

# GOLD

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Domestic gold mine production in 2000 was midway between the alltime high record reached in 1998 and what was produced in 1999. Primarily, the 3.5% improvement over the 1999 level was the result of more stable gold prices and the weakening of the United States dollar. The United States has been the second largest gold producer (behind South Africa) since 1991, when U.S. production surpassed that of the Soviet Union for the first time in five decades. Nevada produced more than three-fourths of domestic production; the remaining output came from 10 other States. Gold was produced at 64 lode mines; about a dozen large placer mines, all in Alaska; and numerous small placer mines, mostly in Alaska and the Western States. In addition, a small amount of domestic gold was produced as a byproduct of processing base metals, principally copper. Thirty mines yielded almost 97% of the gold produced in the United States. The value of U.S. gold mine production was about \$3.2 billion in 2000.

Domestic gold exploration activity dropped on a total dollar basis for the third consecutive year, declining from \$194.5 million in 1999 to \$183.4 million in 2000. The percentage of the total world gold exploration budget going to the United States, however, increased by 16.8% in 2000 for the third time because U.S. companies spent proportionately more on gold as worldwide gold exploration expenditures dropped by 7% from 1999, by 24% from 1998, and by 29% from 1997 (diGesu and others, 2000b).

Commercial-grade refined gold came from about two dozen domestic producers. Of several thousand companies and

artisans, a few dozen companies dominated the fabrication of gold into commercial products. U.S. jewelry manufacturing was heavily concentrated in the New York, NY, and the Providence, RI, areas, with other concentrations in California, Florida, and Texas. In 2000, estimated end uses of gold were jewelry and arts, 89%; dental, 7%; and electrical and electronics, 4%.

According to the World Gold Council (2001, p. 2), 2000 was the 10th consecutive year of unit sales increases for gold jewelry in the United States. Total U.S. gold jewelry sales exceeded \$15 billion, up by 4% from sales in 1999.

Trade in refined bullion comprised 82.5% of U.S. gold imports and 80% of exports; net exports of bullion rose to 256,000 kilograms (kg), up by more than 7% from that of 1999. As shown in tables 4 and 6, Canada provided about 60% of the bullion imported, and Switzerland was the destination for more than 60% of the bullion exported.

The dollar price for gold was volatile in 2000, but prices by yearend were only slightly lower than gold prices at the beginning of the year. Engelhard Corp.'s daily price of gold ranged from a low of nearly \$265 per troy ounce<sup>1</sup> on October 27 to a high of about \$314 on February 7. The average for the year was, to the nearest dollar, \$280. The previous year's prices ranged from about \$254 to \$327 and averaged \$280.

By the third quarter, 12-month London gold lease rates

<sup>1</sup>Elsewhere in this report, ounce by itself refers to troy ounce; 1 kilogram is equivalent to 32.1507 troy ounces.

## Gold in the 20th Century

In 1900, the United States led the world in gold production with an output of 119 kilograms of gold, accounting for about 31% of total world production, followed by Australia, Canada, and Russia. A hundred years ago, no gold was produced in South Africa, which is the largest producer of gold today. Colorado was the largest gold-producing State in the United States, providing about 36% of total U.S. gold output. Nevada, which is the leading domestic gold-producing State today, produced only 3% of the total U.S. output in 1900, but would benefit greatly from cyanide-heap leach technology to extract gold from its low-grade gold ores in the late 1960s. The major uses of gold in the early 1900s were for jewelry and monetary investments. At the opening of the 20th century, the official price of gold was \$20.67 per troy ounce and Congress passed the Gold Standard Act of 1900, which confirmed the gold dollar as the standard unit of monetary value, with the value of \$1 set at 25.8 grains of 900 fine gold. During the First and Second World Wars, the international gold standard was suspended by the combatant but restored following cessation

of hostilities. During the Great Depression, exports of gold except under Government license were prohibited, and all gold and gold certificates were recalled from general circulation. In 1934, silver was brought back as a standard unit of monetary value, and the gold content of the gold dollar was reduced to 13.7 grains of 900 fine gold.

In 2000, the United States was the second largest gold-producing country with an output of about 353 kilograms of gold accounting for about 14% of the total world output. South Africa ranked first and Australia, China, and Canada ranked third, fourth, and fifth respectively, in global gold output. Nevada produced three-fourths of U.S. gold, while Colorado produced less than 3% of the total domestic output. Over 85% of today's domestic gold is used for jewelry and arts with most of the remainder used as low-resistance electrical conductors. The price of gold in 2000 averaged \$280 per troy ounce, which is about 14 times greater than the price of gold in 1900.

dropped from about 1.6% in January to 1.2% in October and remained the same through December. Short-term lease rates decreased from historic lows of 0.5% in January to less than 0.3% in August before rising to 0.7% in December (CRU International Ltd., 2001).

Total world mine production of gold was about the same as the record level reached in 1999. Despite a sixth successive decline in annual output, South Africa remained the largest producer of more than 80 gold-mining nations, followed by the United States, Australia, China, and Canada. Identified world gold resources at yearend 1999 were estimated to be 100 million kilograms (Mkg), of which 15% to 20% were byproduct resources; the world reserve base was estimated to be 73 Mkg, and reserves, 48 Mkg (R.P. Ashley, U.S. Geological Survey, oral commun., 2000). [This report uses the resource and reserve terminology of the U.S. Geological Survey (USGS), which is republished annually in USGS Mineral Commodity Summaries (U.S. Bureau of Mines and U.S. Geological Survey, 1980).] South Africa had about 50% of the resources, 50% of the reserve base, and 38% of the reserves. The United States had about 9% of world resources, 8% of the reserve base, and 12% of the reserves.

About 15% of all gold mined is estimated to have been used in dissipative industrial uses, or is either unaccounted for or unrecoverable (Thomas and Boyle, 1986, p. 6). Therefore, of an estimated 140 Mkg of gold mined in historical times through 2000, 119 Mkg of gold remain, with about 33 Mkg held by central banks as official stocks and about 78 Mkg held privately as bullion, coin, and jewelry.

The USGS has issued a report on undiscovered gold, silver, copper, lead, and zinc deposits in the United States (U.S. Geological Survey, 2000). In the report, the amount of gold in undiscovered U.S. mineral deposits is estimated to range between greater than 13 Mkg (90% probability) and greater than 22 Mkg (10% probability). The mean value of gold in the undiscovered deposits is 18 Mkg with nearly one-quarter of the gold estimated to be contained in undiscovered porphyry copper deposits. Other major gold deposit types considered in the report were hot spring gold, epithermal vein, plutonic porphyry gold, sediment-hosted gold, Au-Ag-Te veins, and low-sulfide gold-quartz vein deposits. Total discovered gold resources in the United States were estimated to be 27 Mkg; identified U.S. gold resources were estimated to be 15 Mkg and all U.S. gold production was 12 Mkg.

## Production

Domestic mine production data for gold were derived by the USGS from two separate voluntary surveys of U.S. operations—one for monthly production of copper, gold, lead, silver, and zinc from lode mines and the other for the same types of data from companies that responded annually.

Of the 77 lode gold producers in operation to which a survey request was sent, 75 responded. Thirteen of the 75 responses reported that their mines were closed and another 6 remained on care-and-maintenance status by the end of 2000. The individual company production and performance data in table 3 and cited elsewhere in this report were obtained from published sources, such as company annual reports.

Of the total domestic gold produced during 2000, about 93% was extracted from gold ore, and the remaining 7% was derived

from other precious-metal ores, base-metal ores, and placer deposits. By comparison, similar data assembled for 1980 indicated a 63% to 37% ratio. In both years, the contribution from placer mines amounted to less than 2% of the total gold produced.

**Alaska.**—The State's Division of Geology and Geophysical Surveys reported that gold output decreased to 15,600 kg (501,000 ounces) worth \$140 million in 2000 from an estimated 16,100 kg (518,000 ounces) worth \$144 million in 1999, or an approximate decrease in production of 3% and a decrease in associated value of about 3% (Szumigala and Swainbank, 2001). Placer production dropped to 1,300 kg (41,000 ounces) from 1,700 kg (56,000 ounces) of gold.

The underground Fort Knox gold mine near Fairbanks began to produce gold in 1997. Kinross Gold Corp. reported that the mine produced about 11,300 kg (363,000 ounces) of gold in 2000, making it the country's ninth largest gold producer (Kinross Gold Corp., 2001, p. 24).

The Greens Creek Mine on Admiralty Island, off Juneau, completed its fourth year at full production levels. Ore from the underground trackless mine was milled at the mine site. The mill produced gold and silver doré, lead, zinc, and bulk concentrates. Hecla Mining Co. reported (2001, p. 7) that the mine produced 2,600 kg (83,700 ounces) of gold. Greens Creek was a joint venture between Kennecott Greens Creek Mining Co. (70.3%) and Hecla Mining (29.7%).

USMX Inc.'s Illinois Creek gold mine in west-central Alaska was placed on care and maintenance, but continued to produce gold as the existing heaps were rinsed (Szumigala and Swainbank, 2001).

Continued drilling at the Pogo joint venture between Teck Corp. and Sumitomo Metal Mining America Inc. defined new gold ore zones in the eastern interior region (Wilburn, 2001, p. 49).

**California.**—Gold production in California remained about the same as that of 1999, as shown in table 2. California's largest gold mine, Newmont Gold Co.'s Mesquite Mine, near Brawley, yielded more than 4,100 kg (130,000 ounces) of gold from oxide and sulfide ores that were mined by open pit methods (Newmont Gold Co., 2001, p. 53).

In eastern Imperial County, Glamis Gold Ltd. continued to produce gold by using heap-leaching methods at its Picacho Mine and continued exploration at its nearby Imperial project. Picacho produced about 45 kg (1,400 ounces). In 1997, after 16 years of gold production, reserves were exhausted, and mining ceased. Gold recovery from the last ore heap was expected to take another year, after which reclamation will begin. Glamis Gold, through its wholly owned Glamis Rand Mining Co., also produced 3,100 kg (100,000 ounces) of gold at its Rand Mine near Randsburg. Almost all mining at the Rand Mine was carried out at the Yellow Aster Pit (Glamis Gold Ltd., 2001, p. 2).

Near the Nevada-California State line, in San Bernardino County, the Castle Mountain Mine produced an estimated 3,700 kg (119,000 ounces) of gold (Viceroy Resource Corp., 2001, p. 2). Castle Mountain was a joint venture between Viceroy Resource Corp. (75%) and MK Gold Co. (25%).

**Colorado.**—Gold production in the State was 7% higher with a significant increase in production from the Nation's 11th largest gold mine, the Cresson Mine, in the Cripple Creek District of Teller County. AngloGold Ltd. reported (2001, p.

20) that this open pit mining operation produced 7,700 kg (248,000 ounces) of gold in 2000.

**Idaho.**—Meridian Gold Inc.'s closure of its Beartrack Mine near Salmon leaves Idaho with no active gold mines. Beartrack produced more than 2,250 kg (73,000 ounces) of gold in 2000 about 45% less than in 1999. Leaching of crushed ore is expected to continue to produce gold over the next several years on a declining basis (Meridian Gold Inc., 2001).

**Montana.**—Exploration for gold was continued at an extremely low level, funded by a few venture capital dollars. No major mining companies were known to be involved. Low gold prices during the year and market limitations targeted interest toward gold with investment potential, such as free-milling gold and gold placers (McCulloch, 2001, p. 82).

Placer Dome Inc.'s wholly owned Golden Sunlight Mine near Whitehall was Montana's largest gold-producing mine with 6,600 kg (212,300 ounces) of gold in 2000, about 47% more than in 1999 (Placer Dome Inc., 2001, p. 10).

**Nevada.**—Nevada maintained its longstanding position as the Nation's dominant gold-producing State. Of the Nation's top 30 gold-producing mines, 15 were in the Silver State. Primary gold production increased to 268,000 kg (8.6 million ounces).

Newmont Gold, the largest gold mining company in North America, produced 94,000 kg (3.0 million ounces) of gold from 9 open pit operations, 4 underground mines, and 17 processing facilities in Elko, Eureka, Humboldt, and Pershing Counties. Newmont Gold marked 35 years of production on the Carlin Trend, which it discovered in the mid-1960s. Mining of the high-grade Deep Post pit deposit concluded at the end of 2000, while gold production from stockpiles will continue into early 2001. With reserves of 93,000 kg (3.0 million ounces) of gold, Deep Post consists of both a surface zone, currently being mined within the Betze-Post Pit, and a deeper zone, which was nearly completed as an underground mine, with gold production beginning the first quarter of 2001. Barrick Gold Corp. completed an asset swap with Newmont in May 1999 that provided access to the Deep Post underground deposit zone through a decline at the bottom of the Betze-Post Pit. The asset swap also provided the opportunity to begin a mile-long exploration drift from the Deep Star Mine to the Deep Post Deposit, called the Gold Margin Corridor. Carlin operation's largest open pit mine, Gold Quarry, was mined out in the spring of 2000. In August 2000, mining also ended at the Rosebud underground mine. Exploration drilling near existing gold mines have located an additional 75,000 kg (2.4 million ounces) of gold reserves (Newmont Gold Co., 2001, p. 7).

Barrick Gold Corp. was the Nation's second largest gold mining company in 2000 and reportedly recovered 51,200 kg (1.6 million ounces) of gold at its Betze-Post Mine/Goldstrike in Eureka County. In nearby Elko County, Barrick continued the development of its Meikle Mine/Goldstrike, an underground operation that produced 25,100 kg (806,000 ounces) of gold; it was the Nation's largest underground gold mine. The mine had an underground cooling system to keep temperatures around 80 °F even though the temperature of the surrounding rock can be 140 °F (Gold News, 1998). These Barrick operations on the Carlin Trend were developed within a 2,800-hectare landholding known as the Goldstrike Property (Barrick Gold Corp., 2001, p. 5).

Northwest of Elko, AngloGold Ltd. and Meridian Gold Inc. produced about 10,700 kg (344,000 ounces) of gold at their

Jerritt Canyon Mine, the Nation's 10th largest gold mine (AngloGold Ltd., 2001, p. 20). Other gold mines in Humboldt County included the Hycroft (formerly the Crowfoot/Lewis) and the Marigold Mines.

South of and parallel to the Carlin Trend, the Battle Mountain/Eureka Trend runs from southeastern Humboldt County southeast through Lander and Eureka Counties. Gold mining operations along this trend in Lander County include the Battle Mountain Complex, which was placed on care and maintenance on January 1, 2000 (Battle Mountain Gold Co., 2000, p. 7); the McCoy/Cove gold and silver mine, which produced 5,100 kg (163,000 ounces) (Echo Bay Mines Ltd., 2001, p. 9); and the country's fourth largest gold mine, the Cortez Mine, owned by Placer Dome (60%) and Kennecott Minerals Co. (40%), which produced 31,400 kg (1.0 million ounces) (Placer Dome Inc., 2001, p. 9).

At Round Mountain, about 95 kilometers (km) north of Tonopah, the Round Mountain Gold Corp. mine of Echo Bay Mines Ltd. produced about 19,800 kg (638,000 ounces) of gold during the year (Echo Bay Mines Ltd., 2001, p. 9). The property is the sixth largest U.S. gold mine.

Battle Mountain Gold Co. continued its exploration project by extending the Phoenix Zone at the Battle Mountain Complex, thereby adding about 31,000 kg (1 million ounces) of gold to its reserve base. In addition, Dynatec Corp. continued to develop the Rossi-Storm Deposit at the Ken Snyder Mine, which poured its first gold on December 9, 1998. Ken Snyder's second full year of commercial production was 5,300 kg (171,000 ounces) of gold making it the country's 13th largest gold mine in 2000 (Franco-Nevada Mining Corp. Ltd., 2001, p. 2).

Exploration continued to decline. Activity was concentrated along the major "trends," Battle Mountain, Carlin, Getchell, and Midas. Several companies pursued 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 (Tingley and LaPointe, 2001, p. 82).

**South Dakota.**—Gold production decreased by more than 17% compared with that of 1999. Homestake Mining Co's 124-year-old Homestake Mine at Lead will be shut down by the end of 2001. Homestake plans to produce about 7,500 kg (240,000 ounces) of additional gold before closure, and expects to spend over \$66 million over 8 years on final reclamation and remediation (American Metal Market, 2000g). The Homestake Mine was again the largest gold-producing mine in South Dakota and the 14th largest gold-producing mine in the country. During the year, the mine, a nearly 2.5-km-deep operation with associated surface mining, yielded about 5,300 kg (171,000 ounces) of gold (Homestake Mining Co., 2001, p. 4).

Goldcorp Inc. operated an open pit gold mine near Lead, the Wharf Mine, which produced about 2,900 kg (94,000 ounces) of gold (Goldcorp Inc., 2001, p. 5).

**Utah.**—Rio Tinto Ltd.'s Bingham Canyon Mine, which was operated by Kennecott Utah Copper Corp., produced about 16,500 kg (529,000 ounces) of gold as a byproduct of its copper mining operations near Salt Lake City. Long ranked as one of the Nation's principal gold-producing mines, Bingham Canyon was the seventh largest gold producer in 2000. Kennecott also operated the nearby Barney's Canyon Mine, an open pit and heap-leaching operation that produced 4,800 kg (153,000 ounces) of gold (Rio Tinto Ltd., 2001, p. 3).

**Washington.**—Echo Bay Mines's Kettle River underground mine, in the northeastern part of the State, produced 2,900 kg (94,000 ounces) of gold in its 10th year of production (Echo Bay Mines Ltd., 2001, p. 9).

The Crown Jewel project, with projected annual production of 5,400 kg (175,000 ounces) of gold, received an unfavorable ruling on a water-quality permit. The ruling, made by Washington State's Pollution Control Hearings Board, delayed the project's startup date (American Metal Market, 2000d).

## World Review

World gold mine production was about the same as in 1999. Increased production from mines in Russia and the United States was enough to help offset a continuing decline in gold output from South Africa. According to its annual review of world gold supply and demand, Gold Fields Mineral Services Ltd. calculated that the total global supply of gold in 2000 was 3.95 Mkg (123 million ounces) compared with the previous year's total supply of 4.15 Mkg (129 million ounces) (Klapwijk and others, 2001, p. 7). Gold Fields Mineral Services also reported level mine production; increases in official sector sales (1.5%); no net producer hedging; and a implied net disinvestment of 291,000 kg (9 million ounces), which was sales of bars and coins by private investors. Old gold scrap levels hardly changed in 2000 (Klapwijk and others, 2001, p. 7).

On the demand side, Gold Fields Mineral Services reported only 5,000 kg (155,000 ounces) less than its 1999 level. Jewelry fabrication increased by 26,000 kg (810,000 ounces) as strong growth in the Middle East outweighed weakness in the Indian subcontinent and Europe. Bar hoarding fell by 18% largely as a result of lower Japanese demand. Coin fabrication collapsed to 46,000 kg (1.4 million ounces), but the amount of gold used in electronics increased by 15% (Klapwijk and others, 2001, p. 10).

With regard to gold exploration, the Metals Economics Group, Halifax, Nova Scotia, Canada, determined from its annual survey of worldwide exploration budgets for 656 companies (diGesu and others, 2000a) that \$1.09 billion (46%) of the 2000 world exploration budget total for nonferrous metals was directed to gold, with 428 companies reporting active gold programs. The expenditures for gold were \$238 million less than the \$1.33 billion (52% of the total) reported for gold exploration in 1999. As in the preceding 6 years, Latin America received the highest expenditure for gold—\$662.9 million (28%) of the reported 2000 world total exploration dollars (diGesu and others, 2000b).

**Australia.**—Australian gold mine production dropped by about 2% from 1999. However, Australia retained its position as the world's third largest gold-producing nation. Of the 296,400 kg (9.2 million ounces) of gold mined in 2000, Western Australia, Queensland, and Northern Territory accounted for about 70%, 12%, and 8%, respectively (Australian Bureau of Agricultural and Resource Economics, 2001, p. 15); Western Australia's production was derived principally from mining operations near Kalgoorlie. Other Australian gold-producing States were, in descending order of output, New South Wales, Victoria, Tasmania, and South Australia.

Cost at the Granny Smith Mine, traditionally one of the lowest producers, doubled. The higher costs were partially a result of lower gold production as waste rock was mined to gain

access to an ore zone. In addition, operational difficulties were experienced owing to harsh weather during the first quarter (Klapwijk and others, 2001, p. 45).

The Australian Bureau of Statistics reported that expenditures for mineral exploration in Australia increased during the second quarter of 2000. The 4% increase in spending marked a reversal in the decline of exploration expenditures in Australia since 1997. Spending for gold exploration, which accounted for the largest share of total spending, rose by more than \$20 million in the second quarter of 2000 (American Metal Market, 2000a).

Medals for the Sydney Olympics were made from donated newly mined gold and silver, plus old Australian coins that were out of circulation. Each gold medal was made of pure silver with a minimum of 6 grams of gold for plating. During the Olympic Games, 650 gold medals were awarded (American Metal Market, 2000b).

**Brazil.**—During 2000, gold production declined 1% to about the 52-metric-ton (1.7-million-ounce) level. Output from the informal, noncorporate mining sector, the *garimpeiros*, was estimated to have dropped to as low as 12,000 kg (370,000 ounces) of gold. Low gold prices, higher fuel prices, stricter environmental controls, and restriction of mining activities in native Indian reserves encouraged *garimpeiros* to find alternative and more formal employment. Most of the formal mining sector, however, performed well, maintaining about 40,000 kg (1.3 million ounces) of gold production by reducing costs (Klapwijk and others, 2001, p. 37).

**Canada.**—Canada dropped to fifth position in the ranking of world gold producers, as its output declined by 2% to 154,000 kg. Gold was produced at about 33 lode gold mines, the same as that of 1999. During the year, no gold mines began operation, six gold mines reopened, and six gold mines shutdown or suspended operations. Canada's principal gold-producing Provinces were Ontario (47%), Quebec (22%), British Columbia (17%), and Manitoba (5%). Gold was also produced in Alberta, New Brunswick, Newfoundland, Nunavut, Saskatchewan, the Northwest Territories, and Yukon Territory. The reopening of the Red Lake Mine in northwestern Ontario in August, after 4 years of shutdown due to a labor dispute, was the highlight of the year for gold mining in Canada. Highly successful exploration work, which resulted in the discovery of the nonrefractory High Grade Zone, allowed the mine to be redeveloped into an exceptionally high-grade and low-cost gold mine. The mine is currently the lowest cost gold mine in Canada (Michel Miron, Natural Resources Canada, written commun., 2001).

**Chile.**—Gold output in Chile increased 19% to 54,000 kg (1.7 million ounces) despite a number of mine closures. Closures included the high-cost Andacollo Mine, which suspended operations in September, and the El Tambo Mine where operations ceased in June due to ore depletion. The new El Peñon had a strong performance, adding just under 10,000 kg (3.0 million ounces) to Chile's gold output in 2000 (Klapwijk and others, 2001, p. 37).

**China.**—The Chinese produced 180,000 kg of gold in 2000, up 4% from the 173,000 kg of gold produced in 1999 (Platts Metals Week, 2001).

The Chinese Government released an outline of how China is restructuring its gold market in a series of economic reforms to comply with standards set by the World Trade Organization for membership. China is also expected to establish a national gold

exchange in 2001, which will trade only spot gold. China produces 180,000 kg of gold from 1,200 mines, and its central bank holds 395,000 kg of gold (American Metal Market, 2000c).

**India.**—The Delhi Stock Exchange offered online trading in gold bullion early in November and thereby initiated the first stock exchange in India for bullion trading. Almost 29 Mkg of gold, valued at \$300 billion, are held in India. The Government holds only about 400,000 kg of gold, with the remainder in private hands. In addition, India imports over 800,000 kg of gold annually to satisfy its demand for jewelry (American Metal Market, 2000e).

**Indonesia.**—Gold output was estimated to have dropped by 2% in 2000 to 125,000 kg. The Grasberg Mine, which produced 96,000 kg of gold, generated as a byproduct 77% of the country's gold output. Also, the Minahasa and Kelian Mines declined in gold output owing to industrial action and community protests through road blocks. Losses were more than offset by extra gold output from two new gold mining operations: The Gosowong Mine produced more than 7,000 kg of gold in its first full year of operation. In addition, the Batu Hijau copper-gold mine shipped its first concentrate at the end of 1999 and contributed almost 10,000 kg to Indonesian gold output in 2000 (Klapwijk and others, 2001, p. 39).

**Mexico.**—Gold production increased by 11% to almost 26,000 kg in 2000 (Klapwijk and others, 2001, p. 37).

The International Monetary Fund (IMF) has completed its planned sales of over 400,000 kg (13 million ounces) of gold by reevaluating the gold without depressing the gold market. Seven off-market transactions were made with the borrowing countries, Brazil and Mexico, selling the gold, buying it back, and raising cash by reevaluating the gold. The off-market transactions were part of an agreement to fund the IMF's share of the "Highly Indebted Poor Countries" (HIPC) initiative. IMF sold its gold to Brazil and Mexico and accepted it back immediately from Brazil and Mexico for payment of an obligation due that same day. IMF takes advantage of the difference between the value of gold on its books and the much higher market price. The cash is then invested and the interest is used to support the HIPC initiative (American Metal Market, 2000f).

**Papua New Guinea.**—Gold production in Papua New Guinea rose over 21% to 74,000 kg. Porgera Mine showed a 20% increase in gold production owing to higher grades and improved recovery at the plant. Record gold output of 16,000 kg was reported at the Ok Tedi Mine, however, it is still embroiled in a protracted court battle with landowners over damage caused by waste in rivers around the mine (Klapwijk and others, 2001, p. 40).

**Peru.**—For the fifth consecutive year, gold production in Peru exceeded that in Brazil, making it the largest gold producer in Latin America at 133,000 kg of gold, which was 3% more than that of 1999. Gains at the Yanacocha and Orcopampa Mines were enough to offset the losses from the Pierina Mine where gold output declined 2%, as lower grade ore was processed. Further losses of 25% were expected and reported at the Sipan Mine. Production is expected to rise even further at the large-scale, low-cost, open pit, heap-leach Yanacocha Mine in northern Peru, when La Quinoa (one of the five deposits that constitute the Yanacocha Mine) is brought into production in 2001 (Klapwijk and others, 2001, p. 36).

**Russia.**—Production in Russia grew by 11%, to 140,000 kg of gold, moving Russia to the sixth position among the top gold producing countries. Two years of strong growth in gold production indicate that gold reserves are available to be mined should Russian owners receive adequate financial backing. Liberalization in the gold industry, which started a few years ago and accelerated after the economic crisis of 1998, allowed many commercial banks to obtain licenses for trading and exporting gold. The proliferation of these banks has provided more than sufficient funding to the gold industry, which buys between 70% and 80% of the gold from the mines. Much of the buying is completed through prepurchasing schemes entered into before the gold is produced. Most of the gold is exported with a 5% export duty on precious metals ores and concentrate imposed by the Central Bank (Klapwijk and others, 2001, p. 40).

**South Africa.**—Gold production in South Africa, the world's largest gold-producing nation, declined for the seventh consecutive year, to 431,000 kg of gold, 5% less than that of 1999, and left gold production at its lowest level in 46 years. South Africa has not had a year-on-year increase in gold output since 1993, and consequently with the increase in gold production in Australia and North America, its share fell from 30% of the world's gold output in 1993, to roughly 17% in 2000. The successive declines can, in part, be explained by operational difficulties related to the maturity of the industry and the nature of the ore deposits: narrow veins in hard rock being mined at deep levels. In 2000, the number of working shifts were reduced, which also affected gold production (Klapwijk and others, 2001, p. 33).

The tonnage and grade of ore milled during 2000 by the mines comprising the membership of the Chamber of Mines of South Africa amounted to almost 84 billion kilograms at a grade of 4.51 grams per ton of gold ore; this compares with a higher total tonnage of 87 billion kilograms at a higher grade of 4.62 grams per ton that was milled by Chamber members in 1999.

Of the top 15 gold-producing companies in the world in 2000, 4 were South African. AngloGold Ltd., listed on the Australian Stock Exchange in November 1999, remained the leading gold-producing company in the world. Gold Fields Ltd. was third in the world. The other two companies were Harmony Gold Mining Co. Ltd. (8th) and Durban Roodepoort Deep Ltd. (12th). Durban Roodepoort Deep was listed on the Australian Stock Exchange in March 1999 (Klapwijk and others, 2001, p. 31).

**Uzbekistan.**—Gold production in Uzbekistan remained constant at 85,000 kg. Gold output at the Zarafshan-Newmont Gold's joint venture, which processes high-grade tailings from the state-owned Muruntau Mine at Zarafshan, dropped by 8% primarily due to changes in production levels. In addition, Navoi Mining and Minerals, operators of the Muruntau Mine in the Kyzylkum desert, reported throughput and fine gold recovery increased. Navoi announced plans to start building a biooxidation plant at its Uchkuduk site, which could see gold output increase further in the future (Klapwijk and others, 2001, p. 41).

## Outlook

World gold producers are expected to reduce capital spending during the next 2 or 3 years. Small-to-medium-sized companies will be absorbed by the larger gold mining companies, and the

largest companies will merge as a consolidation phase takes place in the gold mining industry. This trend of consolidation to maintain gold reserves is expected to continue; thus, forecasts of a future gold industry comprised of less than 10 major companies cannot be easily dismissed. Moreover, larger companies that produce as much as 300,000 kilograms per year of gold could materialize in the next 2 to 3 years.

Capital spending reductions will occur; this means less gold exploration and suggests that new pipeline projects will not be sufficient to replace old ones. The U.S. gold industry already has been closing its gold mines, 10 in 1999 and 12 more in 2000. It is not only the low price of gold that drives spending down; it is also due to lack of investor interest because too many gold companies are generating poor returns.

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TABLE 1  
SALIENT GOLD STATISTICS 1/

		1996	1997	1998	1999	2000
United States:						
Mine production	kilograms	326,000	362,000	366,000	341,000	353,000
Value	thousands	\$4,090,000	\$3,870,000	\$3,480,000	\$3,070,000	\$3,180,000
Gold recovered by cyanidation:						
Extracted in vats, tanks, closed containers 2/	kilograms	170,000	201,000	238,000	196,000	90,000
Leached in open heaps or dumps 3/	do.	124,000	132,000	103,000	131,000	193,000
Refinery production:						
Concentrates and doré	do.	NA	270,000	277,000	265,000	197,000
Recycled materials (new and old scrap)	do.	NA	100,000	163,000	143,000	81,600
Exports, refined	do.	406,000	391,000	430,000	435,000	440,000
Imports for consumption, refined	do.	143,000	194,000	257,000	196,000	184,000
Net deliveries from foreign stocks in Federal Reserve						
Bank of New York	do.	373,000	143,000	310,000	303,000 r/	356,000
Stocks, December 31:						
Industry 4/	do.	NA	17,300	16,600	14,700	9,300
Commodity Exchange (Comex) 5/	do.	20,700	15,200	25,200	37,900	52,900
Department of the Treasury	metric tons	8,140	8,140	8,130	8,170	8,140
Volume of U.S. Gold Futures Trading 6/	do.	14,300	29,700	28,600	29,800	20,600
Department of the Treasury: 7/						
American Eagle gold coin	kilograms	10,700	20,000	49,200	78,200	13,900
Other numismatic gold coins	do.	1,190	500	86	430	330
Consumption in industry and the arts	do.	NA	137,000	219,000	245,000	183,000
Apparent demand, refined 8/	do.	NA	265,000	667,000	283,000	380,000
Price, average per troy ounce 9/		389	332	295	280	280
Employment, mine and mill only 10/		16,900	16,300	13,400	10,300	10,400
World:						
Production, mine	kilograms	2,290,000 r/	2,450,000	2,510,000 r/	2,550,000 r/	2,550,000 e/
Official bullion reserves 11/	metric tons	34,400	34,000	33,600	33,500 r/	33,000

e/ Estimated. r/ Revised. NA Not available.

1/ Data are rounded to no more than three significant digits, except prices.

2/ May include small quantities recovered by gravity methods.

3/ May include tailings, waste-ore dumps, and previously mined ore at some inactive mines.

4/ Unfabricated refined gold held by refiners, fabricators, dealers, and the U.S. Department of Defense.

5/ Commodity Exchange (Comex) Division of the New York Mercantile Exchange.

6/ Comex only.

7/ Fiscal year bullion disbursements to U.S. Mint coin programs. Fiscal year begins October 1, of year prior to year indicated.

8/ Defined as refinery production from primary materials plus refinery production from old scrap plus net bullion flow to market from foreign stocks at the New York Federal Reserve Bank plus net imports of bullion. Assumed to include gold held for investment purposes. Excludes gold contained in fabricated items, imported coins, and official monetary gold.

9/ Engelhard Corp. industries quotation.

10/ Data from Mine Safety and Health Administration.

11/ Held by central banks, governments, and international monetary organizations. Data from International Monetary Fund.

TABLE 2  
MINE PRODUCTION OF GOLD IN THE UNITED STATES, BY STATE 1/

(Kilograms)

State	1999	2000
Alaska 2/	16,200 r/	15,600
Arizona	786	442
California	17,500	17,200
Idaho	W	W
Montana	7,540 r/	9,310
Nevada	256,000 r/	268,000
South Dakota	10,300 r/	8,230
Washington	3,250	2,930
Other States 3/	29,700 r/	31,700
Total	341,000	353,000

r/ Revised. W Withheld to avoid disclosing company proprietary data, included with "Other States."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Production data collected by the State.

3/ Includes Colorado, New Mexico, South Carolina, Utah, Wisconsin, and States indicated by symbol W.



TABLE 3  
LEADING GOLD-PRODUCING MINES IN THE UNITED STATES IN 2000, IN ORDER OF OUTPUT 1/

Rank	Mine	County and State	Operator	Kilograms
1	Betze-Post/Goldstrike	Eureka, NV	Barrick Gold Corp.	51,200
2	Twin Creeks 2/	Humboldt, NV	Newmont Gold Co.	41,100
3	Carlin operations 2/	Elko, Eureka, NV	do.	37,000
4	Cortez	Lander, NV	Placer Dome Inc.	31,400
5	Meikle/Goldstrike 3/	Elko, NV	Barrick Gold Corp.	25,100
6	Round Mountain	Nye, NV	Round Mountain Gold Corp.	19,800
7	Bingham Canyon 4/	Salt Lake, UT	Kennecott Utah Copper Corp.	16,500
8	Lone Tree 2/	Humboldt, NV	Newmont Gold Company	15,100
9	Fort Knox 5/	Fairbanks, AK	Fairbanks Gold Mining Inc.	11,300
10	Jerritt Canyon	Elko, NV	Independence Mining Co., Inc.	10,700
11	Cresson	Teller, CO	Cripple Creek & Victor Gold Mining Co.	7,700
12	Golden Sunlight	Jefferson, MT	Placer Dome Inc.	6,600
13	Ken Snyder	Elko, NV	Euro-Nevada Mining Co.	6,040
14	Homestake	Lawrence, SD	Homestake Mining Co.	5,320
15	McCoy/Cove	Lander, NV	Echo Bay Mines Ltd.	5,060
16	Barney's Canyon	Salt Lake, UT	Kennecott Barney's Canyon Mining Co.	4,760
17	Bald Mountain	White Pine, NV	Placer Dome Inc.	4,180
18	Mesquite 2/	Imperial, CA	Newmont Gold Co.	4,060
19	Ruby Hill	Eureka, NV	Homestake Mining Co.	3,890
20	Castle Mountain	San Bernardino, CA	Viceroy Resources Corp.	3,690
21	McLaughlin	Napa, Yolo, CA	Homestake Mining Co.	3,350
22	Denton-Rawhide	Mineral, NV	Kennecott Rawhide Mining Co.	3,250
23	Rand	Kern, CA	Glamis Rand Mining Co.	3,110
24	Kettle River	Ferry, WA	Echo Bay Mines Ltd.	2,930
25	Wharf	Lawrence, SD	Wharf Resources, Ltd.	2,920
26	Briggs	Inyo, CA	Canyon Resources Corp.	2,690
27	Greens Creek 6/	Juneau, AK	Kennecott Greens Creek Mining Co.	2,510
28	Rochester	Pershing, NV	Coeur d'Alene Mines Corp.	2,360
29	Beartrack	Lemhi, ID	Meridian Gold Inc.	2,250
(7/)	Florida Canyon	Pershing, NV	Florida Canyon Mining, Inc.	W

W Withheld to avoid disclosing company proprietary data.

1/ Data are rounded to no more than three significant digits; these mines accounted for more than 96% of the U.S. gold production in 2000.

2/ Mill output.

3/ Previously reported county location was incorrect.

4/ Mine production refers to total quantity of gold produced in concentrates.

5/ Mine production refers to gold equivalent produced.

6/ Updated to reflect locality name change.

7/ Production at Florida Canyon is withheld; mine is among the top 30 gold-producing mines in the United States, but is not shown in rank order to avoid disclosing company propriety data.

Sources: Company annual reports, Securities and Exchange Commission's 10K and 6K reports, and company news releases.

TABLE 4  
U.S. EXPORTS OF GOLD, BY COUNTRY 1/ 2/

Year and country	Ores and concentrates 3/		Doré and precipitates		Refined bullion 4/		Total	
	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)
1999	117	\$1,180	87,300	\$778,000	435,000	\$3,880,000	523,000	\$4,660,000
2000:								
Armenia	--	--	--	--	284	2,560	284	2,560
Australia	--	--	--	--	10,900	99,100	10,900	99,100
Austria	--	--	--	--	50	470	50	470
Bahamas, The	--	--	--	--	29	221	29	221
Bolivia	--	--	--	--	42	360	42	360
Brazil	9	89	--	--	402	3,430	411	3,520
Canada	--	--	4,550	28,700	4,350	43,800	8,900	72,400
China	2	20	--	--	--	--	2	20
Costa Rica	--	--	--	--	(5/)	3	(5/)	3
France	5	40	--	--	(5/)	5	5	44
Germany	494	6,800	10	65	115	886	620	7,750
Guatemala	--	--	--	--	511	5,000	511	5,000
Hong Kong	(5/)	3	--	--	2,200	19,800	2,200	19,800
Iceland	--	--	--	--	(5/)	4	(5/)	4
India	--	--	18	137	--	--	18	137
Ireland	--	--	3	27	14	70	17	97
Israel	--	--	7	44	8	63	15	107
Italy	--	--	--	--	58	620	58	620
Japan	--	--	134	1,020	425	4,760	559	5,780
Korea, Republic of	1	5	--	--	1,160	9,830	1,160	9,840
Mexico	149	1,590	514	6,820	31,000	295,000	31,700	303,000
Netherlands Antilles	--	--	2	6	2	23	4	29
Pakistan	--	--	--	--	57	512	57	512
Peru	--	--	--	--	6,180	53,200	6,180	53,200
Philippines	7	52	--	--	6	68	13	120
Romania	--	--	--	--	5	39	5	39
Saudi Arabia	--	--	--	--	1,970	17,600	1,970	17,600
Singapore	--	--	8	81	1,080	9,460	1,090	9,540
South Africa	--	--	--	--	1	6	1	6
Spain	--	--	--	--	(5/)	3	(5/)	3
Sweden	--	--	8	37	12	105	20	141
Switzerland	35	342	100,000	887,000	267,000	2,460,000	368,000	3,350,000
Taiwan	--	--	27	178	1,890	17,000	1,920	17,100
Turkey	--	--	--	--	217	1,950	217	1,950
United Arab Emirates	--	--	--	--	3,290	28,500	3,290	28,500
United Kingdom	42	739	--	--	107,000	955,000	107,000	956,000
Venezuela	--	--	--	--	61	595	61	595
Total	745	9,680	106,000	924,000	440,000	4,030,000	547,000	4,970,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Ash and residues data were zero for listed years.

3/ Includes base metal ores, concentrates, and matte destined for refining.

4/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF GOLD, BY COUNTRY 1/

Year and country	Waste and scrap		Metal powder		Gold compounds	
	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)
1999	40,000	\$302,000	270	\$2,800	561,000	\$14,100
2000:						
Armenia	7	67	--	--	--	--
Australia	2	15	--	--	867	54
Belgium	1,870	17,100	--	--	--	--
Bermuda	--	--	2	8	--	--
Brazil	--	--	--	--	361	20
British Virgin Islands	--	--	1	6	--	--
Canada	26,500	168,000	56	500	1,100,000	7,700
China	339	3,230	--	--	--	--
Colombia	--	--	3	25	5,510	55
Denmark	--	--	--	--	11,300	54
Dominican Republic	--	--	--	--	1,230	127
France	5	80	4	41	27	8
Germany	1,390	18,300	23	155	14	14
Guatemala	50	458	--	--	--	--
Hong Kong	5	25	3	64	7,780	84
India	--	--	1	19	1	3
Israel	10	237	18	193	216,000	1,560
Italy	2,000	16,000	(2/)	5	16,800	80
Jamaica	1	21	15	146	--	--
Japan	13	174	45	515	521	11
Korea, Republic of	--	--	--	--	16,500	79
Kuwait	--	--	--	--	4,940	24
Lebanon	--	--	2	7	--	--
Mexico	281	2,670	232	2,350	8,460	3,530
Netherlands	--	--	1	19	207	1,120
Netherlands Antilles	(2/)	11	4	34	--	--
Pakistan	4	36	1	9	--	--
Singapore	1	25	1	18	709	460
South Africa	--	--	1	5	1	10
Sweden	982	9,420	5	28	--	--
Switzerland	19	181	2	19	--	--
Taiwan	12	486	(2/)	3	--	--
Thailand	--	--	1	9	--	--
United Arab Emirates	1	19	7	60	--	--
United Kingdom	30,600	464,000	697	6,460	1,960	304
Venezuela	--	--	2	16	--	--
Total	64,100	700,000	1,130	10,700	1,390,000	15,300

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF GOLD, BY COUNTRY 1/

Year and country	Ores and concentrates 2/		Doré and precipitates		Refined bullion 3/		Ash and residues		Total	
	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)
1999	117	\$1,130	24,700	\$210,000	196,000	\$1,790,000	133	\$1,760	221,000	\$2,000,000
2000:										
Argentina	--	--	181	1,400	--	--	--	--	181	1,400
Aruba	--	--	--	--	622	6,000	--	--	622	6,000
Australia	38	392	5	35	151	1,330	--	--	194	1,750
Belgium	--	--	--	--	(4/)	3	--	--	(4/)	3
Bolivia	--	--	204	1,720	144	1,200	--	--	348	2,930
Brazil	--	--	135	1,080	40,100	364,000	--	--	40,200	365,000
Canada	27	243	6,090	52,700	110,000	1,020,000	32	586	116,000	1,070,000
Chile	--	--	1,690	18,900	6,000	54,700	13	114	7,710	73,700
Colombia	--	--	1,170	8,340	7,880	62,000	--	--	9,040	70,300
Costa Rica	--	--	139	1,170	--	--	--	--	139	1,170
Dominican Republic	--	--	--	--	238	2,200	--	--	238	2,200
Ecuador	--	--	134	1,180	69	627	--	--	203	1,810
El Salvador	--	--	--	--	2	17	--	--	2	17
Fiji	--	--	--	--	786	9,350	--	--	786	9,350
France	--	--	--	--	683	6,310	--	--	683	6,310
Germany	--	--	--	--	10	38	--	--	10	38
Ghana	--	--	4	45	--	--	--	--	4	45
Guyana	--	--	67	710	4	34	--	--	71	744
Heard and McDonald Islands	--	--	22	112	--	--	--	--	22	112
Honduras	--	--	983	6,520	77	377	--	--	1,060	6,900
Israel	--	--	--	--	100	924	--	--	100	924
Italy	--	--	18	218	1	12	--	--	20	229
Jamaica	--	--	--	--	1	12	--	--	1	12
Mali	--	--	--	--	7	60	--	--	7	60
Mexico	--	--	4,450	37,900	786	7,440	8	91	5,250	45,400
Nicaragua	--	--	730	4,390	399	4,160	6	1,010	1,130	9,550
Norway	--	--	--	--	433	3,830	--	--	433	3,830
Panama	--	--	--	--	368	3,230	--	--	368	3,230
Peru	--	--	11,400	100,000	2,670	23,000	--	--	14,100	123,000
Russia	--	--	10	123	--	--	--	--	10	123
Singapore	--	--	1	7	(4/)	4	--	--	1	10
South Africa	--	--	--	--	2	22	--	--	2	22
Spain	--	--	--	--	1	7	--	--	1	7
Switzerland	--	--	--	--	1,150	10,300	--	--	1,150	10,300
United Arab Emirates	--	--	3	30	6	50	--	--	9	80
United Kingdom	--	--	11,500	55,300	5,020	45,700	(4/)	2	16,500	101,000
Uruguay	--	--	--	--	6,240	60,900	0	0	6,240	60,900
Total	65	636	39,000	292,000	184,000	1,680,000	60	1,800	223,000	1,980,000

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes base metal ores, concentrates, and matte destined for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 7  
U.S. IMPORTS FOR CONSUMPTION OF GOLD, BY COUNTRY 1/

Year and country	Waste and scrap		Metal powder		Gold compounds	
	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)	Quantity (kilograms)	Value (thousands)
1999	30,500	\$94,100	5,500	\$48,700	9,400	\$59,700
2000:						
Australia	4	40	10	82	--	--
Austria	2	26	--	--	--	--
Belgium	--	--	--	--	1	4
Bolivia	267	1,930	--	--	--	--
Brazil	13	48	--	--	1,550	9,210
Canada	2,340	15,200	6,150	54,500	--	--
China	11	96	--	--	--	--
Colombia	47	387	--	--	5,700	48,600
Costa Rica	955	3,420	4	40	8	59
Cote d'Ivoire	--	--	10	51	--	--
Dominican Republic	9,990	22,800	20	155	--	--
Ecuador	302	1,210	--	--	--	--
El Salvador	2	10	--	--	--	--
France	12	84	--	--	--	--
Gambia, The	--	--	(2/)	2	--	--
Germany	116	103	10	82	16	37
Ghana	--	--	89	870	--	--
Guatemala	7	36	--	--	--	--
Honduras	17	177	225	1,950	--	--
Hong Kong	80	638	--	--	--	--
Ireland	(2/)	3	--	--	51	660
Israel	3	29	1	3	--	--
Italy	2	23	(2/)	3	74	63
Japan	18	118	1	13	316	174
Korea, Republic of	13	97	--	--	--	--
Liberia	--	--	1	10	--	--
Malaysia	518	4,420	--	--	--	--
Mali	--	--	8	70	--	--
Mexico	3,400	13,700	6	95	--	--
Nambia	6	35	--	--	--	--
Netherlands	22	201	(2/)	3	19	14
Netherlands Antilles	19	104	--	--	--	--
Panama	119	638	--	--	--	--
Peru	9	26	--	--	170	1,520
Philippines	38	275	--	--	--	--
Sierra Leone	--	--	150	577	--	--
Singapore	15	130	1	21	10	127
Slovakia	7	62	--	--	--	--
Spain	2	20	--	--	--	--
St. Kitts and Nevis	(2/)	3	--	--	--	--
St. Vincent and the Grenadines	31	32	--	--	--	--
Switzerland	--	--	29	219	--	--
Taiwan	27	167	7	43	--	--
Thailand	7	27	--	--	--	--
United Arab Emirates	2	14	--	--	--	--
United Kingdom	11,300	4,700	3	24	57	70
Venezuela	23	195	--	--	--	--
Total	29,800	71,200	6,720	58,800	7,970	60,500

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 8  
GOLD: WORLD MINE PRODUCTION, BY COUNTRY 1/ 2/

(Kilograms)

Country	1996	1997	1998	1999	2000 e/
Argentina	723	2,289	20,400	38,515	26,000
Armenia e/	244 3/	500	350	400	400
Australia	289,530	314,500	310,070	301,070	296,410 3/
Belize e/	5	5	6	6	6
Bolivia	12,634	13,292	14,444	11,787	11,001 3/
Botswana	5	28	1	2 r/	4
Brazil 4/	60,011	58,488	49,567	52,634 r/	52,000 p/
Bulgaria	3,390 e/	1,020	1,250 r/	1,030 r/	1,100
Burkina Faso	1,063 r/	1,089 r/	1,091 r/	886 r/	1,000
Burundi e/	2,200	1,500	1,500	1,500	1,500
Burma	172 r/	181 r/	172 r/	242 r/	250
Cameroon e/	1,000	1,000	1,000	1,000	1,000
Canada	166,378	171,479	165,599	157,617 r/	153,781 3/
Central African Republic e/	90	90	100	100	100
Chile	53,174	49,459	44,980	45,663	54,142 3/
China e/	145,000	175,000	178,000	173,000 r/	180,000
Colombia	22,073	18,811	18,813	19,000 e/	19,000
Congo (Brazzaville) e/	10	10	10	10	10
Congo (Kinshasa) e/	8,200	9,600	4,800	4,000	4,000
Costa Rica	510 e/	502	483	300 e/	350
Cote d'Ivoire	1,883 5/	2,419 5/	3,400	2,717 r/	3,154 3/
Cuba e/	250	250	1,000	1,000	1,000
Dominican Republic	3,659	2,349	1,424	651	650
Ecuador e/ 5/	7,208 3/	3,070	3,500	4,000	4,000
El Salvador	--	110	98	100	100
Eritrea	98	612 r/	573	570 r/ e/	500
Ethiopia 6/	2,500 5/	3,000 e/	2,500	5,000 r/ e/	2,000
Fiji	4,452	4,671	3,690	4,491 r/	3,675 3/
Finland	3,070	3,900 r/	5,000 r/ e/	5,900 r/ e/	5,000
France	5,651	4,953 r/	3,793 r/	3,600 r/ e/	3,000
French Guiana (Guyane) e/	3,000	3,000	3,000	3,000	3,000
Gabon e/ 7/	70	70	70	70	70
Georgia e/	500	700	700	2,000	2,000
Ghana	49,211	54,662	72,541 r/	79,946 r/	72,080
Guatemala e/	30	100	100	50	50
Guinea	6,838	7,100	11,700	13,300 e/	13,000
Guyana	12,006	13,521	13,500 e/	13,500 e/	13,500
Honduras e/	142 3/	150	150	150	150
India 8/	2,449	2,750	2,383	2,500 r/	4,800 3/
Indonesia 9/	83,564	86,927	124,018	127,184 r/	124,596 3/
Iran	640	684	822	800 e/	800
Italy	--	--	1,200	1,000	1,000
Japan	8,627	8,384	8,601	9,405	9,000
Kazakhstan e/	12,500	18,700 r/	18,100 r/	19,982 r/ 3/	20,000
Kenya	492 r/	440	388	990 3/	990
Korea, North e/	5,000	5,000	5,000	5,000	5,000
Korea, Republic of 8/	14,096	14,852	22,822	25,730	25,000
Kyrgyzstan e/	1,500	17,400 3/	22,000	20,000	20,000
Liberia e/	700	500	800	1,000	1,000
Madagascar e/	50	50	50	50	50
Malaysia	2,830	4,487	3,394	3,449	4,026 p/ 3/
Mali	4,329 r/	16,323 r/	20,562 r/	23,688 r/	25,000
Mauritania	189	--	--	--	--
Mexico	24,477	26,001	25,427	23,755 r/	26,375 3/
Mongolia	6,976	8,451	10,040	10,038	10,000
Morocco e/	482 3/	450	450	450	450
Mozambique	67	6	17	20	20
Namibia	2,145	2,417	1,882	2,100 e/	2,100
New Zealand	11,879	11,359	7,544 r/	8,577 r/	8,600
Nicaragua	1,500 e/	2,562	3,834	2,700 e/	2,800
Niger e/	1,000	1,000	1,000	1,000	1,000
Nigeria e/	6	6	10	10	10
Oman	576	575	575 e/	575 e/	575

See footnotes at end of table.

TABLE 8--Continued  
GOLD: WORLD MINE PRODUCTION, BY COUNTRY 1/ 2/

(Kilograms)

Country	1996	1997	1998	1999	2000 e/
Panama	834	1,202	1,500 e/	1,500 e/	1,500
Papua New Guinea	51,119	45,418	64,106	61,293	74,000
Peru 10/	64,788	79,117 r/	94,214 r/	128,486 r/	132,585 3/
Philippines	30,180 r/	32,671 r/	34,038	31,031 r/	30,000
Poland	598	435	600 e/	600 e/	600
Romania e/	4,000	4,000	4,000	4,000	4,000
Russia	123,300 r/	124,000 r/ e/	114,900 r/	125,870 r/	140,000
Rwanda	1 r/	10 r/	17 r/	10 r/	10 3/
Saudi Arabia	7,530	7,260	9,000	9,000 e/	9,000
Senegal e/	600	550	600	400	400
Serbia and Montenegro e/	3,000	3,000	2,684	1,260	1,200
Sierra Leone 11/	16	20 r/	15	30 e/	30
Slovakia	540	458	340	300	300
Solomon Islands e/	25	25	1,565 r/ 3/	3,456 r/	338 3/
South Africa	496,846	491,680	464,319	451,300 r/ 3/	430,778 3/
Spain	2,832 r/	1,824	3,295	5,081 r/	5,000
Sudan e/	4,500	4,554 r/ 4/	5,653 r/ 4/	6,000	6,000
Suriname e/	300	300	300	300	300 12/
Sweden e/	6,500	6,100	6,000	6,000	6,000
Taiwan 8/	11	9	9 r/ 3/	13 r/	12
Tajikistan	1,100 e/	2,550	3,000	2,700 e/	2,700
Tanzania	318	300	720	6,100 e/	6,100
Turkey e/ 13/	1,200	1,000	1,000	1,200	1,200
Uganda	3 r/	6 r/	8 r/	5 r/	56 3/
United States	326,000	362,000	366,000	341,000	353,000
Uruguay e/	1,000	2,800 r/	1,985 3/	2,400 r/	2,300
Uzbekistan e/	72,000	81,700	80,000 3/	85,000 3/	85,000
Venezuela	11,719	22,322	6,740 r/	5,946 r/	7,332 3/
Vietnam e/	1,000	1,000	1,500 r/	1,500 r/	2,000
Zambia 14/	119	290 e/	765	700 r/ e/	600
Zimbabwe	24,772	24,156	25,175	27,666 r/	22,070 3/
Total	2,290,000 r/	2,450,000	2,510,000 r/	2,550,000 r/	2,550,000

e/ Estimated. p/ Preliminary. r/ Revised. -- Zero.

1/ World totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown.

2/ Table includes data available through August 11, 2000.

3/ Reported figure.

4/ Officially reported figures are as follows, in kilograms: Major companies: 1996--41,142; 1997--41,062; 1998--41,000 (estimated); and 1999-2000--not available. Garimpos 1995--23,473; 1996--18,869; 1997--17,426; 1998--17,500 (estimated); and 1999-2000--not available.

5/ Includes undocumented artisanal production.

6/ Year ending July 7 of that stated.

7/ Undocumented artisanal production.

8/ Refinery output.

9/ Excludes production from so-called people's mines, which may be as much as 18,000 kilograms per year, but includes gold recovered as byproduct of copper mining.

10/ Includes documented production from placer artisanal production.

11/ Data are based on official exports and do not reflect gold moved through undocumented channels.

12/ Government estimates unreported production as high as 30,000 kilograms.

13/ Indicates byproduct of base metals.

14/ Year beginning April 1 of that stated. Byproduct of copper production by Zambia Consolidated Copper Mines Ltd. only. Some additional artisan production was reported, but data are insufficient to make reliable estimates.