

GOLD

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Domestic gold mine production in 2001 fell to its lowest level since 1996. Primarily, the 5% drop from the 2000 level was the result of weak gold prices, the strengthening of the U.S. dollar in the global economy, and slowing retail consumption. 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 53 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 99% of the gold produced in the United States. The value of U.S. gold mine production was about \$2.9 billion in 2001.

Domestic gold exploration activity dropped on a total dollar basis for the fourth consecutive year, declining sharply to \$107.2 million in 2001 from \$183.4 million in 2000. The percentage of the total world gold exploration budget going to the United States decreased by 12.6% in 2001 after increasing for 3 years, while worldwide gold exploration expenditures dropped by 22% from 2000, by 7% from 1999, by 24% from 1998, and by 29% from 1997 (diGesu and others, 2001b).

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 City, NY, and the Providence, RI, areas, with other concentrations in California, Florida, and Texas. In 2001, estimated end uses of gold were jewelry and arts, 85%; dental, 11%; and electrical and electronics, 4%.

According to the World Gold Council, 2001 was the 11th consecutive year of unit sales increases for gold jewelry in the United States. Total U.S. gold jewelry sales exceeded \$15.6 billion, up by 2% from sales in 2000, despite a year marked by economic turmoil (American Metal Market, 2002).

Trade in refined bullion comprised 83% of U.S. gold imports and 81% of exports; net exports of bullion decreased to 234,000 kilograms (kg), down by about 9% from that of 2000. As shown in tables 4 and 6, Canada provided more than 70% of the bullion imported, and Switzerland was the destination for more than 75% of the bullion exported.

The dollar price for gold was volatile in 2001, with the average price 3% less than the average gold price in 2000. Engelhard Corp.'s daily price of gold ranged from a low of

nearly \$257 per troy ounce¹ on April 2 to a high of about \$294 per ounce on September 17, soon after the terror attacks of September 11. The average for the year was, to the nearest dollar, \$272 per ounce. The previous year's prices ranged from about \$265 per ounce to \$314 per ounce and averaged \$280 per ounce.

By May, 12-month London gold lease rates rose from about 1.1% in January to 2.1% before starting a downward trend that returned to the January level in November and rose slightly to 1.2% in December. Short-term lease rates dropped to new lows of 0.2% near the beginning of the fourth quarter of 2001 before rising to 0.6% in December (CRU International Ltd., 2002).

Total world mine production of gold was about the same as the record level reached in 2000. Despite a seventh 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 2001 were estimated to be 100 million kilograms (Mkg), of which 15% to 20% were byproduct resources; the world reserve base was estimated to be 78 Mkg, and reserves, 50 Mkg (R.P. Ashley, U.S. Geological Survey, oral commun., 2001). [This report uses the resource and reserve terminology of the U.S. Geological Survey (USGS), which is republished annually in USGS Mineral Commodity Summaries.] South Africa had about 50% of the resources, 46% of the reserve base, and 38% of the reserves. The United States had about 9% of world resources, 8% of the reserve base, and 11% 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 143 Mkg of gold mined in historic times through 2001, 122 Mkg of gold remain, with about 33 Mkg held by central banks as official stocks and about 89 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, gold-silver-tellurium veins, and

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

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 in 2001 totaled 11 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 surveyed annually.

A survey was sent to all 64 lode gold producers believed to be operational in 2001; 63 responded. Eleven of the 63 respondents reported that their mines were closed and another 6 remained on care-and-maintenance status by the end of 2001. The individual company production and performance data listed 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 2001, about 92% was extracted from gold ore, and the remaining 8% 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 16,700 kg (536,000 ounces) worth \$145 million in 2001 from an estimated 17,200 kg (552,000 ounces) worth \$154 million in 2000, or an approximate decrease in production of 3% and a decrease in associated value of about 6% (Szumigala and Swainbank, 2002a). Placer production dropped to 700 kg (23,000 ounces) from 1,400 kg (46,000 ounces) of gold.

The underground Fort Knox gold mine operated by Kinross Gold Corp. near Fairbanks began to produce gold in 1997. Kinross reported that the mine produced about 12,800 kg (411,000 ounces) of gold in 2001, making it the country's seventh largest gold producer (Kinross Gold Corp., 2002, p. 2).

The Greens Creek Mine on Admiralty Island, off Juneau, completed its fifth 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. Swainbank and Szumigala (2002a, p. 14) reported that the mine produced 2,300 kg (73,200 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. However, the mine continued to produce gold as the existing heaps were rinsed (Szumigala and Swainbank, 2002a, p. 12).

Nova Gold Resources Inc. intends to acquire a 70% interest in the Dolin Creek gold deposit, which is considered to be one of the largest undeveloped gold deposits in the world. Resources are estimated to be 215,000 kg (6.9 million ounces), with another inferred gold resource of 187,000 kg (6 million ounces). Under an agreement with Placer Dome Inc. and Alaska's Calista Corp., Nova Gold will spend at least \$10 million within 10 years toward the exploration and development of the Dolin

Creek project (American Metal Market, 2001b).

Owners continued to develop the Kinross Fort Knox/True North gold mine, Teck Cominco American Inc.'s Pogo Mine east of Fairbanks, and Kennecott/Hecla's Green Creek Mine near Juneau (Swainbank and Szumigala, 2002b, p. 45).

California.—Gold production in California decreased by more than 20% in 2001, as shown in table 2. In northern California, Homestake's McLaughlin Mine remained the State's largest gold producer even though mining ceased in 1996; gold continues to be processed from low-grade ore that was stockpiled during the life of the mine. The second largest gold producer, the Briggs Mine in southern California, is owned by Canyon Resources Corp. Mining, which continued at the main pit and began at the North Briggs and Goldtooth deposits, produced 3,000 kg (96,000 ounces) of gold (Canyon Resources Corp., 2002).

Gold production at the McLaughlin Mine is expected to continue through 2002. Newmont Gold Company's Mesquite Mine, near Brawley, ceased mining operations in the second quarter, with the depletion of the main ore body. Production from residual heap leaching yielded 2,900 kg (92,600 ounces) of gold. A permitting process for expansion is underway (Newmont Gold Company, 2002, p. 16).

Glamis Gold Ltd., through its wholly owned Glamis Rand Mining Co., produced 1,800 kg (59,000 ounces) of gold at its Rand Mine near Randsburg. Production was much lower because stripping was completed at the Yellow Aster Pit (Glamis Gold Ltd., 2002, p. 2).

Near the Nevada-California State line, in San Bernardino County, CA, the Castle Mountain Mine produced an estimated 2,400 kg (77,000 ounces) of gold (Viceroy Resource Corp., 2002, p. 4). Castle Mountain was a joint venture between Viceroy Resource Corp. (75%) and MK Gold Company (25%).

Colorado.—Gold production in the State was 14% lower with a significant decrease in production from the Nation's tenth largest gold mine, the Cresson Mine, in the Cripple Creek District of Teller County. AngloGold Ltd. (2002, p. 18) reported that this open pit mining operation produced 6,700 kg (214,000 ounces) of gold in 2001.

Settlement was reached concerning the environmental cleanup of the Summitville gold mine located in Colorado. The settlement, which remained subject to approval by the Federal District Court in Denver, would end 4½ years of lawsuits and counterclaims. Summitville was owned and operated by a Galactic Resources Ltd. subsidiary that opened the gold mine in June 1986 and closed it in December 1992. During that time, more than 9,300 kg (300,000 ounces) of gold was produced. In the following year, Galactic filed for bankruptcy and abandoned the Summitville operation. Despite a \$150 million remediation effort the site does not meet the water standards set by the U.S. Environmental Protection Agency (Mining Journal, 2001).

Idaho.—Meridian Gold Inc.'s closure of its Beartrack Mine near Salmon in 2001 left Idaho with no active gold mines. Beartrack produced more than 580 kg (19,000 ounces) of gold, about 74% less than in 2000. Leaching of crushed ore is expected to continue to produce gold over the next year on a declining basis (Meridian Gold Inc., 2002, p. 19).

Montana.—Exploration for gold continued to be depressed, with no major company activity. The few existing exploration

programs are privately funded (McCulloch, 2002, p. 67).

Placer Dome Inc.'s wholly owned Golden Sunlight Mine near Whitehall was Montana's largest gold-producing mine with 6,100 kg (195,500 ounces) of gold in 2001, about 8% less than in 2000. Mining of the open pit was completed in August. Future gold production will come from the processing of low-grade ore stockpiles, which should continue through 2002 (Placer Dome Inc., 2002, p. 7).

Nevada.—Nevada maintained its longstanding position as the Nation's dominant gold-producing State. Of the Nation's top 30 gold-producing mines, 14 were in the Silver State. Primary gold production decreased to 256,000 kg (8.2 million ounces).

Newmont Gold Company produced 84,000 kg (2.7 million ounces) of gold from 9 open pit operations, 5 underground mines, and 17 processing facilities in Elko, Eureka, Humboldt, and Pershing Counties (Newmont Gold Company, 2002, p. 16). Newmont plans to open various new gold mines in Nevada, including the Leeville underground mine. The Twin Creeks, Gold Quarry, and Phoenix Mines will be expanded. The latter mine was acquired when Newmont bought Battle Mountain Gold Co. Before opening Leeville, a small underground mine called Chukar will be developed at the Gold Quarry open pit site (Platts Metals Week, 2001d).

Barrick Gold Corporation was the Nation's second largest gold mining company in 2001 and reportedly recovered 48,200 kg (1.5 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 22,200 kg (713,000 ounces) of gold; it was the Nation's largest underground gold mine (Barrick Gold Corporation, 2002, p. 8). The mine had an underground cooling system to keep temperatures around 80° F even though the temperature of the surrounding rock can be as much as 140° F (Gold News, 1998). Barrick's Rodeo underground gold mine moved into full production and produced 2,200 kg (70,000 ounces) of gold in 2001. It was merged into one operation with the Meikle Mine, integrating services and sharing one maintenance shop. An underground connection was made between the mines. Ore mined at Rodeo is hauled underground to Meikle and raised to the surface (Platts Metals Week, 2001a). These Barrick operations on the Carlin Trend were developed within a 2,800-hectare landholding known as the Goldstrike property.

Northwest of Elko, AngloGold Ltd. and Meridian Gold Inc. produced about 11,800 kg (380,000 ounces) of gold at their Jerritt Canyon Mine, the Nation's eighth largest gold mine (AngloGold Ltd., 2002, p. 18; Meridian Gold Inc., 2002, p. 19). 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 McCoy/Cove gold and silver mine, which produced 2,900 kg (94,600 ounces) (Echo Bay Mines Ltd., 2002, p. 11); and the country's third largest gold mine, the Cortez Mine, owned by Placer Dome (60%) and Kennecott Minerals Company (40%), which produced 37,000 kg (1.2 million ounces) and included 3,400 kg of gold that was sent as an ore for milling and

processing to the Jerritt Canyon Mine (Placer Dome Inc., 2002, p. 7).

At Round Mountain, about 95 kilometers north of Tonopah, the Round Mountain Gold Corporation mine of Echo Bay Mines Ltd. produced about 23,200 kg (747,000 ounces) of gold during the year (Echo Bay Mines Ltd., 2002, p. 11). The property is the sixth largest U.S. gold mine.

Battle Mountain Gold Company 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 Corporation continued to develop the Rossi-Storm Deposit at the Ken Snyder Mine, which poured its first gold on December 9, 1998. Ken Snyder's third full year of commercial production was about 6,200 kg (199,000 ounces) of gold (Driesner and Coyner, 2002, p. 13).

Exploration continued to decline in the State. Newmont and Barrick carried out property exploration along the Carlin Trend. Newmont's Leeville project and Barrick's Rodeo project were the primary targets. Other exploration properties were Placer Dome's Crossroads and Pediment deposits in the Bullion and Cortez Districts of Lander and Eureka Counties (Tingley and LaPointe, 2002, p. 69).

South Dakota.—Gold production increased by more than 9% compared with that of 2000. Homestake Mining Company's 124-year-old Homestake Mine at Lead was shut down at the end of 2001. Homestake planned to produce about 7,500 kg (240,000 ounces) of additional gold before closure and expected to spend more than \$66 million during 8 years on final reclamation and remediation (American Metal Market, 2000).

Goldcorp Inc. operated an open pit gold mine, the Wharf Mine, near Lead, which produced about 3,200 kg (104,000 ounces) of gold (Goldcorp Inc., 2002, p. 2).

Utah.—Rio Tinto Ltd.'s Bingham Canyon Mine, which was operated by Kennecott Utah Copper Corp., produced about 18,400 kg (592,000 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 eighth largest gold producer in 2001. Kennecott also operated the nearby Barney's Canyon Mine, an open pit and heap-leaching operation that produced 4,400 kg (140,000 ounces) of gold (Rio Tinto Ltd., 2002, p. 4).

Washington.—Echo Bay Mines's Kettle River underground mine, in the northeastern part of the State, produced 1,600 kg (50,000 ounces) of gold in its 11th year of production (Echo Bay Mines Ltd., 2002, p. 11).

World Review

World gold mine production was about the same as in 2000. Increased production from mines in China, Indonesia, and Russia was enough to help offset a continuing decline in gold output from South Africa and Australia. According to its annual review of world gold supply and demand, Gold Fields Mineral Services Limited calculated that the total global supply of gold in 2001 was 3.87 Mkg (124 million ounces) compared with the previous year's total supply of 3.97 Mkg (128 million ounces) (Klapwijk and others, 2002, p. 7). Gold Fields Mineral Services also reported a slight increase in mine production

(0.8%); increases in official sector sales (3.1%); no net producer hedging; and an implied net disinvestment of 53,000 kg (1.7 million ounces), which was sales of bars and coins by private investors. Old gold scrap levels increased by more than 16% in 2001.

On the demand side, Gold Fields Mineral Services reported 249,000 kg (8 million ounces) less than its 2000 level. Jewelry fabrication decreased by 171,000 kg (5.5 million ounces) to a 5-year low, due mainly to lower demand in Egypt, Saudi Arabia, and Turkey. Bar hoarding rose by 7%, largely as a result of higher Japanese demand and partly as a result of bank-related concerns. Coin fabrication was up by about 18% from the record low set in 2000, largely due to the release of a German commemorative coin. The largest percentage decline, however, was the amount of gold used in the electronics market, which fell 28% with lower demand for computers and other electronic products (Klapwijk and others, 2002, 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 679 companies that \$849 billion (42.5%) of the 2001 world exploration budget total for nonferrous metals was directed to gold, with 400 companies reporting active gold programs (diGesú and others, 2001a). The expenditures for gold were \$241 million less than the \$1.09 billion (47% of the total) reported for gold exploration in 2000. As in the preceding 7 years, Latin America received the highest expenditure for gold—\$220.7 million (26% of the reported 2001 world total exploration dollars) (diGesú and others, 2001b).

Australia.—Australian gold mine production dropped by about 4% from 2000. However, Australia retained its position as the world's third largest gold-producing nation. Of the 285,400 kg (8.9 million ounces) of gold mined in 2001, Western Australia, Queensland, and Northern Territory accounted for about 70%, 11%, and 7%, respectively (Australian Bureau of Agricultural and Resource Economics, 2002, p. 15); Western Australia's production was derived principally from mining operations near Kalgoorlie. Other Australian gold-producing States, in descending order of output, were New South Wales, Tasmania, South Australia, and Victoria.

Higher grades and extra output from processing low-grade stockpiles of ore at the Bronzewing Mine resulted in a 58% increase in gold produced and a 30% decline in cash cost to about \$150 per ounce. At the Jundee Mine similar gold output gains resulted from higher grades, which contributed to a 15% decrease in cash costs. Conversely, the Kanowna Bell Mine reported a decrease in the ore grade, which contributed to 10% higher cash costs of almost \$160 per ounce. Low-grade stockpiles were the predominate mill feed at the Mount Leyshon Mine, which led to a 23% increase in cash costs. Overall, the weighted average cash cost for Australian gold mines decreased to \$175 per ounce in 2001 from \$190 per ounce in 2000 (Klapwijk and others, 2002, p. 46).

Delta Gold Ltd. and Goldfields Ltd. merged their operations to create a 31,000 kilogram-per-year (kg/yr) (1-million-ounce-per-year) gold producer that is about the same size as Normandy Mining Ltd. and Newcrest Mining Ltd. Delta's managing director heads the merged company named Durion Gold Ltd.

(Platts Metals Week, 2001c).

WMC Resources Ltd. sold its St. Ives and Agnew gold operations in Western Australia to South African-based Gold Fields Ltd. for \$232 million in cash and shares plus royalties. All employees at the operations were able to keep their positions with Gold Fields (Metal Bulletin, 2001).

Brazil.—During 2001, gold production remained level at about 52,400 kg (1.7-million-ounces). Output from the informal, noncorporate mining sector, the *garimpeiros*, also was estimated to be about the same as in 2000 at 10,400 kg (330,000 ounces) of gold. The largest decline in the corporate sector came from the Paracatu Mine, which reported an 18% drop in gold output, reflecting the unscheduled shutdown of its two ball mills in the first quarter. Both the Almas and Cateté operations were closed (Klapwijk and others, 2002, p. 37).

Canada.—Canada remained fifth in the ranking of world gold producers, as its output rose by 2% to 160,000 kg (5.13 million ounces). Canada's principal gold-producing Provinces were Ontario (50%), Quebec (21%), British Columbia (15%), and Manitoba (4%). Gold was also produced in Alberta, New Brunswick, Newfoundland, Nunavut, Saskatchewan, the Northwest Territories, and Yukon Territory. The increase in production can largely be attributed to the reopening of the Red Lake Mine in northwestern Ontario. The development of a high-grade zone at deeper levels of the mine produced more than 15,000 kg (482,000 ounces) of gold. Additional production came from the LaRonde Mine where 2 years of expansion has more than doubled its gold output (Klapwijk and others, 2002, p. 36).

Chile.—Gold output in Chile decreased to 42,700 kg (1.37 million ounces) owing to continued mine closures. The closures included the Petorca Mine, which suspended operations in August, and the Refugio Mine, which closed in May. Other losses came from the 3-month shutdown of the El Indio Mine, the completion of residual leaching at the Guanaco operation, and lower grades and unscheduled repairs at the Copia Mine (Klapwijk and others, 2002, p. 37).

China.—The Chinese produced an estimated 185,000 kg (5.95 million ounces) of gold in 2001, up 3% from the 180,000 kg (5.6 million ounces) of gold produced in 2000 (Antaike Precious & Minor Metals Monthly, 2002).

Gold jewelry is one of 106 commodities that now are allowed to be priced freely in China. Before price deregulation, the People's Bank of China set standard gold prices, and gold stores could only vary the prices slightly. The Government's relaxed attitude toward price controls for gold jewelry is expected to increase consumption and encourage design quality (Platts Metals Week, 2001b).

India.—India's budget proposal included a reduction of gold import duties from 400 rupees (\$8.58) per 10 grams to 250 rupees (\$5.36) per 10 grams starting next fiscal year [2001-2002]. A smaller duty should reduce smuggling, which is estimated to be 60,000 kg/yr (1.93 million ounces per year) of gold that arrives illegally through Nepal and neighboring Bangladesh (American Metal Market, 2001a).

Indonesia.—Gold output rose to 130,000 kg (4.18 million ounces) in 2001. Most of the increase came from the Grasberg Mine, which produced more than 108,000 kg (3.47 million ounces) of gold. Gold output at this copper mine reached a new

peak due to exceptionally high grades of ore. Growth at another copper mine, Batu Hijau on the island of Sulawesi, contributed to further increase gold output. The Kelian gold mine returned to normal operation and also reported higher output. However, Minahasa, a mine on the island of Sumbawa, ceased mining late in 2001 but continued to process lower grade gold stockpiles (Klapwijk and others, 2002, p. 39).

Mexico.—Gold production was about the same at 26,000 kg (846,000 ounces) in 2001. This was despite the fact that gold production at La Herradura, Mexico's largest gold mine, doubled to almost 4,000 kg (129,000 ounces) (Klapwijk and others, 2002, p. 37).

Papua New Guinea.—Gold production in Papua New Guinea remained the same at 74,000 kg (2.38 million ounces). Lower gold output from the Porgera Mine was a result of open pit depletion and a need to use lower grade stockpiles to supplement shortfalls in production. In addition, mining was completed at the Misima Mine in May, with subsequent production coming from lower stockpiled ore (Klapwijk and others, 2002, p. 39).

Peru.—Latin America's largest gold producer reported a small (4%) increase to reach 138,000 kg (4.44 million ounces) of gold output. Peru's largest gold mine, Yanacocha, contributed to the gain with close to 60,000 kg (1.93 million ounces) of gold, which was 6% more than in 2000. The new La Quinua Mine had delays in startup and a longer-than-anticipated leach recovery cycle for gold. Increased gold production was also reported at the Pierina Mine, which increased by 11% to 28,000 kg (900,000 ounces) (Klapwijk and others, 2002, p. 36).

Russia.—Production in Russia grew by 6% to 152,000 kg (4.89 million ounces) of gold, keeping the country in the sixth position among the top gold producing countries. Over 30% of the country's gold output is estimated to have come from 15 companies, which suggests concentration taking place in Russia's highly fragmented gold industry—as many as 600 enterprises engaged in gold mining in 2001. Commercial banks were thought to have purchased more than 140,000 kg (4.50 million ounces) of gold in 2001, or about 92% of production. A new Presidential decree, effective January 2002, allows the mining companies to export bullion directly. In addition, another ruling canceled the 5% export duty on refined gold, which had been in force since 1998. The removal of this charge is expected to contribute to a greater output of Russian gold in 2002 (Klapwijk and others, 2002, p. 40).

South Africa.—Gold production in South Africa, the world's largest gold-producing nation, declined for the eighth consecutive year to 402,000 kg (12.90 million ounces) of gold, about 6% less than that of 2000, and left gold production at its lowest level in 48 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 Russia, South Africa's share fell to roughly 15% in 2001 from 30% of the world's gold output in 1993. The declines can be explained, in part, 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 2001, gold production was affected by continued downscaling of mines, shaft closures, and lower gold output from mines that changed ownership as a result of industry consolidation (Klapwijk and others, 2002, p.

33).

The tonnage and grade of ore milled during 2001 by the mines, comprising the membership of the Chamber of Mines of South Africa, amounted to almost 83 billion kilograms at a grade of 4.13 grams per metric ton (g/t) of gold ore; this compares with a higher total tonnage of 84 billion kilograms at a higher grade of 4.51 g/t that was milled by Chamber members in 2000.

Of the top 15 gold-producing companies in the world during 2001, 4 were South African. AngloGold Ltd., listed on the Australian Stock Exchange only 2 years earlier, remained the leading gold-producing company in the world. Gold Fields Ltd. was fourth in the world. The other two companies were Harmony Gold Mining Company Ltd. (9th) and Durban Roodepoort Deep Limited (11th). Durban Roodepoort Deep was listed on the Australian Stock Exchange just 2 years earlier in March 1999 (Klapwijk and others, 2002, p. 31).

Uzbekistan.—Gold production in Uzbekistan rose slightly to 87,000 kg (2.8 million ounces). Gold output at the Zarafshan-Newmont Gold joint venture, which processes high-grade tailings from the state-owned Muruntau Mine at Zarafshan, fell to just over 13,000 kg (418,000 ounces) of gold in 2001 from 17,000 kg (547,000 ounces) of gold in 2000, primarily due to changes in grade decline (Klapwijk and others, 2002, p. 41).

Outlook

Consolidation will continue in the gold industry worldwide as gold producers seek to secure their assets, cut costs, and exploit gold prices, which are expected to rise within the next 2 to 3 years.

The U.S. gold industry, which has been closing its gold mines (10 in 1999, 12 more in 2000, and another 11 in 2001) also will continue to consolidate. World exploration spending for new gold resources will begin increasing after several consecutive years of decreases, with most of the development happening within Latin American countries.

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TABLE 1
SALIENT GOLD STATISTICS 1/

		1997	1998	1999	2000	2001
United States:						
Mine production	kilograms	362,000	366,000	341,000	353,000	335,000
Value	thousands	\$3,870,000	\$3,480,000	\$3,070,000	\$3,180,000	\$2,940,000
Gold recovered by cyanidation:						
Extracted in vats, tanks, closed containers 2/	kilograms	212,000 r/	242,000 r/	190,000 r/	142,000 r/	117,000
Leached in open heaps or dumps 3/	do.	121,000 r/	99,300 r/	130,000 r/	194,000 r/	195,000
Refinery production:						
Concentrates and doré	do.	270,000	277,000	265,000	197,000	191,000
Recycled materials (new and old scrap)	do.	100,000	163,000	143,000	81,600	82,700
Exports, refined	do.	391,000	430,000	435,000	440,000	395,000
Imports for consumption, refined	do.	194,000	257,000	196,000	184,000	161,000
Net deliveries from foreign stocks in Federal Reserve Bank of New York	do.	143,000	310,000	303,000	356,000	259,000
Stocks, December 31:						
Industry 4/	do.	17,300	16,600	14,700	9,300	3,700
Commodity Exchange (Comex) 5/	do.	15,200	25,200	37,900	52,900	3,800
Department of the Treasury	metric tons	8,140	8,130	8,170	8,140	8,120
Volume of U.S. gold futures trading 6/	do.	29,700	28,600	29,800	20,600	21,100
Department of the Treasury: 7/						
American Eagle gold coin	kilograms	20,000	49,200	78,200	13,900	10,700
Other numismatic gold coins	do.	500	86	430	330	250
Consumption in industry and the arts	do.	137,000	219,000	245,000	183,000	179,000
Apparent demand, refined 8/	do.	265,000	667,000	399,000 r/	337,000 r/	257,000
Price, average dollars per troy ounce 9/		\$332.39	\$295.24	\$279.91	\$280.10	\$272.22
Employment, mine and mill only 10/		16,300	13,400	10,300	10,400	9,500
World:						
Production, mine	kilograms	2,450,000	2,500,000 r/	2,560,000 r/	2,580,000 r/	2,570,000 e/
Official bullion reserves 11/	metric tons	34,000	33,600	33,500	33,000	33,000

e/ Estimated. r/ Revised.

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 the Mine Safety and Health Administration.

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

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

(Kilograms)

State	2000	2001
Alaska 2/	15,600	16,700
Arizona	442	W
California	17,200	13,800
Idaho	W	W
Montana	9,310	W
Nevada	268,000	253,000
South Dakota	8,230	W
Washington	2,930	1,700
Other States 3/	31,700	49,600
Total	353,000	335,000

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 2001, IN ORDER OF OUTPUT 1/

Rank	Mine	County and State	Operator	Kilograms
1	Newmont Nevada operations 2/ 3/	Various counties, NV	Newmont Gold Company	84,000
2	Betze-Post/Goldstrike	Eureka, NV	Barrick Gold Corporation	48,200
3	Cortez	Lander, NV	Placer Dome Inc.	37,000
4	Round Mountain	Nye, NV	Round Mountain Gold Corporation	23,200
5	Meikle/Goldstrike	Elko, NV	Barrick Gold Corporation	22,200
6	Bingham Canyon 4/	Salt Lake, UT	Kennecott Utah Copper Corp.	18,400
7	Fort Knox 5/	Fairbanks, AK	Fairbanks Gold Mining Inc.	12,800
8	Jerritt Canyon	Elko, NV	Independence Mining Company, Inc.	11,800
9	Ken Snyder	do.	Euro-Nevada Mining Co.	6,700
10	Cresson	Teller, CO	Cripple Creek & Victor Gold Mining Co.	6,700
11	Golden Sunlight	Jefferson, MT	Placer Dome Inc.	6,100
12	Homestake	Lawrence, SD	Homestake Mining Company	5,800
13	Barney's Canyon	Salt Lake, UT	Kennecott Barney's Canyon Mining Co.	4,400
14	Bald Mountain	White Pine, NV	Placer Dome Inc.	3,400
15	Wharf	Lawrence, SD	Wharf Resources, Ltd.	3,200
16	Denton-Rawhide	Mineral, NV	Kennecott Rawhide Mining Co.	3,200
17	Briggs	Inyo, CA	Canyon Resources Corp.	3,000
18	McCoy/Cove	Lander, NV	Echo Bay Mines Limited	2,900
19	Marigold	Humboldt, NV	Glamis Gold Ltd.	2,600
20	Rochester	Pershing, NV	Coeur d'Alene Mines Corp.	2,400
21	Castle Mountain	San Bernardino, CA	Viceroy Resources Corporation	2,400
22	Greens Creek 6/	Juneau, AK	Kennecott Greens Creek Mining Co.	2,300
23	Rand	Kern, CA	Glamis Rand Mining Co.	1,800
24	Kettle River	Ferry, WA	Echo Bay Mines Limited	1,600
25	Illinois Creek 6/	Yukon-Koyukuk, AK	American Reclamation Group LLC	900
(7/)	Florida Canyon	Pershing, NV	Florida Canyon Mining, Inc.	W
(7/)	McLaughlin	Napa, Yolo, CA	Homestake Mining Company	W
(7/)	Mesquite	Imperial, CA	Newmont Gold Company	W
(7/)	Montana Tunnels	Jefferson, MT	Montana Tunnels Mining, Inc.	W
(7/)	Ruby Hill	Eureka, NV	Homestake Mining Company	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 99% of U.S. gold production in 2001.

2/ Includes Carlin Mines Complex, Lone Tree, and Twin Creeks.

3/ Mill output.

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

5/ Mine production refers to gold equivalent produced.

6/ Estimated from State annual report.

7/ Production at Florida Canyon, McLaughlin, Mesquite, Montana Tunnels, and Ruby Hill are withheld; mines are among the top 30 gold-producing mines in the United States but are not shown in rank order to avoid disclosing company propriety data.

Sources: Company annual reports, Securities and Exchange Commission 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)
2000	745	\$9,680	106,000	\$924,000	440,000	\$4,030,000	547,000	\$4,970,000
2001:								
Armenia	--	--	19	150	258	2,460	277	2,610
Austria	--	--	--	--	154	1,380	154	1,380
Bahamas, The	--	--	5	27	44	325	49	352
Bolivia	--	--	--	--	50	397	50	397
Canada	4	33	6,990	32,100	399	3,140	7,390	35,300
Cayman Islands	--	--	(5/)	3	--	--	(5/)	3
Chile	--	--	--	--	19	180	19	180
Colombia	--	--	--	--	12	66	12	66
Costa Rica	--	--	--	--	2	18	2	18
Dominican Republic	29	120	--	--	1	7	29	127
France	1	10	10	109	5	38	17	158
Germany	201	3,270	5	23	784	7,020	991	10,300
Guatemala	--	--	12	118	1,190	11,500	1,200	11,600
Hong Kong	--	--	--	--	1,540	12,900	1,540	12,900
Ireland	--	--	(5/)	3	9	108	10	111
Israel	--	--	52	214	7	56	59	270
Italy	(5/)	3	--	--	2	14	2	17
Jamaica	--	--	--	--	2	10	2	10
Japan	--	--	19	163	102	1,080	121	1,250
Korea, Republic of	3	16	--	--	1,680	14,300	1,680	14,300
Malaysia	--	--	--	--	54	485	54	485
Mexico	80	863	--	--	16,200	149,000	16,300	150,000
Monaco	--	--	--	--	3	32	3	32
Netherlands Antilles	--	--	--	--	(5/)	3	(5/)	3
Pakistan	--	--	--	--	13	113	13	113
Peru	--	--	28	254	5,500	47,300	5,530	47,600
Philippines	--	--	3	24	46	490	49	514
Romania	--	--	--	--	1	10	1	10
Singapore	--	--	11	104	21	204	32	308
Spain	--	--	--	--	6	70	6	70
St. Christopher and Nevis	--	--	--	--	(5/)	4	(5/)	4
Sweden	--	--	10	42	7	68	17	109
Switzerland	1	6	63,400	567,000	300,000	2,480,000	363,000	3,040,000
Taiwan	--	--	(5/)	3	8	74	9	78
Thailand	--	--	--	--	1,450	11,900	1,450	11,900
Trinidad and Tobago	39	296	--	--	25	287	64	583
Turkey	--	--	--	--	211	1,850	211	1,850
United Arab Emirates	--	--	--	--	10,800	92,800	10,800	92,800
United Kingdom	3	46	23,300	204,000	54,600	466,000	77,900	669,000
Venezuela	--	--	22	222	42	351	64	574
Total	361	4,670	93,900	804,000	395,000	3,300,000	489,000	4,110,000

-- 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)
2000	64,100	\$700,000	1,130	\$10,700	1,390,000	\$15,300
2001:						
Argentina	--	--	--	--	5	3
Armenia	--	--	115	1,030	--	--
Aruba	--	--	2	17	--	--
Australia	--	--	1	10	360	11
Belgium	1,680	24,100	--	--	--	--
Bermuda	--	--	1	6	--	--
Brazil	--	--	--	--	480	19
Cambodia	--	--	--	--	6,880	33
Canada	22,500	129,000	43	329	326,000	4,480
Cayman Islands	(2/)	3	--	--	--	--
China	6	92	(2/)	4	--	--
Colombia	--	--	--	--	546	112
Dominican Republic	--	--	(2/)	3	3,240	919
France	--	--	226	1,790	34	21
French Polynesia	--	--	1	3	--	--
Germany	812	11,300	42	457	1,260	64
Guatemala	159	975	--	--	--	--
Hong Kong	1	50	--	--	133	368
India	--	--	13	179	--	--
Ireland	--	--	157	2,150	--	--
Israel	3	100	10	131	142,000	1,540
Italy	660	10,300	17	150	--	--
Jamaica	--	--	2	10	--	--
Japan	45	544	14	112	1	3
Korea, Republic of	--	--	3	24	15	38
Mexico	--	--	9,010	106,000	967	1,930
Netherlands	1	19	8	100	426	862
Netherlands Antilles	--	--	1	7	--	--
New Zealand	--	--	--	--	356	13
Oman	--	--	(2/)	8	--	--
Peru	--	--	785	6,410	--	--
Philippines	--	--	(2/)	6	2	6
Poland	1	5	--	--	--	--
Portugal	--	--	1	9	--	--
Singapore	--	--	1	8	7,400	232
South Africa	--	--	3	12	--	--
Sweden	802	21,300	1	4	--	--
Switzerland	1,030	5,990	658	4,070	--	--
Taiwan	--	--	3	37	271	1,750
Turkey	--	--	6	55	1	5
Turks and Caicos Island	1	39	--	--	--	--
Ukraine	--	--	(2/)	6	--	--
United Arab Emirates	--	--	4	35	57	380
United Kingdom	12,400	264,000	435	4,100	1,580	178
Uruguay	1	16	--	--	--	--
Total	40,100	468,000	11,600	127,000	492,000	13,000

-- 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)
2000	65	\$636	39,000	\$292,000	184,000	\$1,680,000	97 r/	\$1,800	223,000	\$1,980,000
2001:										
Armenia	--	--	--	--	2	18	--	--	2	18
Aruba	--	--	--	--	690	5,940	--	--	690	5,940
Australia	17	146	--	--	67	699	--	--	83	845
Belgium	--	--	--	--	19	170	--	--	19	170
Bolivia	--	--	242	1,820	119	760	--	--	362	2,580
Brazil	--	--	--	--	25,700	221,000	--	--	25,700	221,000
Canada	1,240	1,080	40	350	118,000	1,050,000	19	216	120,000	1,050,000
Chile	--	--	1,250	10,400	5,850	51,300	--	--	7,100	61,700
Colombia	--	--	1,620	11,700	3,010	23,800	--	--	4,630	35,600
Dominican Republic	--	--	--	--	89	787	--	--	89	787
Ecuador	--	--	18	137	5	48	--	--	24	185
El Salvador	--	--	3	17	3	15	--	--	6	32
France	--	--	--	--	372	3,040	--	--	372	3,040
Germany	--	--	--	--	131	1,170	--	--	131	1,170
Ghana	6	79	--	--	7	53	84	1,220	98	1,350
Guyana	--	--	230	1,740	2	21	--	--	232	1,760
Honduras	--	--	6,700	53,100	--	--	--	--	6,700	53,100
India	--	--	--	--	8	60	--	--	8	60
Israel	--	--	--	--	3	36	--	--	3	36
Italy	--	--	--	--	122	1,070	--	--	122	1,070
Mali	--	--	--	--	4	43	--	--	4	43
Mexico	--	--	2,100	18,200	1,160	12,100	5	64	3,270	30,400
Netherlands Antilles	--	--	--	--	14	115	--	--	14	115
Nicaragua	--	--	1,680	13,000	--	--	85	2,200	1,770	15,200
Norway	--	--	--	--	650	5,560	--	--	650	5,560
Panama	--	--	29	221	456	3,080	--	--	486	3,300
Papua New Guinea	--	--	--	--	(4/)	4	--	--	(4/)	4
Peru	--	--	7,870	61,100	103	794	--	--	7,970	61,900
Singapore	--	--	--	--	260	2,280	--	--	260	2,280
Switzerland	--	--	3	36	1,040	10,100	--	--	1,050	10,100
Thailand	--	--	--	--	2	21	--	--	2	21
United Arab Emirates	--	--	--	--	36	312	--	--	36	312
United Kingdom	--	--	8,990	36,100	2,930	27,500	--	--	11,900	63,600
Zaire	--	--	281	2,560	1	15	--	--	282	2,580
Zimbabwe	--	--	--	--	23	211	--	--	23	211
Total	1,270	1,300	31,100	211,000	161,000	1,420,000	193	3,700	194,000	1,640,000

r/ Revised. -- 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)
2000	29,800	\$71,200	6,720	\$58,800	7,970	\$60,500
2001:						
Armenia	7	28	--	--	--	--
Australia	--	--	7	62	--	--
Bahamas, The	(2/)	2	--	--	--	--
Belgium	--	--	40	349	--	--
Bolivia	2	15	--	--	97	365
Brazil	3	29	--	--	918	5,200
Canada	7,950	10,100	9,090	80,300	7	55
China	4	33	(2/)	3	--	--
Costa Rica	1,350	3,760	--	--	--	--
Dominican Republic	8,280	22,800	78	570	--	--
Ecuador	191	724	--	--	--	--
El Salvador	3	19	--	--	--	--
France	149	1,130	45	387	--	--
Germany	4	31	30	280	113	272
Ghana	--	--	63	508	--	--
Guatemala	15	48	(2/)	4	--	--
Guyana	41	324	--	--	--	--
Honduras	56	118	--	--	--	--
Hong Kong	68	545	--	--	--	--
Ireland	18	172	--	--	29	62
Israel	4	12	1	6	--	--
Italy	1	7	--	--	--	--
Japan	51	375	3	45	788	625
Korea, Republic of	11	90	--	--	--	--
Liberia	--	--	2	9	--	--
Malaysia	374	2,180	--	--	--	--
Mali	--	--	40	260	--	--
Mexico	6,080	7,930	17	143	--	--
Namibia	--	--	2	19	--	--
Netherlands	21	194	--	--	--	--
Netherlands Antilles	45	248	--	--	--	--
Panama	911	3,580	11	58	--	--
Peru	513	827	--	--	--	--
Philippines	118	218	--	--	--	--
Singapore	22	204	--	--	--	--
St. Vincent and the Grenadines	83	44	--	--	--	--
Switzerland	--	--	17	187	10	7
Taiwan	11	59	--	--	--	--
Thailand	1	8	--	--	--	--
United Kingdom	6	26	(2/)	3	--	--
Total	26,400	55,800	9,450	83,200	1,960	6,590

-- 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	1997	1998	1999	2000	2001 e/
Argentina	2,289	20,400	38,515	25,954 r/	30,630 3/
Armenia e/	500	350	400	600 r/ 3/	1,900 3/
Australia	314,500	310,070	301,070	296,410	285,030 3/
Belize e/	5	6	6	6	6
Bolivia	13,292	14,444	11,788 r/	12,001 r/	12,395 3/
Botswana	28	1	2	4	4
Brazil 4/	58,488	46,031 r/	51,422 r/	52,420 r/	52,400
Bulgaria	1,020	1,253	1,034	1,100 e/	1,000
Burkina Faso	1,089	1,091	886	1,000 e/	1,000
Burundi	-- r/	-- r/	-- r/	-- r/	415 3/
Burma	410 r/	334 r/	267 r/	250 e/	200
Cameroon e/	1,000	1,000	1,000	1,000	1,000
Canada	171,479	165,599	157,617	156,207 r/	159,714 3/
Central African Republic	90 e/	50 r/ e/	41 r/	12 r/	20
Chile	49,459	44,980	45,663	53,983 r/	42,673 3/
China e/	175,000	178,000	173,000	180,000	185,000
Colombia	18,811	18,810 r/	43,847 r/	37,018 r/	21,813 3/
Congo (Brazzaville) e/	10	10	10	10	10
Congo (Kinshasa)	394 r/	151 r/	207 r/	52 r/	50 3/
Costa Rica	502	742 r/	165 r/	51 r/ e/	100
Cote d'Ivoire	2,419 5/	3,400	2,717	3,154	3,100
Cuba e/	250	1,000	1,000	1,000	1,000
Dominican Republic	2,349	1,424	651	-- r/	-- 3/
Ecuador 5/	3,070 e/	3,500 e/	2,026 r/	2,871 r/	2,297 3/
El Salvador	110	98	71 r/ e/	-- r/	--
Eritrea	612	573	534 r/	264 r/	270 r/
Ethiopia 6/	3,000 e/	2,500	4,905 r/	5,177 r/	5,200
Fiji	4,671	3,690	4,428 r/	3,842 r/	3,858 3/
Finland	3,900	5,000 e/	5,900 e/	4,951 r/	5,552 3/
France	4,953	3,793	3,600 e/	2,632 r/	3,000
French Guiana (Guyane)	3,183 r/	2,673 r/	2,819 r/	3,376 r/	3,000
Gabon e/ 7/	70	70	70	70	70
Georgia e/	700	700	2,000	2,000	2,000 e/
Ghana	54,662	72,541	79,946	72,100 r/	68,700 3/
Guatemala e/	100	100	4,449 r/ 3/	4,500 r/	4,500
Guinea	7,100	7,835 r/	12,001 r/	13,104 r/	13,000
Guyana	15,033 r/	12,960 r/	12,905 r/	13,510 r/	14,183 3/
Honduras e/	150	150	879 r/ 3/	878 r/ 3/	880
India 8/	2,750	2,383	2,500	6,200 r/	3,800 3/
Indonesia 9/	86,927	124,018	127,184	124,596	130,000
Iran	684	856 r/	930 r/	950 r/	1,000
Italy	--	1,100 r/ e/	700 r/ e/	709 r/	503 3/
Jamaica	--	--	--	--	214 3/
Japan	8,384	8,601	9,405	8,400 r/ e/	8,500
Kazakhstan e/	18,700	18,100	20,236 r/ 3/	28,171 r/ 3/	27,100 3/
Kenya	440 10/	388 10/	990	1,243 r/	1,240 3/
Korea, North e/	5,000	5,000	5,000	5,000	3,000
Korea, Republic of 8/	14,852	22,822	25,730	22,608 r/	28,595 3/
Kyrgyzstan e/	17,400 3/	22,000	20,000	22,000 r/	24,000
Laos	25	--	--	--	--
Liberia e/	500	800	1,000	1,000	1,000
Madagascar	8 r/	12 r/	8 r/ e/	5 r/	(11/) 3/
Malaysia	4,487	3,394	3,449	4,026	3,965 3/
Mali	16,323	20,562	23,688	25,000 e/	40,000
Mexico	26,001	25,427	23,755	26,375	26,300
Mongolia	8,451	10,040	10,038	11,485 r/	12,092 3/
Morocco e/	450	450	-- r/	334 r/	300
Mozambique	6	17	20	23 r/	25
Namibia	2,417	1,882	2,005 r/	2,417 r/	2,851 3/
New Zealand	11,359	7,544	8,577	8,600 e/	8,600
Nicaragua	2,562	3,834	4,450 r/	3,672 r/	3,650
Niger e/	1,000	1,000	1,000	1,000	1,000

See footnotes at end of table.

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

(Kilograms)

Country	1997	1998	1999	2000	2001 e/
Nigeria e/	6	10	10	10	10
Oman	575	575 e/	597 r/	604 r/	610
Panama e/	1,202 3/	1,500	1,500	1,500	1,500
Papua New Guinea	45,418	64,106	61,293	74,000 e/	74,000
Peru 12/	79,117	94,214	128,486	132,585	138,022 3/
Philippines	32,671	34,038	31,031	30,000 e/	30,000
Poland e/	435 3/	600	600	600	600
Romania e/	4,000	4,000	4,000	4,000	4,000
Russia	124,000 e/	114,900	125,870	143,000 r/	152,000 3/
Rwanda	10	17	10	10	10
Saudi Arabia	7,260	5,100 r/	4,570 r/	3,800 r/ e/	5,000
Senegal e/	550	550 r/	550 r/	550 r/	550
Serbia and Montenegro	3,000 e/	2,684	1,260 e/	1,121 r/	1,100
Sierra Leone 13/	20	15	30 e/	30 e/	30
Slovakia	458	340	363 r/	306 r/	300
Solomon Islands	25 e/	1,565	3,456	338	300
South Africa	491,680	464,319	451,300	428,200 r/	402,177 3/
Spain	1,824	3,295	5,081	4,310 r/	3,300 3/
Sudan	4,554	5,653	5,565 r/	5,770 r/	5,800
Suriname e/	300	300	300	300 14/	300
Sweden	6,777 r/	5,944 r/	4,400 r/	3,600 r/	4,700 3/
Taiwan	9	9	13	9 r/	2 3/
Tajikistan	2,550	3,000	2,700 e/	2,700 e/	2,700
Tanzania	232 r/	427 r/	4,767 r/	15,060 r/	32,300
Turkey e/ 15/	1,000	1,000	1,200	500 r/	500
Uganda	6	8	5	56	(11) 3/
United States	362,000	366,000	341,000	353,000	335,000 3/
Uruguay e/	2,800	1,985 3/	2,400	2,300	2,300
Uzbekistan	81,700 e/	80,000	85,000	85,000 e/	87,000
Venezuela	22,322	6,740	5,946	7,332	9,076 3/
Vietnam e/	1,000	1,500	1,500	2,000	2,000
Zambia e/	290	765 3/	700	600	130 p/
Zimbabwe	24,156	25,175	27,666	22,070	18,050 3/
Total	2,450,000	2,500,000 r/	2,560,000 r/	2,580,000 r/	2,570,000

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 7, 2002.

3/ Reported figure.

4/ Officially reported figures are as follows, in kilograms: Major companies: 1997--41,062; 1998--37,787 (revised); 1999--42,367; 2000--42,025; 2001--42,000 (estimated). Garimpos 1997--17,426; 1998--8,244 (revised); 1999--9,055; 2000--10,395; 2001--10,400 (estimated).

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/ Reported exports.

11/ Less than 1/2 unit.

12/ Includes documented production from placer artisanal production.

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

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

15/ Indicates byproduct of base metals.