Au 1996: 45,070 oz Au, 50,322 oz Ag 1997–98: 68,156 oz Au 1999: 36,329 oz Au, 68,400 oz Ag 2000: 61,171 oz Au, 110,900 oz Ag	Vinini Formation Devonian carbonates, dacitic dikes	Eocene

continued

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
ELKO COUNTY (continued)				
Deep Star (Lynn district)	1996: 1.4 million tons, 0.8765 opt Au proven and probable reserves	1995: 2,800 oz Au 1996: 93,400 oz Au 1997–2000: included in Newmont Gold production, page 36	Popovich Formation	Eocene
Doby George (Aura district)	1995: 3.7 million tons, 0.060 opt Au 1997: 250,000 oz Au		Schoonover Formation	
Jerritt Canyon (includes Saval Canyon and Burns Basin) (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	1981–90: ~2.6 million oz Au 1991–94: 1,380,000 oz Au, 25,000 oz Ag 1995–98: 1,296,492 oz Au 1999: 363,000 oz Au 2000: 334,747 oz Au	Hanson Creek and Roberts Mountains Formations	~40 Ma
Ken Snyder Mine (Gold Circle district)	1995: 13 million tons, 0.16 opt Au, 2.7 opt Ag, announced resource, proven Au reserve <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	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	Tertiary volcanic rocks	15.3 Ma
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?
Meikle (Lynn district)	1992: *geologic resource*—7.9 million tons, 0.613 opt Au 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	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	Popovich and Roberts Mountains Formations	Eocene
Piñon (South Bullion and Dark Star) (Robinson Mountain district)	1996: 38.3 million tons, 0.026 opt Au geologic mineral inventory		Webb Formation siltstone Devils Gate Limestone	
Pony Creek (Carlin district)	1994: *geologic resource*—1.1 million tons, 0.057 opt Au			
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
Rain Emigrant	1989: 30.3 million tons, 0.021 opt Au	1994–96: 160,000 oz Au	Webb Formation	36–37 Ma
Springs deposits	1996: 16 million tons, 0.028 opt Au proven and probable reserves; 10.4 million tons, 0.021 opt Au mineralized material	1997–98: included in Newmont Gold production, page 36		
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		
SMZ deposit	1989: *geologic resource*—1.6 million tons, 0.019 opt Au			
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			

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
ELKO COUNTY (continued)				
Rossi Mine (Storm resource) (Bootstrap district)	1998: 3.1 million tons, 0.371 opt Au resource 2000: 2.7 million tons, 0.345 opt Au resource		Popovich Formation	Eocene
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	39 Ma
Winters Creek (Independence Mountains district)	1986: 1.4 million tons, 0.146 opt Au		lower Paleozoic carbonate rocks	Eocene
Wright Window (Independence Mountains district)	1986: 1.3 million tons, 0.095 opt Au	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		Oligocene Sandstorm Rhyolite	21 Ma?
Goldfield Project (Goldfield district)	1983: 1.75 million tons, 0.087 opt Au 1994: 3.48 million tons, 0.071 opt Au	1903–45: 4.19 million oz Au, 1.45 million oz Ag 1989–97: 28,373 oz Au	andesite, rhyodacite, rhyolite	21 Ma
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	1986–92: exploration	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
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?
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 reserve	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	Wyman Formation	Mesozoic?
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	1997: exploration	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		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

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
EUREKA COUNTY				
Afgan (Antelope district)	1996: 80,000 oz Au drill indicated resource 1999: 2.8 million tons, 0.037 opt Au oxide 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	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	Ordovician to Devonian chert, shale, sltstone, and impure carbonates; in part, Vinini Formation	Eocene
Blue Star (Lynn district)	1987: 1.95 million tons, 0.066 opt Au 1989: *geologic resource*—22.2 million tons, 0.030 opt Au	1974–84: intermittent 1988–2000: included in Newmont Gold production, page 36	lower Paleozoic sandy siltstone and carbonate rocks, granodiorite	Eocene
Bobcat (Lynn district)	1988: *geologic resource*—17.7 million tons, 0.029 opt Au		lower Paleozoic rocks	Eocene
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	
Bullion Monarch (Lynn district)	1987: 1 million tons, 0.10 opt Au		lower Paleozoic sedimentary rocks	Eocene
Carlin North-Genesis Complex (Lynn district)				
Genesis	1989: *geologic resource*—35.8 million tons, 0.044 opt Au 1990: 32 million tons, 0.047 opt (includes Blue Star)	1986: production commenced 1988–2000: included in Newmont Gold production, page 38	Ordovician-Devonian limestone, argillite chert	Eocene
Genesis/North Star/ Sold	1996: 22.7 million tons, 0.034 opt Au proven and probable reserves; 11 million	1994–95: 684,600 oz Au 1996–2000: included in Newmont Gold production, page 38	Ordovician-Devonian limestone, argillite chert	Eocene
Genesis Complex	2000: 14.1 million tons, 0.026 opt Au proven and probable open-pit reserves			
Carlin North-Post (Lynn district)				
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	1999–2000: included in Newmont Gold production, page 38	lower Paleozoic sedimentary rocks	Eocene
Deep Post	2000: 3.1 million tons, 0.814 opt Au proven and probable underground reserves			
Carlin North-other (Lynn district)				
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	1994–96: 68,700 oz Au 1997–2000: included in Newmont Gold production, page 38	Roberts Mountains Formation	Eocene
Carlin North-other	2000: 19.8 million tons, 0.052 opt Au, proven and probable open-pit reserves			
Carlin North area	2000: 8.2 million tons, 0.495 opt Au, proven and probable underground reserves			
Carlin South (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	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, page 38 1994–96: 2,978,000 oz Au 1997–99: included in Newmont Gold production, page 38	Ordovician to Devonian chert, shale, siltstone, and impure carbonates; in part, Vinini Formation	Eocene
Carlin South area	2000: 75.2 million tons, 0.059 opt Au proven and probable open-pit reserves			

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
EUREKA COUNTY (continued)				
Genesis (see Carlin North-Genesis)				
Genesis/North Star/Sold (see Carlin North-Genesis)				
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	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	(reported with Gold Bar)	Paleozoic sedimentary rocks	Eocene?
Gold Pick (Antelope district)	1988: 10 million tons, 0.06 opt Au 1993: 1.4 million tons, 0.079 opt Au	(reported with Gold Bar)	Paleozoic sedimentary rocks	Eocene?
Gold Quarry/Mac/Tusc (see Carlin South)				
Gold Ridge (Antelope district)	1988: 4 million tons, 0.06 opt Au 1993: 426,000 tons, 0.059 opt Au	(reported with Gold Bar)	Paleozoic sedimentary rocks	Eocene?
Goldstone (Antelope district)	1988: 1.7 million tons, 0.08 opt Au 1993: 130,928 tons, 0.104 opt Au	(reported with Gold Bar)	Paleozoic sedimentary rocks	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	Vinini Formation, Wenban Limestone	≤35 Ma?
Maggie Creek (Maggie Creek district)	1977: 4.5 million tons, 0.09 opt Au 1988: *geologic resource*—303,000 tons, 0.092 opt Au	to 1986: est. 400,000 oz Au operation transferred to Gold Quarry Mine	Ordovician to Devonian siltstone, chert, sandstone, impure limestone	Eocene
North Star (Lynn district)	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 1989–2000: included in Newmont Gold production, page 38	lower Paleozoic sedimentary rocks	Eocene
Post/Goldbug (see Carlin North-Post)				
Ratto Canyon (Eureka district)	1984: ~200,000 oz Au		Dunderberg Shale, Hamburg Dolomite	Oligocene
Rock Creek (Eureka-Lander Co. line)	1997: 800,000 tons, 0.045 opt Au	1997: exploration	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			Eocene
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	1997–98: 133,100 oz Au, 8,686 oz Ag 1999: 123,841 oz Au, 7,688 oz Ag 2000: 125,193 oz Au, 7,984 oz Ag	Goodwin Limestone	Cretaceous? or Oligocene?
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	1987–88: 10,265 oz Au 1989–90: 3,821 oz Au, 1,872 oz Ag	Vinini Formation, dacitic dikes	Oligocene?

continued

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
EUREKA COUNTY (continued)				
Turf (Lynn district)	1996: 2.5 million tons, 0.367 opt Au mineralized material	included in Newmont Gold production, page 38	Roberts Mountains Formation	Eocene
Tusc (Maggie Creek district)	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, page 38	lower Paleozoic sedimentary rocks	Eocene
West Leeville (Newmont) (Lynn district)	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, page 38	Roberts Mountains Formation	Eocene
West Leeville (Newmont-Barrick) (Lynn district)	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
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		Mesozoic granite	Mesozoic
Buckskin (National district)	1997: 50,221 oz Au, 466,243 oz Ag estimated resource		Miocene rhyolite flows and flow breccias	15 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	41.9 Ma
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 resources, 5.5 million oz Au indicated resources, and 6.7 million oz inferred resources	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	Comus and Preble Formations, granodiorite dikes, granodiorite	42–41 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; 14.1 million tons, 0.0152 opt Au inferred reserves	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	Camel conglomerate, rhyolite dikes	1–2 Ma
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)	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	Havallah Formation 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 reserves	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	Paleozoic chert, argillite, and carbonate rocks	early Oligocene

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
HUMBOLDT COUNTY (continued)				
North Stonehouse (Buffalo Mountain district)	1991: 2.5 million tons, 0.103 oz Au mill ore		Havallah Formation and porphyry dikes	39 Ma
Pinson (includes Mag pit) (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	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	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*—1 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	Ordovician	Eocene?
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	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	Miocene "latite" flows and dikes, silicic ash-flow tuff, Triassic slate and phyllite	16.1 Ma
Trenton Canyon (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	Vinini Formation	
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	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	Paleozoic	Eocene?
Winnemucca Gold property (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		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?

continued

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
LANDER COUNTY (continued)				
Cortez Joint Venture (Bullion district) CJV includes original Cortez Mine, Pipeline, and South Pipeline	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, 0.035 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	1942–84: 2.4 million tons, 0.13 oz Au/ton; 2 million tons, 0.041 opt Au leached. Little Gold Acres: 800,000 tons, 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	Roberts Mountains Formation, Wenban Limestone, Valmy Formation, quartz porphyry dikes	92.8–94 Ma and 36 Ma
Crescent Pit (Bullion district)	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 reserve*—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 reserve*—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	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	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		Valmy Formation	Oligocene?
Klondike property	1989: 100,000 oz Au equivalent			
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	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	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	basalt and basaltic andesite	15–16 Ma

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
LANDER COUNTY (continued)				
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	1989: 3,700 oz Au	Valmy Formation	early Oligocene
Slaven Canyon property (Bateman Canyon district)	1994: 50,000 oz 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 reserve 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	
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	1994: exploration	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	1997: exploration	Tertiary andesite	
Pine Grove (Pine Grove district)	1994: 2.5 million tons, 0.061 opt Au		Cretaceous granodiorite	
South Comstock Joint Venture (Silver City district)	1994: 3 million tons, 0.05 opt Au 1995: 100,000 oz Au			

continued

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
LYON COUNTY (continued)				
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	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)	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	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
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	rhyolite plugs, flows, tuffs, breccias	16 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

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
NYE COUNTY (continued)				
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	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		Tertiary rhyolite tuff	
Gold Hill property (Round Mt. district)	1998: 306,620 oz Au, 4,871,890 oz Ag potential resource		rhyolite ash-flow tuff	26 Ma(?)
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		Ordovician Palmetto Formation	
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			
Northumberland (Northumberland district)	1988: 12 million tons, 0.06 opt Au	1939–42: 327,000 oz Au 1981–84: 950,000 tons/year 1988: 29,667 oz Au, 130,394 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
Reward property (Bare Mountain district)	1998: 77,500 oz Au		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	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	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	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

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
PERSHING COUNTY				
Bunce (Velvet district)	1989: *geologic reserve* - 600,000 tons, 0.04 opt Au 1990: 500,000 tons, 0.04 opt Au		rhyolite	
Colado Gold (Willard district)	1997: 15 million tons, 0.022 opt Au resource		Triassic-Jurassic metasedimentary rocks	
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	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	Grass Valley Formation	Late Tertiary?
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 resources 2000: 569,000 oz Au and 1.7 million oz Ag indicated reserves			
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	Cretaceous?
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)	1986–98: 810,329 oz Au, 59.3 million oz Ag 1999: 70,396 oz Au, 6.2 million oz Ag 2000: 75,886 Au, 6,678,274 oz Ag	Koipato Group, Weaver Rhyolite	Late Cretaceous
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
Tag-Wildcat (Farrel district)	1989: *geologic resource*—1.5 million tons, 0.043 opt Au; *reserves*—416,000 tons, 0.076 opt Au		Tertiary volcanic rocks	Miocene
Trinity (Trinity district)	1987: 1 million tons, 5.25 opt Ag	1988: active, production not reported 1989: 718,714 oz Ag, 70 oz Au	rhyolite plugs	Miocene
STOREY COUNTY				
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 (continued)

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		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	1986–87: 80,000 oz Au 1988–95: 118,045 oz Au, 25,400 oz Ag	rhyolite, explosion breccia sinter	15–16 Ma
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 (Top) (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 resources	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	quartz porphyry, Cambrian shale and limestone	Jurassic?
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

continued

MAJOR PRECIOUS-METAL DEPOSITS (continued)

Deposit name	Reserves/resources	Production	Host rock	Mineralization age
WHITE PINE COUNTY (continued)				
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	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		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	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 pounds Cu 1999: 26,250 oz Au, 153,104 oz Ag, 62 million pounds Cu	Rib Hill Sandstone Riepe Spring Limestone intrusions	Cretaceous
Taylor (Taylor district)	1980: 10 million tons, 3 opt Ag	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	1990: ~15,000 oz Au 1992: 10,800 oz Au 1993: *see* Bald Mountain	Pilot Shale	36–38 Ma?

Newmont Gold Production in Carlin Trend

Production data for individual mines owned by Newmont Gold Co. in the Carlin trend are not available in many cases. Total 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

NA= not available

Industrial Minerals

by Stephen B. Castor

The total value of industrial minerals produced in Nevada in 2000, an estimated $395 million, was about 3% above the value in 1999. In order of estimated value, the most important Nevada industrial minerals in 2000 were construction aggregate, lime, diatomite, cement, gypsum, barite, lithium, magnesia, silica, and clay, each valued at more than $5 million. Commodities with values of less than $5 million were dolomite, limestone, perlite, dimension stone, salt, brucite, and semiprecious gemstones (opal and turquoise). Colemanite and zeolite were processed in Nevada, but mined nearby in California. Data used for these estimates, and data reported for individual commodities below, were obtained from the Nevada Division of Minerals or directly from companies that produced the industrial minerals.

AGGREGATE (SAND, GRAVEL, AND CRUSHED STONE) For the year 2000, statewide aggregate production is estimated at 28 million tons, slightly lower than in 1999. In 2000, construction aggregate production in Nevada had an approximate total value of $126 million, far below that of gold but higher than that of silver among the state's mined commodities. Aggregate produced from sand and gravel deposits accounted for about 80% of aggregate production statewide, with crushed stone and lightweight aggregate making up the balance. Aggregate produced in the Las Vegas area, estimated at 19 million tons, decreased slightly from 1999. Production in the Reno-Sparks-Carson City area, at about 6 million tons, was slightly higher than in 1999.

Companies in the Las Vegas area that produced more than a million tons of aggregate in 2000, ranked in approximate order of tonnage produced, were Nevada Ready Mix Corp., Las Vegas Paving Corp., CSR (formerly WMK Transit Mix Inc.), Hanson Aggregates Las Vegas (formerly Bonanza Materials Inc.), Hanson Aggregates Nevada (formerly Blue Diamond Materials Co.), Frehner Construction, and Wadley Construction. Other important producers were Wells Cargo Inc. and Gornowich Sand and Gravel. Nevada Ready Mix mined most of its aggregate from an open pit in an alluvial fan in the Lone Mountain area. Las Vegas Paving Corp. produced sand and gravel from the Las Vegas landfill, a pit in the Lone Mountain area, and chat from the Chemical Lime operation at Apex. Hanson Aggregates Las Vegas (formerly Bonanza Materials) shut down its sand and gravel operation in Henderson in 1999 and now produces exclusively from crushed granite mined near Railroad Pass. Its sister company, Hanson Aggregates Nevada, operates the Blue Diamond Pit (formerly owned by Blue Diamond Materials). Both are part of the holdings of Hanson PLC, an English company that is ranked as the world's largest producer of construction aggregate. Community pits and other aggregate mining facilities administered by the U.S. Bureau of Land Management and operated by several companies provided about 3 million tons to the Las Vegas area total in 2000.

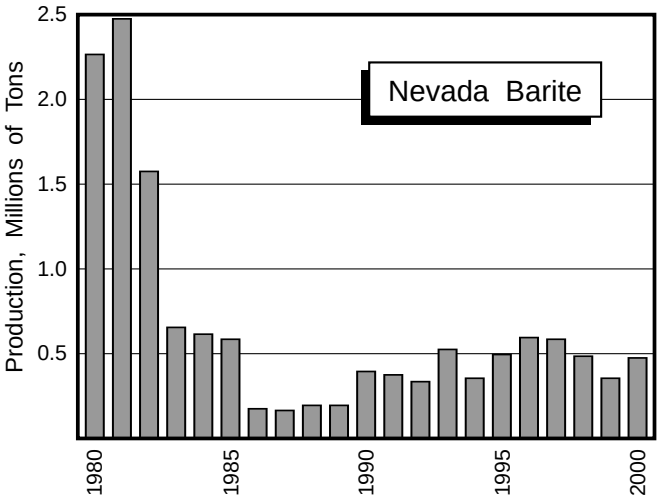
Sand and gravel operations accounted for about 85% of the aggregate used in the Las Vegas metropolitan area in 2000, with crushed stone and lightweight aggregate making up the balance. The most important source of sand and gravel aggregate for Las Vegas is the Lone Mountain area northwest of Las Vegas, which accounted for more than 6 million tons in 2000. Significant production comes from sand and gravel pits in the long-productive Buffalo Road area in the southwest part of Las Vegas, and the Las Vegas landfill in Apex northeast of Las Vegas has recently become an important sand and gravel production site. Major crushed stone producers in the Las Vegas area were Hanson Aggregates Las Vegas near Railroad Pass, and Frehner Construction Co. at Sloan. The Southern Nevada Lightweight operation near Jean mainly produced aggregate for lightweight cement block and sand for use in stucco.

In the Reno-Sparks-Carson City area, Granite Construction Co., Rocky Ridge Inc., and All-Lite Aggregate Co. produced more than a million tons of aggregate in 2000. Rilite Aggregate Co., Paiute Pit Aggregates, Frehner Construction, and A & K Earthmovers, Inc. were also important producers. Crushed rock continued to be an important source of aggregate in this area; crushed rock operations of Granite Construction, Rocky Ridge Inc., and Frehner Construction, and lightweight rhyolite aggregate from All-Lite Aggregate Co., Rilite Aggregate Co., and Naturalite Aggregate Corp. accounted for nearly 70% of the aggregate used in 2000 in the Reno-Sparks-Carson City area.

BARITE Nevada barite production increased in 2000 due mainly to increases in North American gas well drilling, and barite shipments were an estimated 480,000 tons, about 35% percent more than in 1999. Although Nevada barite production is far below the boom years of 1977-1982 when more than a million tons were produced annually, there is reason for optimism because of recent energy price increases and the state's large unexploited resources. Active Nevada barite producers now number four, compared with more than twenty companies in the early 1980s. Low-priced Chinese barite imports into the Gulf Coast are the main reason for the long-term Nevada decline, although Nevada barite is highly competitive for drilling uses in terms of specific gravity and chemical purity.

M.I. Drilling Fluids Co., which is jointly owned by Smith International and Schlumberger, was again the largest Nevada barite producer in 2000, with combined production of more than 300,000 tons of screened and

crushed high-grade ore from the Greystone Mine and ground and bagged barite from its Battle Mountain plant, both in Lander County. Baroid Drilling Fluids, a subsidiary of Halliburton Co., mined barite from the Rossi Mine in Elko County and processed it at the Dunphy Mill in Eureka County. Baker Hughes INTEQ produced barite from its Argenta property (previously a Millpark operation) near Battle Mountain in Lander County. Standard Industrial Minerals shipped a small amount of barite in 2000 from a deposit of white, paint-grade barite at the P and S Mine in Nye County to a processing plant in Bishop, California.



BORATE American Borate Co. mined borate minerals from an underground operation in Death Valley, California, in 2000. The ore is processed at the Lathrop Wells mill in Nye County, but because the ore is from out of state, this production is not included in the estimate of total value of Nevada minerals.

CEMENT The Nevada Cement Co., a subsidiary of Centex Construction Products, Inc., produces portland cement at a plant at Fernley in Lyon County. Annual production exceeds 500,000 tons of cement (according to NBMG estimates). Limestone is mined from Cenozoic lacustrine deposits south of Fernley, and other ingredients come mostly from northern Nevada.

In 1999, Royal Cement Co. restarted an idle plant near Logandale in Clark County. Limestone is mined at a site near the plant, and other raw materials are purchased from regional suppliers. Production from this operation in 2000 was about 120,000 tons, according to NBMG figures.

CLAY Nevada clay production was slightly higher in 2000 than in 1999. IMV Nevada, owned by Mud Camp Mining Company, produced about 33,500 tons of sepiolite and saponite from deposits in lacustrine sediments in the Ash Meadows area of Nye County. The company has a processing plant in Amargosa Valley, and exports a variety of clay products worldwide. It is the only producer of sepiolite and saponite in the United States.

The Moltan Co. mines clay near Empire in northern Washoe County for use with diatomite in clumping cat litter that is produced at a plant near Fernley (see below under diatomite). The Art Wilson Co. sold less than 100 tons of montmorillonite from the Jupiter Mine in Lyon County in 2000. The company also mined halloysite clay from a deposit in Washoe County for Nevada Cement Co.; however, the halloysite is not reported as clay in NBMG mineral production figures because it is included in portland cement.

Two companies campaign mine and ship relatively minor amounts of Nevada clay from several sites for use in high-cost specialty products. Vanderbilt Minerals Co. shipped small amounts of clay from several Nevada deposits for use in pharmaceutical and cosmetic products. The clay includes white bentonite that is mined underground from the New Discovery Mine near Beatty in Nye County where the company also stockpiles clay from other sites. American Colloid Co. did not mine clay in Nevada in 2000 but made some shipments from stockpiles in Lovelock. The clay, white bentonite from Coal Canyon in Pershing County and hectorite from the Disaster Peak deposit in Humboldt County, went to the company's plant in Belle Fouche, South Dakota, to be blended into specialty clay products.

In 2000, Oil-Dri, the world's largest manufacturer of cat litter, proceeded with development of a montmorillonite deposit with 300 million tons of proven reserves in Hungry Valley north of Reno. The U.S. Bureau of Land Management ruled that the clay is a locatable mineral. The clay, which is mainly composed of calcium montmorillonite, occurs in beds as much as 94 feet thick, and is considered to be an excellent material for clumping cat litter. The company, which plans to ship about 200,000 tons per year of product, will employ about 100 people at the Hungry Valley mine and plant. The company is in the process of getting federal, state, and local approvals to operate, and production startup is predicted for late 2002.

DIATOMITE Eagle-Picher Minerals, Inc., a division of Eagle-Picher Industries, Inc., a wholly owned subsidiary of Granaria Holdings Ltd. of the Netherlands, is the second largest diatomite producer in the U.S. It produces most of Nevada's diatomite at three different operations that have estimated combined annual production of about 200,000 tons. The most productive is the Colado operation in Pershing County, which consists of a plant at Lovelock that makes diatomaceous earth filtration products from diatomite mined northwest of Lovelock. The company also produces diatomite that is mainly used in fillers and absorbents at its Clark plant and mine in Storey County, and diatomite used in insulation from a pit near Hazen in Lyon County.

Moltan Co. of Tennessee is the second largest diatomite miner in Nevada, producing absorbent products, cat litter, and soil conditioner at a mine and plant complex in Churchill County northeast of Fernley. Moltan, a family-owned Tennessee company, ships diatomaceous earth

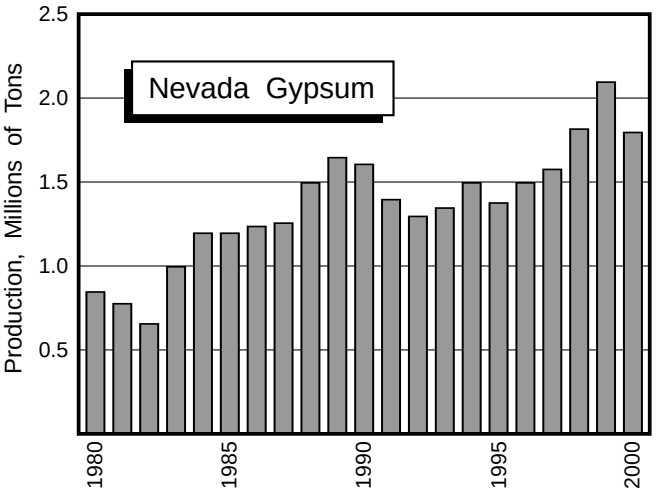
products under several labels of which a Napa Auto Parts brand is the most important. The company produces two cat litter types in Nevada, a non-clumping product made of diatomite and a clumping product composed of diatomite and clay. Other companies that produced diatomite in Nevada in 2000 were CR Minerals at Hazen in Lyon County and Grefco Inc. at its Basalt operation near the Esmeralda/ Mineral county line. CR Minerals produces a high-brightness product that is used in paints and coatings, and provides 40% of the diatomite used in paint to control gloss. In 2000 the parent company, Canyon Resources, sold CR Minerals to a group of Texas investors. Grefco built a small plant to produce filtration products at its Basalt operation in 2000, although there is considerable local opposition because it is near residences.

DIMENSION STONE Las Vegas Rock produces flagstone, ashlar, and crushed landscape rock from its Rainbow Quarries near Goodsprings, about 20 miles southwest of Las Vegas. The stone is quartz-cemented sandstone that is part of the Jurassic Aztec Sandstone, which crops out extensively in Clark County but typically is more friable. The company has also begun to market cut stone and plans to produce polished slabs and custom stone shapes.

In December of 1999, Mount Moriah Stone, of Baker, Nevada, filed a plan of operations with the U.S. Forest Service to renew production of quartzite from a quarry in southeastern White Pine County. The plan called for production of 600 tons per month of hard quartzite in naturally split slabs as large as 5 by 8 feet and 4 inches thick. Quarrying of the stone, which has been sold in the past for flagstone and other uses, began in 2000. Two other companies, American Stone and Dunbar Stone, also began to split and palletize similar quartzite from nearby quarries on land administered by the U.S. Bureau of Land Management, which also oversees a community pit in the same material.

Building Stone Associates has been developing a slate deposit in Egan Canyon near Cherry Creek in White Pine County. It is thought that the stone will bring a premium price because of its unique blue mottled color.

GYPSUM Gypsum production in Nevada decreased to about 1.8 million tons in 2000 from 2.1 million tons in 1999 due to a glut in the wallboard market, a result of recently expanded national production capacity. PABCO Gypsum in Clark County northeast of Las Vegas was the largest producer, mining nearly a million tons of ore in 2000; however, actual finished gypsum production was lower because the ore must be beneficiated to produce gypsum concentrate. PABCO processes most of this gypsum into wallboard in a plant adjacent to the mine, but also makes plaster. The Blue Diamond operation of James Hardie Gypsum, southwest of Las Vegas in Clark County, was the second largest producer at about 570,000 tons. In 2000, the company purchased the large Western Mining and Minerals gypsum mine that straddles the Utah-Arizona border southwest of Saint George, Utah, and is currently negotiating the sale of its Nevada property with Las Vegas developers. The Blue Diamond mining area, located on a mesa that overlooks Las Vegas, and the site of gypsum mining since 1925, may now be worth more as a site for upscale residence construction than as a source of high-grade gypsum. Georgia Pacific Corp., which operates a wallboard plant northeast of Las Vegas at Apex, stopped mining in Nevada several years ago and purchases gypsum from the Western Mining and Minerals mine. USG Corp., which is the nation's largest wallboard producer, mines gypsum in northern Pershing County and processes it into wallboard and plaster at its Empire plant at Gerlach in Washoe County; it was the third largest producer in 2000 at about 500,000 tons. The Art Wilson Co. of Carson City shipped about 132,000 tons of gypsum and anhydrite from the Adams Mine in Lyon County for use in cement and agricultural markets; the company's sales of agricultural gypsum fell off strongly in the fourth quarter of 2000 owing to abnormally dry weather in California.



LIME, LIMESTONE, AND DOLOMITE In 2000, lime production in Nevada continued at record levels, increasing nearly 15% over 1999. The lime is produced from Devonian limestone deposits that are located at nearly opposite ends of the state. The Continental Lime, Inc. Pilot Peak high-calcium lime operation near Wendover in Elko County shipped the most lime in 2000, mainly to Nevada gold-mining operations for use in pH control. The Pilot Peak plant, which began as a one kiln operation in 1989, now 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.

Chemical Lime Co. produces lime at Apex northeast of Las Vegas. The operation mainly produces 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 use in construction. The Chemical Lime dolomite quarry at Sloan and its processing facility in Henderson have ceased operation.

In addition to lime, both Continental Lime and Chemical Lime ship crushed limestone. Other carbonate

rock producers in Nevada are Min-Ad, Inc. and Nutritional Additives Corp., producers of agricultural dolomite near Winnemucca. Min-Ad, the larger of the two, shipped about 74,000 tons of ground dolomite in 2000, a 15% increase over 1998.

LITHIUM Chemetall Foote Co., a subsidiary of giant international Metallgesellschaft AG, produces lithium carbonate, lithium hydroxide monohydrate, and lithium hydroxide anhydrite at Silver Peak in Esmeralda County. The operation produces these chemicals from brine that is pumped from beneath Clayton Valley playa and evaporated in nearby ponds. In recent years, new lithium brine operations in South America caused prices for large orders of lithium carbonate to decline in 1998 from about $2.00/lb. to about $1.00/lb. According to 1998 Securities Exchange information, the most recent public information available, production at Silver Peak was on the order of 12 million lbs. lithium carbonate and 5 million lbs. lithium hydroxide.

MAGNESIA Production of magnesia from magnesite at Gabbs in Nye County by Premier Chemicals LLC (formerly Premier Services Corp.) increased for the second year in 2000 and was about 8% higher in 2000 than in 1999. A relatively small amount of brucite was also shipped by the operation in 2000.

Magnesium minerals have been mined in the Gabbs area since the 1940s when magnesia was shipped to Henderson as a raw material for magnesium metal production. From the 1950s to the 1980s mining and processing was by Basic Industries, an important producer of refractory magnesia. Because of the impact of low-cost Chinese refractory magnesia, production at Gabbs was switched to light-burned (caustic) magnesia. The commodity is mainly marketed for water and sewage treatment under the name Aquamag, a slow-release pH-control product that has had steadily increasing sales since its introduction about five years ago. In 2000, the company increased plant capacity to 154,000 tons per year in response to growing demand for wastewater treatment products. Agricultural users are now the second most important market for magnesia from this operation.

PERLITE The global markets for perlite have been strong in recent years, and although Nevada has abundant resources, only small amounts of perlite are currently produced from two deposits. Wilkin Mining and Trucking Inc. mines perlite from the Tenacity Perlite Mine (formerly the Mackie Mine) in Lincoln County. In the past, most of the perlite was shipped as crude; however, the company built a small popping plant, now referred to as the Tenacity Perlite Mill, in Caliente in 1987 and present day sales are almost exclusively of expanded perlite. Shipments in 2000 totaled about 2,000 tons, mainly of perlite for horticultural uses. Eagle-Picher Minerals Inc. produces expanded perlite at its Colado diatomite plant in Pershing County from perlite that is mined at the Popcorn Mine in Churchill County. The perlite is marketed as a filter aid, and plant capacity is reportedly about 8,000 tons per year.

Advanced Mining LLC submitted a plan of operations to the U.S. BLM for the Dawson perlite claims located east of Henderson in Clark County in May, 2000. The plan calls for taking bulk samples for testing; mining at 50,000 tons per year is planned if test results are positive.

SALT The Huck Salt Co. produced 13,000 tons of salt in 2000. The salt, mined from a playa east of Fallon in Churchill County, is now mainly used for deicing roads. Salt has been harvested from this deposit more-or-less continuously since the 1860s when it was hauled to the mills that processed Comstock silver and gold ore.

SEMIPRECIOUS GEMSTONES Minor production of opal comes from Virgin Valley in Humboldt County, and small amounts of turquoise are produced near Austin in Lander County.

SILICA Simplot Silica Products in Clark County shipped 671,000 tons of silica sand in 2000, a slight decrease from production in 1999. The sand is mined from an open pit in the relatively friable Cretaceous Baseline Sandstone, washed in the pit, and transported via a slurry pipeline to a plant near Overton where it is screened and bagged.

Las Vegas Rock, which currently produces decorative and dimension stone from resistant sandstone southwest of Las Vegas, is negotiating with an undisclosed silica producer to provide an estimated 200,000 tons of glass-grade silica sand per year as a by-product of stone production. In addition, a small silica operation is said to have been active near Mercury in Nye County.

VERMICULITE In 2000, vermiculite deposits in the Gold Butte area of Clark County were explored. The deposits are said to be of interest because they contain high-quality vermiculite and are near potential markets in Southern California. International Vermiculite LLC, a joint venture between Nevada Vermiculite and Stansbury Holdings Corp. announced plans to drill a deposit near Mica Peak.

ZEOLITES Ash Meadows Zeolite LLC, a subsidiary of Badger Mining Corp., ships 1,000 to 2,000 tons of clinoptilolite annually from a plant in Amargosa Valley in Nye County; this facility was formerly owned by American Resource Corp. The clinoptilolite, which is used in water filtration, odor control, and nuclear cleanup, is now mined in California from a large deposit that averages more than 90% clinoptilolite and extends into Nevada. The company is evaluating plans for mining green clinoptilolite for use in cat litter from the Nevada portion of the deposit. Moltan Co., which primarily markets diatomaceous-earth products, also ships some mordenite from its plant near Fernley. The mordenite comes from a deposit in the Trinity Range in Churchill County.

Geothermal Energy

by Ronald H. Hess

Four geothermal well permits were issued during 2000 by the Nevada Division of Minerals: one industrial production well, one injection well, one gradient/observation well, and one domestic well (Nevada Division of Minerals, 2001).

Due to ongoing difficulties in the electrical utilities industry, the year 2000 Federal geothermal lease, royalty, and energy sales information had not been compiled by the U.S. Bureau of Land Management in time to be included in this publication. This information will be included in next year's review of the geothermal industry.

Total Nevada geothermal electrical production from both federal and fee lands combined in 2000 was 1,572,958 megawatt-hours (MWh) gross; net production was 1,257,781 MWh (Nevada Division of Minerals, 2001). Due to the ongoing confusion in the California utilities industry, a firm sales value for Nevada geothermal electrical production was not available at the time of publication. It is anticipated that the total sales value for 2000 will be approximately $90 million. Production capacity from the currently developed geothermal resources at ten existing geothermal power production sites in Nevada is 216.5 megawatts. Nevada is second only to California in total installed geothermal generating capacity.

GeoPowering the West

A draft of a new initiative from the Department of Energy (DOE), entitled ***GeoPowering the West***, has been released. The goals of the initiative are to have geothermal energy sources provide 10% of the electricity needs of the western states by 2020, provide the electrical or heat energy needs of at least 7 million U.S. homes by 2010, and double the number of states with geothermal electrical power production to eight by 2006. Implementation of this initiative will incorporate a broad education and outreach program, increased federal geothermal energy use, technology advancement and deployment initiatives, expanded exploration and resource development program, policy incentives, and institutional regulatory improvements. More information on this initiative can be viewed on the web at <www.eren.doe.gov/geopoweringthewest>.

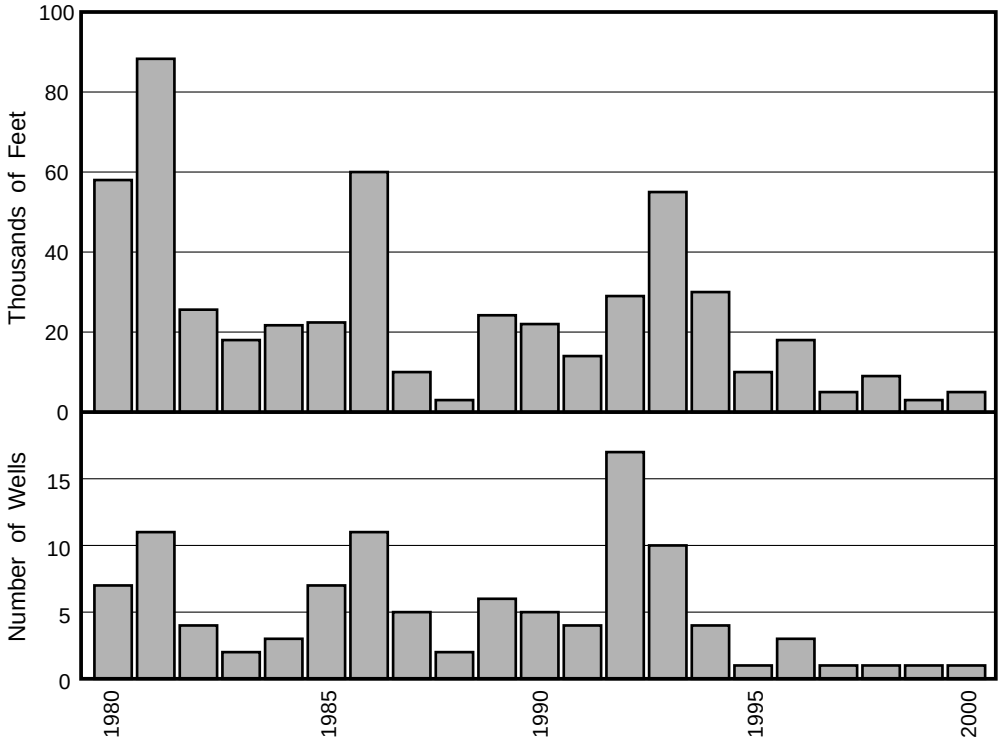
One of the first projects to develop out of this initiative was the *Geothermal Energy in Nevada and the West* conference held at the University of Nevada, Reno Campus on July 6, 2000. This conference was co-hosted by U.S. Senator Harry Reid, U.S. Department of Energy, University of Nevada at Reno, and the Geothermal Energy Association. A 1:1,000,000-scale geothermal resources map of Nevada (NBMG Map 126) was released at the conference and is available at the Nevada Bureau of Mines and Geology publication sales office. This map shows the potential for additional geothermal resource development in Nevada and the rest of the country. Under the GeoPowering the West Initiative, DOE announced on August 9, 2000, the creation of 21 new cooperative cost-share partnership projects between DOE and the geothermal industry. Six of these partnerships have projects that are located in Nevada:

(1) Empire Energy, LLC.—Empire Geothermal Area
(2) Steamboat Envirosystems, LLC.—Reno
(3) Coso Operating Co., Caithness Resources, Inc. —Steamboat Geothermal Area
(4) Mount Wheeler Power Co.—Rye Patch Geothermal Area
(5) Normex Corp,—Blue Mountain Geothermal Area
(6) S.B. Geo, Inc.—Steamboat Geothermal Area

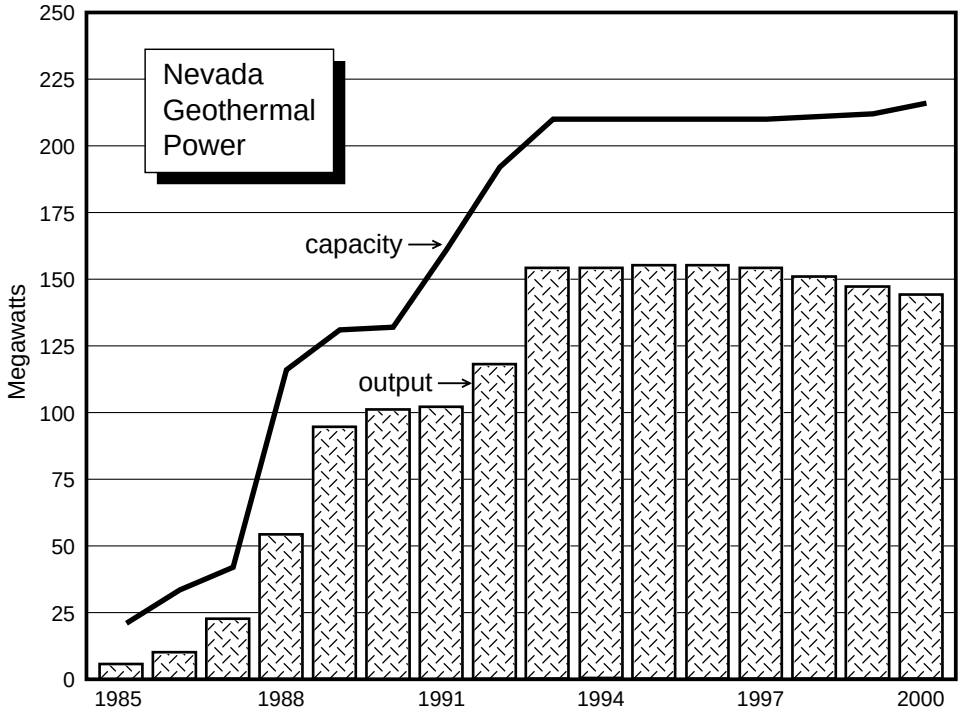
The first-year funding commitment for the DOE share of costs for the six Nevada projects is $706,197. (Bulletin Geothermal Resources Council, July/August 2000, v. 29, no. 4)

NONDOMESTIC GEOTHERMAL WELLS REPORTED AS DRILLED OR COMPLETED IN NEVADA DURING 2000

Area	Company	Well name	Permit#	Location	Type
Pershing County					
Rye Patch	Mt. Wheeler Power	Industrial Production Well 72-28	490	NE^{1}_{4}, NE^{1}_{4}, S28, T31N, R33E	Production
Washoe County					
Steamboat Hot Springs	Yankee Caithness	Industrial Production Well 24-5	178	SW^{1}_{4} NW^{1}_{4}, S5, T17N, R20E	Production



Industrial-class (power generation) wells drilled in Nevada, 1980–2000. Depth taken from original drilling permit.



Currently developed resource capacity and average net output of Nevada geothermal plants, 1985–2000. 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.

Bradys Hot Springs and Desert Peak

Western States Geothermal Co. has sold the Brady Hot Springs geothermal power plant to **ORMAT International, Inc.** for $20.5 million. ORMAT International, Inc. has also obtained the lease for the **Desert Peak** Geothermal Power Plant, which is owned by **Florida Power and Light Co**. The Bradys Hot Springs geothermal power plant has a long-term sales contract with Sierra Pacific Power Co. that runs until 2022. The Desert Peak plant does not have a long-term contract but has an intertie line connecting it to the Bradys power plant, allowing it to sell its production under Bradys long-term sales agreement. This is possible because both plants are located within the same Known Geothermal Resource Area (KGRA). (Bulletin Geothermal Resources Council, March/April 2001, v. 30, no. 2)

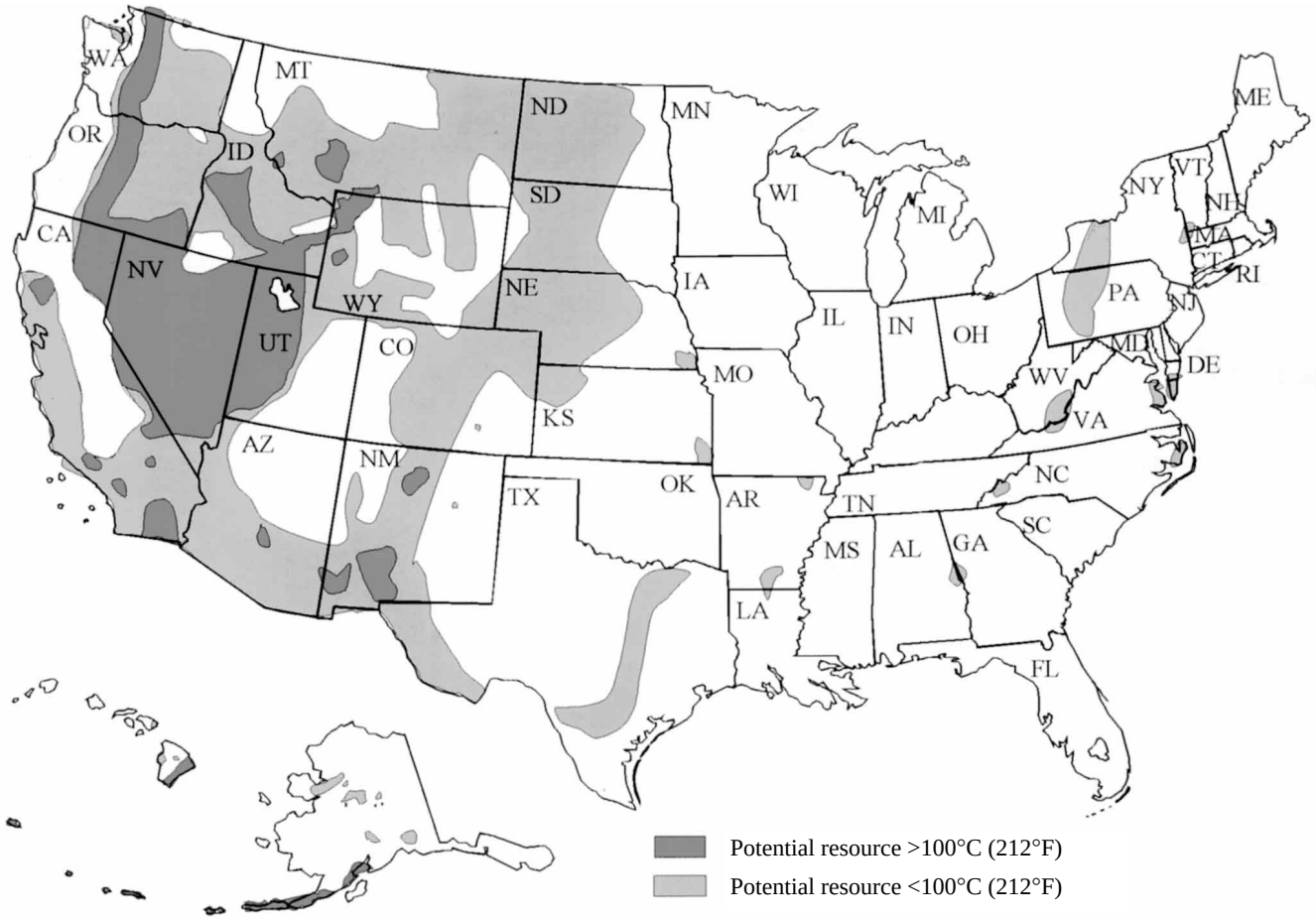
The Bradys Hot Springs geothermal power plant had a gross output of 132,180 MWh and a net production of 87,144 MWh during 2000. The Desert Peak geothermal power plant had a gross output of 62,551 MWh and a net production of 52,536 MWh. (Nevada Division of Minerals, 2001)

Dixie Valley

Oxbow Geothermal Corporation sold the Dixie Valley power plant to **Caithness Dixie Valley, LLC**. The Dixie Valley power plant had been operated by Oxbow Geothermal Corp. since its startup in 1988. The Dixie Valley power plant utilizes 250°C geothermal fluids to generate approximately 66 megawatts of electricity. During 2000 it had a gross output of 512,930 MWh and a net production of 457,096 MWh. The Dixie Valley geothermal plant is currently the single largest geothermal energy producer in Nevada. (Nevada Division of Minerals, 2001)

Moana Geothermal Area

The Warren Estates and Manzanita Estates Residential Geothermal Space Heating District, operated by the **Nevada Geothermal Utility Co.** since 1983, obtained permission from the Nevada Public Service Commission to switch from BTU meters to a flat-rate customer billing system. This follows a long history of problems and inaccuracies associated with the BTU meters.



Known and potential geothermal resources.

Compiled by the Energy and Geoscience Institute, University of Utah.

When the district was first established, each residence was equipped with a BTU meter to measure the amount of energy used. This value became the basis for calculating each residence's space and water heating bill. The BTU meters that were initially installed measured flow rate and fluid temperature drop between inlet and outlet to compute the heat energy consumption in therms (100,000 BTUs). With ongoing problems associated with the meters (caused by corrosion, exposure to the elements, breakage, old age, and general unreliability) the Nevada Geothermal Utility Co. obtained approval from the Nevada Public Utilities Commission to develop and implement a flat-rate billing system. It is based in part on square footage being heated and additional rates for swimming pools, spas, and driveway deicing. This billing system is scheduled to be reviewed by the Public Utilities Commission during 2001.

The Warren Estates and Manzanita Estates Residential Geothermal Space Heating District covers 130 acres and includes 100 residences that currently have contracts with Nevada Geothermal Utility Co. for geothermal space and water heat. The company has two production wells that produce water at 200°F+. Geothermal fluids are pumped at between 250 and 350 gallons/minute to surface heat exchangers and then injected back into the reservoir. Hot water from the heat exchanger at 180°F is circulated through an underground piping system to the residences in the district. (Flynn, T., 2000, Flat-Rate vs. BTU Meters, Warren Estates and Manzanita Estates Residential Geothermal District Space Heating, Reno, Nevada; *in* Geo-Heat Center Quarterly Bulletin, v. 21, no. 2)

Rye Patch

The **Mount Wheeler Power Co.** has successfully completed a new production well in the Rye Patch geothermal area. This well is part of an effort to better define the production field and secure adequate geothermal fluid so that the nearly complete Rye Patch geothermal power plant can be brought online. It is anticipated that one or two more wells will be drilled. (Bill Ehni, personal commun., 2001) Mount Wheeler Power Co. has also received a DOE development assistance contract as part of the DOE GeoPowering the West

NEVADA GEOTHERMAL POWER PLANTS 2000

Plant name (year on line)	Production capacity[1] (MW)	2000 Production (MWh) Gross	Net (sales)	Location	Operator
Beowawe (1985)	16.7 (16.6)	123,799	101,436	S13,T31N,R47E	Beowawe Power, LLC HC 66, Unit 1, Box 16 Beowawe, NV 89821
Bradys Hot Springs (1992)	21.1 (26.4)	132,180	87,144	S12,T22N,R26E	Brady Power Partners P.O. Box 649 Fernley, NV 89408
Desert Peak (1985)	9.9 (11.0)	62,551	52,536	S21,T22N,R27E	Western States Geothermal Co. c/o Brady Power Partners P.O. Box 649 Fernley, NV 89408
Dixie Valley[2] (1988)	66.0 (62.0)	512,930	457,096	S7,T24N,R37E S33,T25N,R37E	Caithness Dixie Valley, LLC 9790 Gateway Dr. Suite 220 Reno, NV 89511
Empire (1987)	4.6 (4.8)	39,612	33,897	S21,T29N,R23E	Empire Energy, LLC P.O. Box 40 Empire, NV 89405
Soda Lake No. 1 (1987) and Soda Lake No. 2 (1991)	16.6 (26.1)	119,884	85,934	S33,T20N,R28E	Constellation Operating Services 5500 Soda Lake Road Fallon, NV 89406
Steamboat I, I-A (1986) and Steamboat II, III (1992)	53.0 (58.7)	397,146	295,697	S29,T18N,R20E	S.B. Geo, Inc. P.O. Box 18199 1010 Power Plant Dr. Reno, NV 89511
Stillwater (1989)	13.0 (21.0)	92,069	58,714	S1,T19N,R30E S6,T19N,R31E	Constellation Operating Services 5500 Soda Lake Road Fallon, NV 89406
Wabuska (1984)	1.2 (1.45)	8,207	8,207	S15,16,T15N, R25E	Tad's Enterprises, LLC 2181 Stone Hill Circle Reno, NV 89509
Yankee Caithness (1988)	14.44 (14.44)	84,580	77,120	S5,6,T17N,R20E	Yankee Caithness J.V.L.P. 9790 Gateway Drive, Suite 220 Reno, NV 89511
TOTAL	216.5 (242.5)	1,572,958	1,257,781		

1. Production capacity from currently developed geothermal resources (equipment nameplate capacity in parentheses). *Sources:* Plant operators, Nevada Division of Minerals, and NBMG files.
2. Gross output of the Dixie Valley plant occasionally exceeds 66 MW.

Initiative. Total DOE funding could go as high as $1.6 million dollars over 3 years with a private funding match of $405,000. (Bulletin Geothermal Resources Council, July/August 2000, v. 29, no. 4)

Steamboat Hot Springs

S.B. Geo, Inc. is planning a 30-megawatt expansion of its existing power production capacity at Steamboat Hot Springs. This is in addition to a new 1-megawatt, skid-mounted power plant that has been installed as a test system (R.C. Burch, Nevada Petroleum Society presentation, Feb. 1, 2001). New exploration drilling will be undertaken by S.B. Geo, Inc., as part of a cost-share program with DOE. Part of the program includes a 2000-foot core hole, which will better define the geologic structure that controls the available geothermal resource. This cooperative program, in which DOE will fund 75% and S.B.Geo, Inc. will fund 25% of the drilling costs, was developed and funded under the DOE GeoPowering the West Initiative. DOE funding is projected to be $269,792 over 3 years with private funding match of $67,448 (Bulletin Geothermal Resources Council, July/August 2000, v. 29, no. 4, and March/April 2001, v. 30, no. 2).

The Steamboat Hot Springs geothermal power plant had a gross output of 397,146 MWh with a net production of 295,697 MWh during 2000. Also located in the Steamboat Hot Springs KGRA is the Yankee Caithness geothermal power plant, which had a gross output of 84,580 MWh and a net production of 77,120 MWh (Nevada Division of Minerals, 2001).

Binary generation units at the Empire Farms geothermal plant and garlic and onion drying facility. ***Photo by Larry Garside, 2001.***

Oil and Gas

by David A. Davis

Production

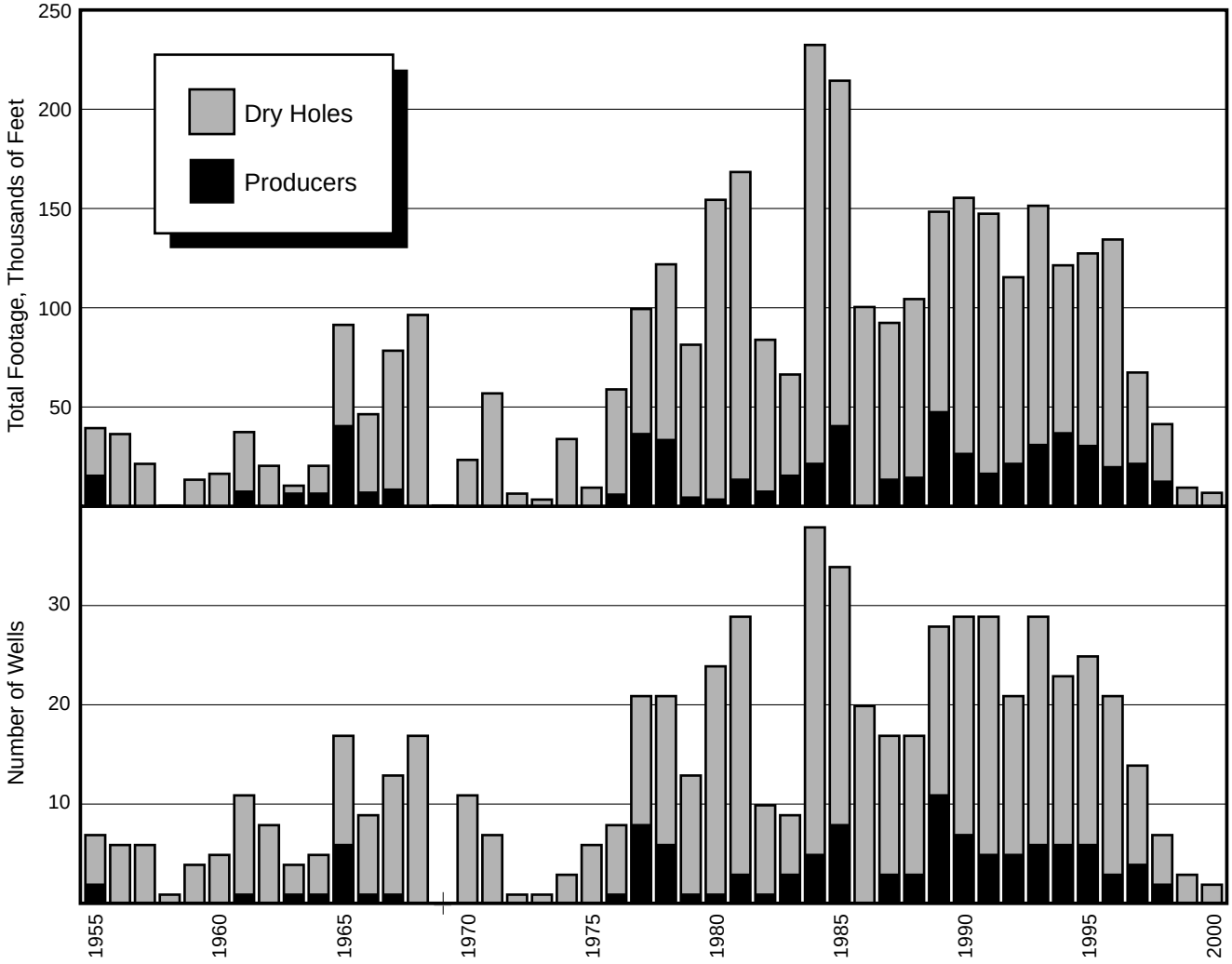
According to the Nevada Division of Minerals, Nevada's net oil production in 2000 was 620,651 barrels (0.01% of total U.S. production) from 99 wells in 13 fields in Nye and Eureka Counties, 12.1% less than in 1999. Two additional minor fields were plugged and abandoned by the end of 2000. The average net wellhead price for Nevada crude oil increased 64% to $22.68 per barrel in 2000, and the sales volume increased 44% to $14.1 million. No new wells were completed as producers in 2000.

Thirty-eight wells were shut in for at least 6 months during 2000, and 30 of these were shut in for the entire year. At year's end, five wells had been shut in for 1 to 2 years, four had been shut in for 2 to 3 years, and 24 had been shut in for more than 3 years. No new producers came on line in 2000.

Nevada's highest volume producer was Grant Canyon No. 9, which averaged 241 barrels of oil and 483 barrels of water per day during 2000. Grant Canyon No. 9 has held this ranking since 1996. Trap Spring No. 9 was Nevada's second highest volume producer in 2000 with 133 barrels of oil and 1,711 barrels of water per day. Trap Spring No. 9 overtook Blackburn Unit No. 19, which had been Nevada's second highest volume producer in 1999.

Oil production from the Bacon Flat Field decreased 12.4% while water production increased 6.5%. Only one of its three producers was in operation during 2000. One well has been shut in for 7 years and the other for 12 years.

Oil production from the Blackburn Field decreased 12.6% while water production decreased 2.8%. Oil production dropped in five wells and increased in two. One well was shut in for 10 months and one for 11 months. Another well has been shut in since December 1998.



Number and total footage of Nevada oil wells completed as producers or as plugged and abandoned dry holes, 1955–2000.

Oil production from the Eagle Springs Field decreased 27.6% while water production decreased 15.4%. Of the 21 wells listed as producers, seven were shut in throughout 2000, three wells were shut in for 1 to 6 months, and one was shut in for 7 to 12 months. Of the seven yearlong shut-ins, one last produced in January 1998, five have been shut in for 3 to 5 years, and one has been shut in since July 1986. Of the 14 producing wells, production increased at two but production decreased at the other 12.

Oil production from the Ghost Ranch Field decreased 16.0% while water production increased 2.9%. Of the four wells listed as producers, oil production decreased from three, and one has been shut in since it was completed as a producer in August 1997.

Oil production from the Grant Canyon Field decreased 9.4% while water production increased 4.9%. Oil production declined from two of the four producers. One producer has been shut in since December 1993 and the remaining one since June 1992.

Oil production from the Kate Spring Field decreased 11.9% while water production increased 7.9%. Of the six wells listed as producers, production decreased at two wells and increased at two. One well has been shut in since June 1997 and another since September 1993. A total of 6,752 thousand cubic feet of gas was produced from the Kate Spring Field in 2000, a decrease of 15.5% from 1999. The gas is used to operate production and related equipment at the lease sites of Makoil, Inc. and Western General, Inc.

Oil production from the only producer in the Sand Dune Field increased 16.5% and water production decreased 37.3%. Oil production from the Sans Spring Field decreased 36.2% while water production decreased 26.8%. Of the three producers listed, one was active, one has been shut in since March 1998, and one has been shut in since October 1993 and is now listed as temporarily abandoned.

Oil production from the Trap Spring Field decreased 6.4% while water production increased 1.7%. Of Trap Spring's 42 wells listed as producers, eight were shut in throughout 2000, three were shut in for 1 to 6 months, and one was shut in for 7 to 12 months. Of the eight yearlong shut-ins, one has been shut in since June 1998, two have been shut in for 4 years, two have been shut in for 8 years (one of these produced for 3 days in April 1998), one has been shut in since December 1991, and one has been shut in since July 1986. Of the 34 wells actually producing, 23 had production increases, 10 had production decreases, and one showed no change in production.

Of Nevada's minor fields, oil production from the Currant Field's only well increased 96.4%. The Deadman Creek Field's only producer was plugged and abandoned in November 1998. Oil production from the Duckwater Creek Field's only producer increased 24.7% while water production decreased 42.4%. Oil production from the North Willow Creek Field increased 18.7%, and water production ceased. Of North Willow's two producers, one produced only in May and July 2000 and the other has been shut in since October 1998. Oil production from the Tomera Ranch Field's only producer increased 22.6% while water production increased 6.8%.

Two of the three producers in the Three Bar Field remained shut in throughout 2000; one since November 1994 and the other since May 1992. The third producer,

OIL WELL DRILLING ACTIVITY IN NEVADA IN 2000

Company	Well	Permit No.	Location	Permit Date	Spud Date	Completion Date	Depth (Ft.)	Status
EUREKA COUNTY								
Trail Mountain, Inc.	Three Bar Unit No. 6	765	SW^{1}_{4} SE^{1}_{4} NE^{1}_{4} S25 T28N R51E	Sep-95	May-96	May-96	9,350	TA
Foreland Corp.	Pine Valley Federal No. 42-16	828	SE^{1}_{4} NE^{1}_{4} S16 T29N R52E	Jun-00	Aug-00			TA
Foreland Corp.	Pine Valley Federal No. 13-10	829	NW^{1}_{4} SW^{1}_{4} S10 T29N R52E	Jun-00				Not drilled
V.F. Neuhaus Properties and Winn Exploration	Tomera Ranch No. 33-2	833	SW^{1}_{4} SW^{1}_{4} S33 T31N R52E	Dec-00				Not drilled
LANDER COUNTY								
Aspen Oil, Inc.	No. 1 Battle Mountain	831	NE^{1}_{4} NW^{1}_{4} S9 T32N R45E	Sep-00	Oct-00	Oct-00	2,540	P&A
Aspen Oil, Inc.	No. 2 Battle Mountain	832	NE^{1}_{4} SE^{1}_{4} S9 T32N R45E	Sep-00				Not drilled
LINCOLN COUNTY								
Falcon Energy/Kriac Energy, Inc.	Hamlin Wash No. 18-1R	805	SE^{1}_{4} SE^{1}_{4} S18 T8N R70E	Aug-97	Aug-97	Sep-97		TA
Falcon Energy/Kriac Energy, Inc.	Kriac No. 3	810	SE^{1}_{4} SE^{1}_{4} SE^{1}_{4} S18 T8N R70E	Dec-97	Jan-98			Testing
Conley P. Smith Operating Co.	Trough Springs Federal No. 33-16	827	SE^{1}_{4} SE^{1}_{4} S33 T7N R63E	Jan-00	Jan-00	Feb-00	4,850	P&A
NYE COUNTY								
Makoil, Inc.	Munson Ranch No. 11-44	672	SE^{1}_{4} SE^{1}_{4} S11 T9N R56E	Apr-93	Jun-94	Jun-94	3660	TA
Big West Oil and Gas, Inc.	Federal No. 12-14	673	NW^{1}_{4} SW^{1}_{4} S14 T7N R56E	Apr-93	May-93	Jun-93	6106	TA
Makoil, Inc.	Trap Spring No. 27-32X	804	SW^{1}_{4} NE^{1}_{4} S27 T9N R56E	Aug-97	Sep-99			Drilled
Eagle Exploration, Inc.	Meteor Federal Well No. 1	822	SW^{1}_{4} NW^{1}_{4} S34 T10N R56E	Jul-98	Aug-98	Mar-99		TA
Connelly Exploration, Inc.	Gap Mountain No. 33-2	830	NE^{1}_{4} SE^{1}_{4} S33 T5N R62E	Sep-00				Not drilled
PERSHING COUNTY								
Evans-Barton, Ltd.	Kyle Spring No. 11-43	821	NE^{1}_{4} SE^{1}_{4} S11 T29N R36E	Jul-98	Sep-98			Testing
WHITE PINE COUNTY								
Paleozoic Prospects, Inc.	PPI Bugs No. 1	809	NE^{1}_{4} NW^{1}_{4} S33 T33N R59E	Nov-97	Nov-97			Suspended

P&A: Plugged and abandoned, TA: Temporarily abandoned

FEDERAL OIL AND GAS LEASES IN EFFECT IN FISCAL YEARS 1997 AND 1998[1]

County	NUMBER OF LEASES						ACREAGE					
	Competitive		Noncompetitive		Simultaneous[2]		Competitive		Noncompetitive		Simultaneous[2]	
	FY97	FY98	FY97	FY98	FY97	FY98	FY97	FY98	FY97	FY98	FY97	FY98
Carson City	0	0	0	0	0	0	0	0	0	0	0	0
Churchill	0	0	0	0	2	2	0	0	0	0	5,278	5,278
Clark	0	0	1	1	2	2	0	0	640	640	5,761	5,761
Douglas	0	0	0	0	0	0	0	0	0	0	0	0
Elko	29	28	61	61	5	4	45,923	44,000	107,641	107,000	10,435	8,300
Esmeralda	0	0	22	0	0	0	0	0	47,810	0	0	0
Eureka	46	47	86	72	31	10	66,239	68,000	136,847	115,000	95,000	31,000
Humboldt	0	0	0	0	0	0	0	0	0	0	0	0
Lander	0	0	2	0	0	0	0	0	3,874	0	0	0
Lincoln	24	23	157	130	4	4	42,530	40,000	284,919	286,000	17,805	17,805
Lyon	0	0	0	0	0	0	0	0	0	0	0	0
Mineral	0	0	2	2	0	0	0	0	12,441	12,441	0	0
Nye	294	335	275	265	73	26	247,202	286,000	509,332	490,000	80,000	29,000
Pershing	18	18	10	5	0	0	38,604	38,604	18,794	9,000	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	70	55	134	81	67	3	104,393	82,000	234,831	141,000	72,000	7,040
TOTAL	481	506	750	617	184	51	544,891	558,604	1,357,129	1,161,081	286,279	104,184

[1]Data from the U.S. Bureau of Land Management. Some data have been corrected from earlier reports. Fiscal years (FY) run from Oct. 1 to Sept. 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.

FEDERAL OIL AND GAS LEASES IN EFFECT IN FISCAL YEARS 1999 AND 2000[1]

County	NUMBER OF LEASES						ACREAGE					
	Competitive		Noncompetitive		Simultaneous[2]		Competitive		Noncompetitive		Simultaneous[2]	
	FY99	FY00	FY99	FY00	FY99	FY00	FY99	FY00	FY99	FY00	FY99	FY00
Carson City	0	0	0	0	0	0	0	0	0	0	0	0
Churchill	0	0	0	0	2	2	0	0	0	0	5,278	5,278
Clark	0	0	1	0	1	0	0	0	640	640	2,900	0
Douglas	0	0	0	0	0	0	0	0	0	0	0	0
Elko	22	18	46	50	3	3	33,000	28,553	77,000	79,545	7,545	7,545
Esmeralda	0	0	0	0	0	0	0	0	0	0	0	0
Eureka	66	59	40	18	5	1	90,000	85,747	64,000	25,508	15,500	2,474
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	24	22	117	60	3	2	42,000	38,051	212,000	114,896	13,000	8,320
Lyon	0	0	0	0	0	0	0	0	0	0	0	0
Mineral	0	0	2	6	0	0	0	0	12,441	21,929	0	0
Nye	267	283	216	137	20	19	224,000	212,685	378,000	243,857	22,000	7,998
Pershing	8	8	1	1	0	0	16,000	7,640	1,800	1,256	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	48	50	75	33	3	3	72,000	73,672	131,000	57,013	7,040	7,040
TOTAL	435	440	498	305	37	30	477,000	446,348	876,881	544,644	73,263	38,655

[1]Data from the U.S. Bureau of Land Management. Some FY99 data have been corrected from earlier reports. Fiscal years (FY) run from Oct. 1 to Sept. 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.

PRODUCTION OF NEVADA'S OIL FIELDS (barrels)

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

Field (year discovered)	Thru 1992	1993	1994	1995	1996	1997	1998	1999	2000	Total
Eagle Springs (1954)	4,073,260	7,075	66,565	162,296	171,638	137,278	111,562	82,067	59,394	4,871,135
Trap Spring (1976)	10,086,689	427,150	378,829	362,985	306,858	288,686	257,921	263,566	246,725	12,619,409
Currant (1979)	641	0	0	278	0	202	230	28	55	1,434
Bacon Flat (1981)	493,505	102,030	192,601	43,057	23,891	22,465	18,757	16,849	14,766	932,921
Blackburn (1982)	2,578,486	599,857	576,853	435,975	239,934	151,151	112,008	89,400	78,136	4,861,800
Grant Canyon (1983)	18,808,297	495,934	308,709	202,129	168,163	143,707	126,128	112,715	102,113	20,467,895
Kate Spring (1986)	1,232,978	150,309	122,436	104,574	87,789	76,280	69,768	65,315	57,644	1,967,201
Tomera Ranch 1987)	14,445	2,140	1,970	1,405	387	659	574	398	488	22,466
N. Willow Creek (1988)	23,518	3,928	3,736	6,419	3,619	1,478	1,502	123	146	44,470
Three Bar (1990)	21,647	1,961	229	0	0	0	0	0	0	23,837
Duckwater Creek (1990)	10,049	2,256	1,269	655	433	168	491	93	116	15,530
Sans Spring (1993)		69,478	44,279	22,174	17,228	45,001	21,759	10,956	6,990	237,865
Ghost Ranch (1996)					34,166	113,016	65,370	49,348	41,454	303,354
Deadman Creek (1996)						109	258	0	0	367
Sand Dune (1998)							12,465	15,122	12,624	40,211
TOTAL	37,343,515	1,862,118	1,697,585	1,341,947	1,059,106	980,200	798,793	705,980	620,651	46,409,895
Change from previous year		-50%	-9%	-21%	-21%	-7%	-19%	-12%	-12%	

the Gary Williams Company Three Bar Federal No. 24-13A was plugged and abandoned in December 2000. It was completed as a producer in September 1990 but only produced 32 barrels of "slop oil." It has been shut in since then.

Most Nevada oil is used to make such products as No. 1 and No. 2 diesel fuel, kerosene, stove oil, and asphalt. Nevada crude oil was transported by tank trucks to the Foreland Corp. (formerly: Petro Source Refining Corp.) 8,000-barrel-per-day-capacity refinery and asphalt storage plant near Currant in Railroad Valley. The Foreland Corp. refinery and asphalt storage facility at Tonopah was used to process specialty hydrocarbons from California and other states. In March and April 2000, these facilities were transferred to Energy Income Fund, Inc., (EIF) of Longmeadow, Massachusetts, and their operations were halted temporarily during the transfer.

Production of Water from Nevada's Oil Fields (barrels)

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

Field (year discovered)	1994–95	1996	1997	1998	1999	2000	Total
Eagle Springs (1954)	492,981	432,300	364,900	410,290	325,574	275,521	2,301,566
Trap Spring (1976)	6,146,127	2,870,437	3,046,366	2,444,444	2,802,716	2,850,603	20,160,693
Currant (1979)	0	0	0	0	0	0	0
Bacon Flat (1981)	127,452	107,164	100,708	14,929	1,756	358,879	710,888
Blackburn (1982)	4,077,210	1,788,791	1,777,941	1,937,981	1,938,408	1,884,096	13,404,427
Grant Canyon (1983)	414,184	284,006	335,603	377,934	397,888	417,564	2,227,179
Kate Spring (1986)	981,093	580,219	529,503	476,346	483,483	521,464	3,572,108
Tomera Ranch (1987)	64,321	15,013	31,948	35,441	31,121	33,245	211,089
N. Willow Creek (1988)	1,794	727	135	0	4	0	2,660
Three Bar (1990)	5,958	0	0	0	0	0	5,958
Duckwater Creek (1990)	35,928	6,787	1,853	4,620	840	1,196	51,224
Sans Spring (1993)	515,849	273,928	233,046	363,845	328,544	240,773	1,955,985
Ghost Ranch (1996)		2,775	99,945	171,921	202,678	208,488	685,807
Deadman Creek (1996)			0	0	0		0
Sand Dune (1998)				23,335	53,115	33,308	109,758
Total	12,862,897	6,362,147	6,521,948	6,261,086	6,566,127	6,825,137	45,399,342
Change from previous year		-4.5%	2.5%	-4.0%	4.9%	3.9%	

Exploration

Seven wells were permitted for oil and gas in 2000, up from one permitted in 1999. The jump in the number of permits is largely due to the revival in oil exploration due to the run-up in oil prices caused by the cutback in OPEC production in 1999. Three wells were spudded for oil and gas in 2000, the same number that were spudded in 1999. Drilling was completed during 2000 on two of those wells, totaling 7,390 feet, and the third was temporarily abandoned. Drilling remained suspended on one well spudded in 1997 and another spudded in 1998. One well spudded in 1998 was listed as being tested throughout 1999 and 2000. Five wells drilled between 1993 and 1999 and listed as temporarily abandoned remained so throughout 2000. Only one drill rig operated in 2000, and that was during July through October.

Transfers

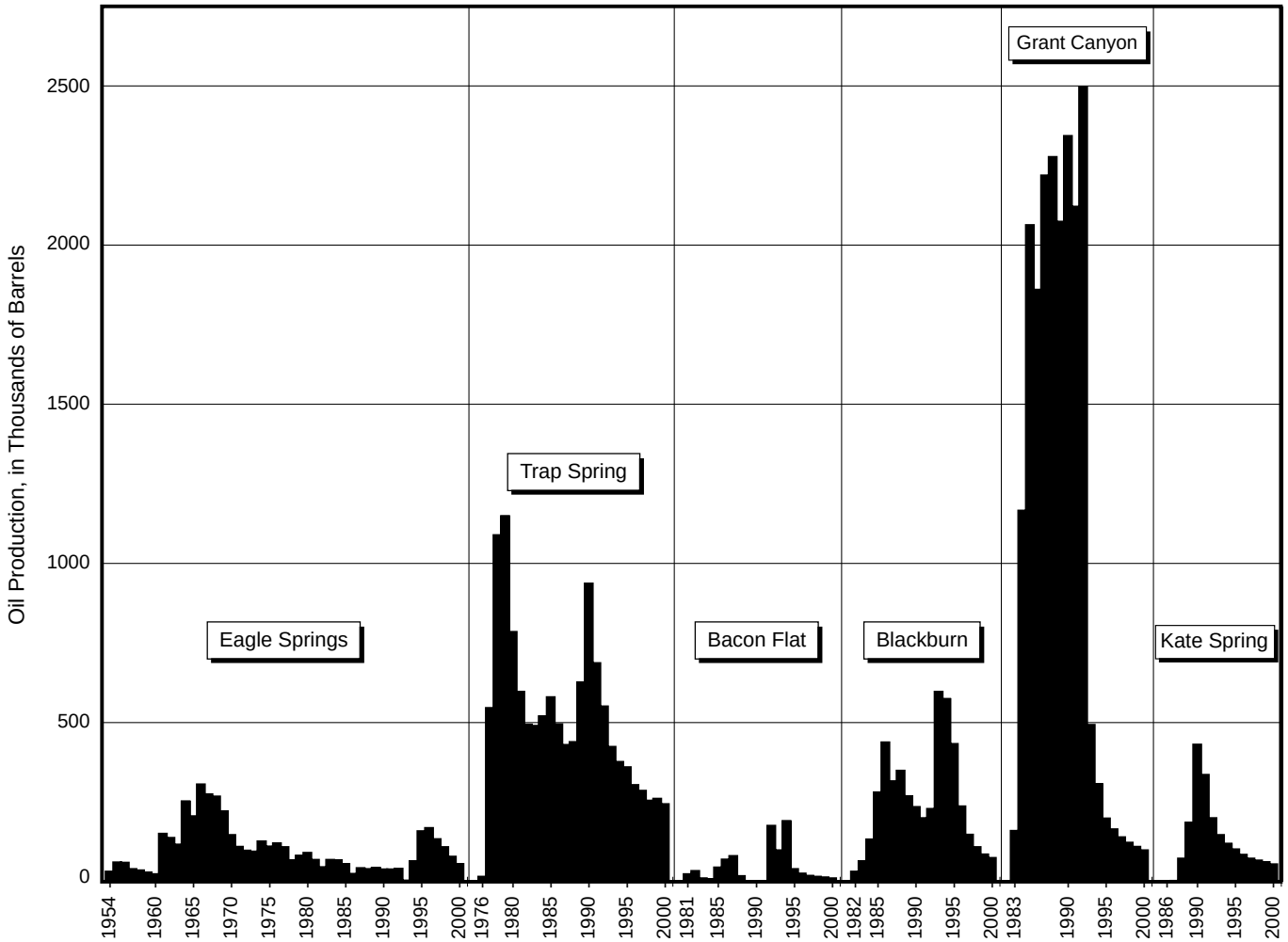
In August 2000, Foreland Corp. transferred its wells operated by Eagle Springs Production, LLC, to the Deerfield Production Corp. Deerfield was incorporated in Delaware in April 2000 and is based in Dallas, Texas.

Other Developments

In June 2000, Harold Industry Studies published the report, *Downsizing's Downside: Energy Industry Facing Severe Personnel Crunch*. It discusses the problems and causes of the present shortage of professionals in the oil industry. The report can be viewed at <www.herold.com/perl_utl/doc.pl?ii000523.PDF>.

In March and April 2000, Foreland Corp. voluntarily surrendered a major portion of its assets to Energy Income Fund, Inc., (EIF) of Longmeadow, Massachusetts, to cover $12.6 million in debts it had with that company. These assets included its Eagle Springs, Nevada, and other producing properties, its refining and marketing operations including the refineries at Tonopah and Currant, its transportation company, and a principal exploration prospect and related database <http://biz.yahoo.com/e/010524/forl.htm>.

In February 1999, as part of an effort to preserve the nation's oil production capacity, the U.S. Department of Energy announced a program to provide technical assistance to small oil producers for innovative ways to keep their fields producing. Through the National



Petroleum Technology Office, grants totaling $1,139,500 had been given to 17 such companies by the end of 1999. In Nevada, Makoil, Inc., was selected for their proposed 12-month project entitled: *Increasing Oil Recovery Through Advanced Reprocessing of 3D Seismic, Grant Canyon and Bacon Flat Fields, Nye County, Nevada/ Independent Award*. Makoil is providing cost sharing of $74,000 and the DOE is providing matching funds. During 2000, Makoil completed gathering, compilation, and interpretation of 2D and 3D seismic data, as well as a database of log, core, test, and production data for 40 wells. Some computer glitches, now worked out, may delay the project completion date in 2001. For more information, the Project Point-of-Contact is Mr. Gregg S. Kozlowski at (702) 221-1931 or makoil@deltanet.com.

U.S. Oil Production and Consumption

According to the Energy Information Agency (EIA) of the Department of Energy <www.eia.doe.gov>, crude oil imports accounted for 60.5% of U. S. consumption in 2000, which surpasses the previous annual peak of 59.2% set in 1999. Domestic crude oil production was at its lowest level since 1950, and dependence on imports reached a new high. U. S. crude oil production averaged 5.837 million barrels per day in 2000, 1.4% less than in 1999, and consumption increased by 1.8%. Oil provided about 38.4% of the nation's total energy supply in 2000, down slightly from 39.1% in 1999. This percentage has hovered between 38% and 39% since 1991.

The use of oil for electrical production decreased 15.5% in 2000, after decreasing 19.5% in 1999. However, it only accounted for 2.7% of electrical production in 2000, down from 3.5% in 1999, and 2.4% of oil consumption in 2000, down from 2.9% in 1999. Gasoline production decreased 0.008% and accounted for 42.9% of all petroleum products consumption in 2000, down slightly from 43.2% in 1999. This percentage has hovered near 43% since 1982. The price of oil increased 59.3% from an average $16.47 in 1999 to $26.24 per barrel in 2000 for imported oil, and 71.8% from an average $15.56 to $26.73 per barrel for domestic oil. However, between

NEVADA OIL PRODUCERS
(minerals.state.nv.us/nvoilprod.htm)

Company	Field	Contact	Address and Phone and FAX Numbers
Big West Oil and Gas, Inc.	Bacon Flat Sans Spring	J. Philips Adams	333 West Center Street North Salt Lake, UT 84054 Phone (801) 296-7700
Deerfield Production Co.	Deadman Creek Eagle Springs Ghost Ranch Sand Dune	Steve McDonald	136 Dwight Road Longmeadow, MA 01106 Phone (413) 565-7127 FAX (413) 567-7926
Evans-Barton, Ltd.	Trap Spring	David M. Evans	P.O. Box 3153 Reno, NV 89505 Phone (775) 827-1613
Foreland Corp.	North Willow Creek Tomera Ranch	David T. Greene	143 Union Blvd., Suite 210 Lakewood, CO 80228 Phone (303) 988-3122 FAX (303) 988-3234
Frontier Exploration Co.	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 Grant Canyon Kate Spring Trap Spring	Eugene Kozlowski	500 North Rainbow Blvd. No. 300 Las Vegas, NV 89107 Phone (714) 939-7560 FAX (714) 939-7552
Petroleum Corp. of Nevada	Blackburn	Ken Chattin	P.O. Box 1447 Elko, NV 89801 Phone (775) 753-6810
Trail Mountain, Inc.	Three Bar		105 South 4th St. Artesia, NM 88210 Phone (505) 748-1471
Western General	Kate Spring	Rick Taylor	4899 South Torrey Pines No. 201 Las Vegas, NV 89103 Phone (702) 220-7065 FAX (702) 220-7066

January and its peak in November, the average monthly price rose only 11.4% for imported oil and 28.8% for domestic oil before dropping 19% and 17.2% for each respectively in December. The increase was largely due to OPEC cutting production below demand in 1999 to decrease the world stockpile and to raise historically low prices, which had cut deeply into their revenues, caused severe cutbacks in exploration, and shut in a number of low production wells. In 2000, OPEC increased production somewhat in an effort to stabilize prices without seriously depressing them <www.eia.doe.gov>.

In comparison to oil, natural gas consumption increased 4.6% to 22,712 billion cubic feet (bcf) in 2000, after increasing 2% in 1999. Natural gas provided 23.6% of the nation's total energy supply in 2000 compared to 22.9% in 1999 and a peak of 24.4% in 1995. Electrical production accounted for 13.4% of natural gas consumption in 2000, down from 14.3% in 1999. The use of natural gas for the electrical production increased 29.6% after decreasing 0.04% in 1999 and accounted for 16.5% of electrical production in 2000, up from 15.6% in 1999. Industrial, commercial, and residential consumption also increased 4.3%, 10.2%, and 4.1% respectively in 2000. The average well-head price increased 68.9% from an average of $2.17 per thousand cubic feet (tcf) in 1999 to $3.60 in 2000. This increase was due to shortages in supplies and increasing demand after the run-up in oil prices in 1999 and 2000, and. Average monthly natural gas prices in 2000 increased 423% from $2.12 per tcf in January to $6.35 in December <www.eia.doe.gov>.

Coal consumption increased 3.3% to 1,079,677,000 tons in 2000 after increasing 0.006% in 1999. This is a new record and marks the fifth year in a row of consumption over 1 billion short tons. Coal production dropped 1.6% to 1,082,508,000 tons after dropping 1.5% in 1999. However production has remained over 1 billion tons since 1994. Coal provided 22.6% of the nation's total energy supply in 2000, up slightly from 22.3% in 1999. This percentage has hovered between 22% and 23% since 1983. Production of electricity accounted for 90.7% of coal consumption in 2000, up slightly from 90.6% in 1999. The use of coal for electrical production increased 3.7% in 2000 and accounted for 51.5% of electrical production in 2000, up from 50.7% in 1999. The average price of coal delivered to electrical utilities declined 2.2% to $24.33 per short ton in 2000 from $24.87 in 1999 <www.eia.doe.gov>.

NEVADA OIL REFINERIES

Company	Refinery	Address and Phone Number
Energy Income Fund, Inc.	Currant	66 Miles South of Ely Ely, NV 89301 Phone (775) 863-0229
Energy Income Fund, Inc.	Tonopah	105 Refinery Road Tonopah, NV 89049 Phone (775) 482-3555

Directory of Mining and Milling Operations

by David A. Davis

Compiled from information supplied by the Nevada Division of Minerals and Mine Safety and Training Section.
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, OP = open-pit mine, OS = other surface, UG = underground mine.

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
CARSON CITY							
Brunswick Quarry	T.E. Bertagnolli and Associates	S12,T15N,R20E	aggregate	OP,ML	mining crushing	5	P.O. Box 2577 Carson City, NV 89702 775-883-7155 Fax: 883-7953
Goni Pit	Cinderlite Trucking Co.	S28,T16N,R20E	decomposed granite	OP,ML	mining screening	3	1665 South Sutro Terrace Carson City, NV 89706 775-882-4483 Fax: 882-1671
CHURCHILL COUNTY							
Huck Salt	Huck Salt and Sons, Inc.	S12,T16N,R31E	salt	OS	mining solar evaporation	4	5033 Austin Hwy. Fallon, NV 89406 775-423-2055 Fax: 423-0467
Moltan Mine	Moltan Co.	S28,32, T23N,R27E	diatomite clay zeolite	OP,ML	mining crushing drying screening	43	P.O. Box 860 I-80 Frontage Rd. Fernley, NV 89408-0860 775-423-6668 Fax: 423-6411
Popcorn Mine	Eagle Picher Minerals, Inc.	S24,T16N,R28E; S19,T16N,R29E	perlite	OP	mining	1	P.O. Box 10480 Reno, NV 89510 775-824-7700 Fax: 824-7715
CLARK COUNTY							
American Sand and Gravel Pit No. 1	American Sand and Gravel, LLC	S24,T19S, R62E	sand gravel	OP,ML	mining crushing	5	5260 Beesley Dr. Las Vegas, NV 89115 702-452-1900 Fax: 651-0375
American Sand and Gravel Pit No. 2	American Sand and Gravel, LLC	S36,T19S, R59E	sand gravel	OP,ML	mining crushing	5	5260 Beesley Dr. Las Vegas, NV 89115 702-452-1900 Fax: 651-0375
Apex Landfill Pit	Las Vegas Paving Corp.	S19,T18S,R64E	sand gravel	OP,ML	mining crushing screening		4420 S. Decatur Boulevard Las Vegas, NV 89103 702-378-6102
Apex Quarry and Plant	Chemical Lime Co.	S14,22,23,26,27,34,35 T18S,R63E	limestone	OP,ML	mining calcining crushing screening	76	P.O. Box 3609 North Las Vegas, NV 89036 702-643-7702 Fax: 643-9517
Blue Diamond (Jones) Pit	Hanson Aggregates Nevada	S26,T22S,R60E	sand gravel	OP,ML	mining crushing screening	17	9325 S. Jones Blvd., No. A Las Vegas, NV 89139 702-565-1313 Fax: 565-4586
Blue Diamond Mine and Mill	James Hardie Gypsum, Inc.	S24-26,T21S,R58E; S20,29-31, T21S,R59E; S5-8,T22S,R59E	gypsum	OP,ML	mining calcining grinding	22	HCR 89033, Box 2900 Las Vegas, NV 89124 702-875-4111 Fax: 875-4213
Bootleg Pit	Boulder Sand and Gravel	S5,8,T23S,R64E	aggregate	OP,ML	mining crushing screening	11	624 Yucca Boulder City, NV 89005 702-294-1156 Fax: 294-0676
Buffalo Road Pit and Mill	CSR West	S21,T21S,R60E	sand gravel	OS,ML	mining crushing screening	18	4511 S. Buffalo Road Las Vegas, NV 89117 702-876-2699 Fax: 871-8139
Gornowich Pit	Gornowich Sand & Gravel, Inc.	S15,22,T22S,R63E	sand gravel	OP	mining screening washing	26	P.O. Box 30006 Las Vegas, NV 89102 702-876-2777 Fax: 876-2240
Impact Sand and Gravel Pit	Impact Sand and Gravel	S34,T22S,R61E	sand gravel	OP,ML	mining milling	23	250 Pilot Rd., Suite No. 160 Las Vegas, NV 89120 702-597-1010 Fax: 597-3406
Kaolin Pit	Leavitt Ready Mix	S25,26,T16S,R67E	sand gravel	OP,ML	mining crushing screening	26	P.O. Box 397 Moapa, NV 89025 702-864-2216 Fax: 864-2392

continued

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
CLARK COUNTY (continued)							
Lone Mountain Mendenhall Pit	Las Vegas Paving Corp.	S35,T19S,R59E	sand gravel	OP	crushing screening	7	4420 S. Decatur Boulevard Las Vegas, NV 89103 702-378-6102
Lone Mountain Nevada Ready Mix Pit	Nevada Ready Mix Corp.	S36,T19S,R59E	sand gravel	OP,ML	mining crushing screening	32	P.O. Box 42755 Las Vegas, NV 89104 702-457-1115
Lone Mountain Community Pit	Various (BLM owns pit)	S36,T19S,R59E; S1,T20S,R59E	sand gravel	OP,ML	mining crushing screening		Bureau of Land Management 4765 West Vegas Dr. Las Vegas, NV 95901 702-647-5000 Fax: 647-5023
Lone Mountain Stocks Pit	Southern Nevada Paving	S34,35,T19S,R59E; S3,4,T20S,R59E	sand gravel	OP,ML	mining crushing screening	11	3555 Polaris Avenue Las Vegas, NV 89102 702-876-5226
Money Pit	Southern Nevada Liteweight, Inc.	S16,T25S,R61E	aggregate	OP,ML	mining crushing screening	78	1101 E. Alexander Road Las Vegas, NV 89030 702-399-8621 Fax: 633-5787
PABCO Gypsum-Apex Pit	Pacific Coast Building Products, Inc.	S7,18,T20S,R64E	gypsum	OP,ML	mining crushing wash plant	120	1973 N. Nellis Boulevard #328 Las Vegas, NV 89115 702-643-1016 Fax: 643-6249
Pipes Pit	Pipes Paving	S1,T20S,R59E	sand gravel	OS,ML	mining crushing screening	56	3529 Clayton North Las Vegas, NV 89030 702-647-1162 Fax: 647-2387
Railroad Pass (El Dorado) Pit	Hanson Aggregates Las Vegas	S11,T23S,R63E	sand gravel	OP,ML	mining crushing screening	9	P.O. Box 92170 Henderson, NV 89009-2170 702-565-1313 Fax: 565-4586
Rainbow Quarry	Las Vegas Rock, Inc.	S34,T25S,R58E	stone	OP	mining		11635 Bermuda Rd. Las Vegas, NV 89123 702-791-7625
Royal Cement Quarry	Royal Cement Co.	S4,T15S,R67E	limestone	OP,ML	mining rotary kiln	54	5501 N. Moapa Valley Rd. Logandale, NV 89021 702-398-3533
Simplot Silica Products Pit	Simplot Industries	S2,3,11,12, T17S,R67E	silica sand	OP,ML	mining drying flotation screening	43	P.O. Box 308 Overton, NV 89040 702-397-2667 Fax: 397-2798
Sloan Quarry	Frehner Construction Co.	S13,T23S,R60E	sand gravel	OP,OS, ML	mining crushing screening	21	124 West Brooks Avenue North Las Vegas, NV 89030 702-649-6250 Fax: 642-2213
Speedway Pit	Southwest Paving and Grading, Inc.	S26,T19S,R62E	sand gravel	OP,ML	mining crushing	6	2755 North Lamont St. Las Vegas, NV 89115 702-643-8389 Fax: 644-5336
Spring Mountain Pit	Wells Cargo, Inc.	S15,T21S,R60E	sand gravel	OS,ML	mining crushing screening	16	P.O. Box 81170 Las Vegas, NV 89160 702-873-7440
ELKO COUNTY							
Boehler Pit	Boehler Construction Co.	S1,T34N,R56E	sand gravel	OS,ML	mining crushing screening	7	P.O. Box 789 2755 Last Chance Rd. Elko, NV 89801 775-738-8155 Fax:753-8851
Capstone/Bootstrap Mine	Newmont Mining Corp.	S10,T36N,R49E	gold silver mercury	OP,HL, ML	mining heap leach milling	62	P.O. Box 669 Carlin, NV 89822-0669 775-778-4000 Fax: 778-4757
Dee Mine	Glamis Gold, Ltd.	S34,T37N,R49E	gold silver	OP,HL, ML	mining heap leach milling	62	P.O. Box 160 Valmy, NV 89438 775-623-9571 Fax: 623-9572
Dunphy Mill	Baroid Drilling Fluids, Inc.	S26,T33N,R48E	barite	ML	crushing grinding	35	912 Dunphy Ranch Road Battle Mountain, NV 89820 775-468-0515 Fax: 468-2060
Elburz Pit	Vega Construction	S3,T35N,R57E	sand gravel	OS,ML	mining crushing screening	22	P.O. Box 1630 4100 Idaho Elko, NV 89801 775-753-7433

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
ELKO COUNTY (continued)							
Jerritt Canyon Joint Venture	AngloGold, Corp.	T39-41N,R52-54E	gold	OP,CIL, CIP,HL, ML	mining heap leach milling	448	HC31 Box 78 Elko, NV 89801 775-738-5006 Fax: 758-5453
Ken Snyder Mine	Dynatec Mining Corp.	S21,22,27,28,33,34 T39N,R46E	gold silver	UG,ML	mining milling	234	HC 66 Box 105 Midas, NV 89414-9801 775-529-3611 Fax: 529-0612
Meikle Mine	Barrick Goldstrike Mines, Inc.	S13,T36N,R50E	gold silver	UG	mining	528	P.O. Box 29 Elko, NV 89803 775-738-8043 Fax: 738-6543
Pilot Peak Quarry and Plant	Continental Lime, Inc.	S14,15,22,23,26, T34N,R68E	limestone	OP,ML	mining grinding roasting rotary kiln	48	P.O. Box 2520 West Wendover, NV 89883 775-483-5463 Fax: 483-5149
Rain Mine	Newmont Mining Corp.	S33,T32N,R53E	gold silver mercury	OP,UG HL,ML	mining heap leach milling	1633[1]	P.O. Box 669 Carlin, NV 89822-0669 775-778-4000 Fax: 778-4757
Rossi Mine	Baroid Drilling Fluids, Inc.	S14-16,21-23,26-28, 34-35;T37N,R49E	barite	OP,ML	mining crushing	35	912 Dunphy Ranch Road Battle Mountain, NV 89820 775-468-0515 Fax: 468-2060
ESMERALDA COUNTY							
Basalt Mine and Plant	Grefco Minerals, Inc.	S29-32,T2N,R34E	diatomite	OP,ML	mining grinding	29	P.O. Box 288 Mina, NV 89422-0288 Phone: Toll Station Dicalite No. 1 Fax: 760-872-6006
Blanco Mine	Vanderbilt Minerals Corp.	S22,T1N,R37E	clay	OP,ML	mining crushing screening	2	2320 Viking Road Las Vegas, NV 89109 702-732-3174 Fax: 731-3621
Mineral Ridge Mine	Golden Phoenix Minerals, Inc.	S1,2,12, T2S,R38E; S6,T2S,R39E	gold silver	OP,HL	heap leach	9	3595 Airway Dr., Suite 405 Reno, NV 89511 775-853-4919 Fax: 853-5010
Silver Peak Operations	Chemetall Foote Co.	S22,T2S,R39E	lithium carbonate	OS,ML	mining solar evaporation precipitation	65	P.O. Box 98 Silver Peak, NV 89047 775-937-2222 Fax: 937-2250
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	684	P.O. Box 29 Elko, NV 89803 775-778-8196 Fax: 738-6543
Carlin North Genesis Complex	Newmont Gold Co.	S33,T36N,R50E	gold	OP,HL, ML	mining heap leach milling	1633[1]	P.O. Box 669 Carlin, NV 89822-0669 775-778-4000 Fax: 635-4602
Carlin North-Post and adjacent mines	Newmont Gold Co.	S19,T36N,R50E	gold	OP,HL, ML	mining heap leach milling	1633[1]	P.O. Box 669 Carlin, NV 89822-0669 775-778-4000 Fax: 635-4602
Carlin South-Carlin and adjacent mines	Newmont Gold Co.	S14,T35N,R50E	gold	UG,HL, ML	mining heap leach milling	1633[1]	P.O. Box 669 Carlin, NV 89822-0669 775-778-4000 Fax: 635-4602
Carlin South -Gold Quarry and adjacent mines	Newmont Gold Co.	S3,T33N,R51E	gold	OP,HL, ML	mining heap leach milling	1633[1]	P.O. Box 669 Carlin, NV 89822-0669 775-778-4000 Fax: 635-4602
Ruby Hill Mine	Homestake Mining Co.	S9-11,14,15 T19N,R53E	gold silver	OP,CIL, CIP,HL, ML	mining heap leach milling	33	P.O. Box 676 Eureka, NV 89315 775-237-6060 Fax: 237-5408
HUMBOLDT COUNTY							
Disaster Peak Clay Mine	American Colloid Co.	S26,T47N,R34E	clay	OP	mining		1500 West Shure Drive Arlington Heights, IL 60004 847-392-4600 Fax: 506-6199
Getchell and Turquoise Ridge Mines	Placer Dome, Inc.	S33,T39N,R42E	gold silver	UG	mining stockpiling	20	P.O. Box 220 Golconda, NV 89414-9702 775-529-5001 Fax: 529-0752

[1] Total for combined Carlin trend operations.

continued

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
HUMBOLDT COUNTY (continued)							
Hycroft Mine	Hycroft Resources and Development Co.	S26,T35N,R29E	gold silver mercury	OP,HL	heap leach	7	P.O. Box 3030 Winnemucca, NV 89446 775-623-5260 Fax: 623-0215
Lone Tree Mine	Newmont Mining Corp.	S1,11,13,15,23, T34N,R42E	gold silver	OP,HL, ML	mining heap leach milling	334[2]	P.O. Box 388 Valmy, NV 89438-0388 775-635-9000 Fax: 635-0111
Marigold Mine	Glamis Gold, Ltd.	S8,9,18-20, T33N,R43E	gold	OP,HL, ML	mining heap leach milling	100	P.O. Box 160 Valmy, NV 89438 775-623-9571 Fax: 623-9572
MIN-AD Mine	MIN-AD, Inc.	S28,T35N,R38E	dolomite	OP,ML	mining air separation grinding screening	20	4210 W. Jungo Road Winnemucca, NV 89445 775-623-5944 Fax: 623-9028
Pinson Mine	Pinson Mining Co.	S28,29,32,33, T38N,R42E	gold silver	OP,HL	heap leach care & maintenance	9	P.O. Box 129 Winnemucca, NV 89446 775-529-5026 Fax: 529-5030
Royal Peacock Opal Mine	Walter Wilson	S30,T45N,R26E	precious opal	OP	mining	1	P.O. Box 144 1 Homestead Road Orovada, NV 89425 775-941-0374 Fax: 272-3201
Trenton Canyon Mine	Newmont Mining Corp.	S7,18,19,T32N,R43E; S29,32,T33N,R43E	gold silver	OP,HL, ML	mining heap leach milling	1633[1]	P.O. Box 388 Valmy, NV 89438-0388 775-635-9000 Fax: 635-0111
Twin Creeks Mine	Newmont Mining Corp.	S3-10,15-22,27-32 T39N,R43E	gold silver	OP,HL, ML	mining heap leach milling	646	P.O. Box 69 Golconda, NV 89414 775-623-4300 Fax: 635-4602
LANDER COUNTY							
Argenta Mine and Mill	Baker Hughes INTEQ	S6,18,19,T32N,R47E	barite	OP,ML	mining gravity grinding	18	P.O. Box 277 Battle Mountain, NV 89820 775-635-5441
Battle Mountain Complex	Battle Mountain Gold Co.	S22,27,33,34, T31N,R43E	gold silver	OP,HL, ML	heap leach	21	Battle Mountain Gold Co. P.O. Box 1627 Battle Mountain, NV 89820 775-635-2465 Fax: 635-8677
Battle Mountain Grinding Plant	M-I LLC	S18,T32N,R45E	barite	ML	gravity grinding	31	P.O. Box 370 Battle Mountain, NV 89820 775-635-5135 Fax: 635-2191
Cortez/Pipeline Mines	Placer Dome U.S., Inc.	S31,33,34, T28N,R47E	gold	OP,HL, ML	mining heap leach milling	386	HC66-50 Star Route Beowawe, NV 89821 775-468-4400 Fax: 468-4496
Greystone Mine	M-I LLC	S35,T28N,R45E	barite	OP,ML	milling	49	P.O. Box 370 Battle Mountain, NV 89820 775-635-5135 Fax: 635-2191
McCoy/Cove Mine	Echo Bay Minerals Co.	S1-11,T28N,R42E; S36,T29N,R42E	silver gold	OP,HL, ML	mining heap leach milling	174	P.O. Box 1658 McCoy Mine Road, No. 1 Battle Mountain, NV 89820 775-635-5500 Fax: 635-5098
Mule Canyon Mine	Newmont Mining Corp.	S4, T31N,R47E	gold silver	OP,HL, ML	mining heap leach milling	334[2]	P.O. Box 388 Valmy, NV 89438-0388 775-635-9000 Fax: 635-0111
LINCOLN COUNTY							
Tenacity Perlite Mine and Mill	Wilkin Mining & Trucking Co.	S34,T4S,R62E	perlite	UG,ML	mining milling	8	P.O. Box 829 Panaca, NV 89042 775-728-4463 Fax: 728-4456
LYON COUNTY							
Adams Claim Gypsum Mine	Art Wilson Co.	S25,T16N,R20E	gypsum	OP,ML	mining crushing	17	P.O. Box 20160 Carson City, NV 89721 775-882-0700 Fax: 882-0790

[1] Total for combined Carlin trend operations.
[2] Total for Lone Tree and Mule Canyon Mines.

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
LYON COUNTY (continued)							
Dayton Pit	Granite Construction Co.	S25,T16N,R21E	aggregate	OP,ML	mining crushing screening washing	11	P.O. Box 2087 Sparks, NV 89432 775-355-3434 Fax: 352-1955
Hazen Pit	Eagle-Picher Industries, Inc.	S6,9,T19N,R26E	diatomite	OP	mining	1	P.O. Box 10480 Reno, NV 89510 775-824-7700 Fax: 824-7715
Nevada Cement Mine	Nevada Cement Co.	S3-6,9,T19N,R25E; S31-33,T20N,R25E	limestone clay	OP,ML	mining rotary kiln	129	P.O. Box 840 Fernley, NV 89408 775-575-2281 Fax: 575-4387
Section 8 Mine	CR Minerals Corp.	S8,17,T19N,R26E	diatomite	OP,ML	mining grinding drying milling	17	P.O. Box 858 100 Front St. Fernley, NV 89408 775-575-2536 Fax: 575-4857
MINERAL COUNTY							
Denton-Rawhide Mine	Kennecott Rawhide Mining Co.	S4,5,8,16,17, T13N,R32E	gold silver	OP,HL ML	mining heap leach milling	186	P.O. Box 2070 Fallon, NV 89407 775-945-1015 Fax: 945-1213
NYE COUNTY							
Ash Meadows Plant	Ash Meadows Zeolite, LLC	S25,T18S,R50E	zeolite	ML	screening drying bagging	4	State Route 15 P.O. Box 7006 Amargosa Valley, NV 89020 775-372-5524
Cinder Cone Pit	Cind-R-Lite Co.	S36,T14S,R48E; S31,T14S,R49E; S1,T15S,R48E; S6,T15S,R49E	cinder	OP,ML	mining screening	7	3333 Cinder Lane Las Vegas, NV 89103 702-876-1775
Daisy Mine	Glamis Gold, Ltd.	S11-15,22,23, T12S,R47E; S7,8,18, T23S,R48E	gold	OP,HL, ML	heap leaching reclamation	43	P.O. Box 99 Beatty, NV 89003 775-553-2234 Fax: 553-2295
Gabbs Mine	Premier Refractories International	S23,25-27,34-36, T12N,R36E	magnesite	OP,ML	mining calcining gravity grinding packaging	85	P.O. Box 177 Gabbs, NV 89409 775-285-2601 Fax: 285-4021
IMV Pits	Mud Camp Mining Co., LLC	S28,29,T17S,R49E; S6,21,T17S,R51E	clay	OP,ML	mining drying grinding screening	4	Route Box 549 Amargosa Valley, NV 89020 775-372-5341 Fax: 372-5640
Lathrop Mill	American Borate Co.	S36,T17S,R49E	calcium borate	ML	calcination flotation	9	American Borate Co. Star Route 15 Box 610 Amargosa Valley, NV 89020 775-372-5339
New Discovery Mine and Mill	Vanderbilt Minerals Corp.	S13,14,T12S,R46E; S18,19,T12S,R47E	clay	UG,ML	bagging grinding	7	2320 Viking Road Las Vegas, NV 89109 702-732-3174 Fax: 731-3621
P & S Mine	Standard Industrial Minerals	S14,T13N,R45E	barite	OP	mining		P.O. Box 10477 Reno, NV 89509 775-358-7110
Pahrump Community Pit	Various (BLM owns pit)	S28,29,T20N,R54E	sand gravel	OP	mining		Bureau of Land Management 4765 Vegas Dr. Las Vegas, NV 95901 702-647-5000 Fax: 647-5023
Round Mountain Mine	Round Mountain Gold Corp.	S19,20,29,30, T10N,R44E	gold silver	OP,HL, ML	mining heap leach milling	652	P.O. Box 480 Smoky Valley Mine Rd. Round Mountain, NV 89405 775-377-2366 Fax: 377-3240
Tonopah Mine	Equatorial Tonopah, Inc.	S5,T5N,R42E	copper	OP,HL	mining heap leach	196	P.O. Box 1569 Tonopah, NV 89049 775-482-3813 Fax: 482-3843

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
PERSHING COUNTY							
Buff Mine	Vanderbilt Minerals, Inc.	S2,T27N,R32E	clay	OP	mining	4	2320 Viking Road Las Vegas, NV 89109 702-732-3174 Fax: 731-3621
Coeur Rochester Mine	Coeur D'Alene Mines Corp.	S9-11,15,16,21,22, 27,T28N,R34E	silver gold	OP,HL, ML	mining heap leach milling	246	P.O. Box 1057 Lovelock, NV 89419 775-273-7995 Fax: 273-7050
Colado Mine	Eagle-Picher Minerals, Inc.	S6,7,16,18,21,25, T28N,R29E	diatomite perlite	OP,OS, ML	drying classification grinding calcining	140	P.O. Box 959 150 Coal Canyon Road Lovelock, NV 89419 775-824-7591 Fax: 824-7595
Empire Quarry	United States Gypsum Co.	S31,T31N,R24E	gypsum	OP	mining	13	P.O. Box 130 Empire, NV 89405 775-557-2341 Fax: 557-2212
Florida Canyon Mine	Florida Canyon Mining, Inc.	S1-4,9-15,T31N,R33E; S37-39,T31½N,R33E; S33-35,T32N,R33E	gold	OP,HL, ML	mining heap leach milling	201	P.O. Box 330 Imlay, NV 89418 775-538-7300 Fax: 538-7324
Rosebud Mine	Hecla Mining Co.	S23,24,T34N,R29E; S18,19,T34N,R30E	gold silver	OP	milling (at Twin Creeks) closed Aug 2000	97	6500 Mineral Dr. Coeur d'Alene, ID 83845 208-769-4100 Fax: 769-4122
Section 8 Mine	American Colloid Co.	S8,T27N,R33E	clay	OP	shipping	3	1500 West Shure Drive Arlington Heights, IL 60004 847-392-4600 Fax: 506-6199
W. Glen Sexton Family Trust	Nutritional Additives Co.	S5,8,T34N,R38E	dolomite	OP,ML	mining milling	6	415 Wellington Street Winnemucca, NV 89445 775-623-1151 Fax: 623-1153
STOREY COUNTY							
All-Lite Pit	All-Lite Aggregate, Inc.	S22,T19N,R22E	sand gravel	OS,ML	mining milling	25	3005 Canyon Way Lockwood, NV 89431 775-342-0500
Basalite Dayton Pit	Basalite Division of Pacific Coast Building Products	S8,9,16,17, T17N,R22E	sand gravel	OS,ML	mining crushing milling	5	2600 Boeing Way Carson City, NV 89701 775-882-9336 Fax: 887-1025
Clark Mine and Mill	Eagle-Picher Minerals, Inc.	S27,33,34, T20N,R23E	diatomite	OP,ML	mining drying grinding	74	P.O. Box 10408 Reno, NV 89510 775-824-7700 Fax: 824-7715
WASHOE COUNTY							
Bella Vista Pit	A and K Earthmovers	S3,T18N,R20E	sand gravel	OS,ML	mining screening	5	P.O. Box 1059 Fallon, NV 89407 775-825-1636
Clay Mine	Art Wilson Co.	S13,T27N,R19E	clay	OP	mining	5	P.O. Box 1160 Carson City, NV 89702 775-246-0282
Empire Mill	United States Gypsum Co.	S11,13,T31N,R23E	gypsum	ML	grinding calcining	135	P.O. Box 130 Empire, NV 89405 775-557-2341 Fax: 557-2212
Hidden Canyon Pit	Granite Construction Co.	S16,T20N,R20E	aggregate	OP,ML	mining crushing screening washing	8	P.O. Box 2087 Sparks, NV 89432 775-355-3434 Fax: 352-1955
Lemmon Valley/ Golden Valley Pits	Rocky Ridge, Inc.	S11,T20N,R19E; S23,24,T21N,R19E	sand gravel	OS,ML	mining screening	6	11059 Pyramid Lake Rd. Sparks, NV 89436 775-425-4455 Fax: 425-5131
Lockwood Quarry	Granite Construction Co.	S17,T19N,R21E	aggregate	OP,ML	mining crushing screening washing	16	P.O. Box 2087 Sparks, NV 89432 775-355-3434 Fax: 352-1955
Paiute Pit	Paiute Aggregates, Inc.	S2,27,34, T21N,R24E	sand gravel	OP	mining	7	10 Hill Ranch Rd. Wadsworth, NV 89442 775-575-4278

DIRECTORY OF MINING AND MILLING OPERATIONS (continued)

Mine/plant name	Operator	Location	Commodity	Type	Process/ activity	Employees	Address
WASHOE COUNTY (continued)							
Rilite Aggregate Pit	Rilite Aggregate Co.	S23,T18N,R20E	aggregate	OP,ML	mining grinding crushing	13	P.O. Box 11767 Reno, NV 89510 775-329-8842 Fax: 329-3593
Sky Ranch Pit	Rocky Ridge, Inc.	S15,T21N,R20E	sand gravel	OP,ML	mining crushing screening	46	11059 Pyramid Lake Rd. Sparks, NV 89436 775-425-4455 Fax: 425-5131
Wade Sand Pit	Granite Construction Co.	S3,T20N,R24E	sand	OP	mining screening	7	P.O. Box 2087 Sparks, NV 89432 775-355-3434 Fax: 352-1955
WHITE PINE COUNTY							
Alligator Ridge Mine	Placer Dome U.S. Inc.	S26,T22N,R57E	gold	OP,HL ML	mining heap leach milling	127[3]	P.O. Box 2706 Elko, NV 89803 775-744-4227 Fax: 744-4216
Bald Mountain Mine	Placer Dome U.S. Inc.	S14,15,19,20 T24N,R57E	gold	OP,HL, ML	mining heap leach milling	127[3]	P.O. Box 2706 Elko, NV 89803 775-744-4227 Fax: 744-4216
Mount Moriah Quarry	Mt. Moriah Stone	S34,T16N,R70E	stone	OP	mining	6	P.O. Box 35 Baker, NV 89311 435-855-2132
Yankee Mine	Placer Dome U.S. Inc.	S23,T21N,R57E	gold	OP,HL, ML	mining heap leach milling	127[3]	P.O. Box 2706 Elko, NV 89803 775-744-4227 Fax: 744-4216

[3] Total for Bald Mtn., Alligator Ridge, and Yankee.

For additional information on Nevada's mineral resources and mineral industries see the following NBMG publications:

Statewide Commodity Bulletins

Antimony (B61)
Barite (B98)
Fluorspar (B93)
Gypsum (B103)
Iron (B53)
Mercury (B41)
Montmorillonite, bentonite, and fuller's earth (B96)
Oil and gas (B104)
Radioactive minerals (B81)
Talcose minerals (B84)
Thermal waters (B91)
Tungsten (B105)
Zeolites (B79)

County Mineral Resource Bulletins

Carson City (B75)
Churchill (B83)
Clark (B62)
Douglas (B75)
Elko (B106)
Esmeralda (B78)
Eureka (B64)
Humboldt (B59)
Lander (B88)
Lincoln (B73)
Lyon (B75)
Mineral (B58)
Nye (B77, B99B)
Pershing (B89)
Storey (B70)
Washoe (B70)
White Pine (B85)

Other Publications

Index to geothermal well files housed at NBMG (L-5)
Gold and silver resources in Nevada (M120)
Nevada geothermal resources (M126)
Oil and gas wells drilled in Nevada since 1907 (L-8)
Nevada mining and you (SP8)
Major mines of Nevada 2000 (P-12)
Outline of Nevada mining history (SP15)
Mining districts of Nevada (R47)

NBMG maintains an open-file office with the following information available to the public:

NBMG, USGS, USBM, and DOE open-file reports on Nevada geology and mineral resources
petroleum and geothermal exploration and production
mining district records and maps
mineral resources and reserves
mineral resource assessments
core and cuttings library
mining claim data
wilderness study area reports
general geologic studies
indexes and ordering information for maps, air photos, and remote sensing imagery

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