



2016 Minerals Yearbook

GOLD [ADVANCE RELEASE]

GOLD

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In 2016, domestic mine production of gold increased, for the second consecutive year, to about 222,000 kilograms (kg) from 214,000 kg in 2015 (tables 1, 2). In 2016, the value of domestic production increased by 11.9% to \$8.95 billion, owing to a 7.6% increase in the average price of gold for the year and a 3.9% increase in domestic gold production. Nevada and Alaska, the two leading producing States, accounted for about 74% and 12%, respectively, of domestic gold production in 2016 (table 2). The remaining production, in descending order of quantity, came from mines in Colorado, Utah, California, Washington, South Dakota, Montana, New Mexico, Arizona, and Michigan. Gold was recovered at lode mines in all the gold-producing States, at two large placer mines in Alaska, and at numerous small placer mines, mostly in Alaska. About 6% of domestic mined gold was recovered as a byproduct of processing base metals, primarily copper, and other precious metals, primarily silver. The 26 leading operations, listed in table 3, accounted for 99% of domestic gold production.

According to SNL Metals & Mining (2016, p. 1–4), gold was the leading nonfuel mineral exploration target worldwide in 2016; overall, the global exploration budget for gold decreased by 16% from that in 2015 to \$3.30 billion and accounted for about 47.9% of the budgeted nonfuel mineral exploration expenditures of \$6.89 billion. Gold exploration in Australia, Canada, and the United States accounted for 39.5% (\$1.30 billion) of the budgeted 2016 global gold exploration expenditure. Australia overtook Canada as the leading target for gold exploration for the first time since 2003. Latin America was the leading region for gold exploration with 26% of the total gold exploration budget; Mexico accounted for the largest allotment, followed by Chile, Peru, and Colombia.

Total world mine production of gold in 2016 was about 3,120,000 kg, slightly more than production in 2015 (table 8). In 2016, the top five gold-producing countries, in descending order of production, were China, Australia, Russia, the United States, and Canada; these accounted for 44% of global gold production.

Commercial-grade refined gold was produced by about two dozen domestic companies. Among several thousand companies and artisans, a few dozen companies dominated the fabrication of gold into commercial products. Jewelry manufacturing in the United States was heavily concentrated in the New York, NY, and Providence, RI, areas, with other major manufacturers in California, Florida, and Texas. In 2016, the estimated percentages of gold consumed for commercial products (excluding investment products but including official coinage) were jewelry, 38%; electrical and electronics, 35%; official coins, 22%; dental and medical, 3%; and other, 2%.

Through 2016, global estimated historical gold mine production has totaled more than 187,000 metric tons (t) of gold. Because gold has been nearly 100% recycled and is resistant to corrosion and oxidation, about 98% of the gold that has been

produced throughout history is still available. As of yearend 2016, about 89,200 t of gold was held privately as jewelry, about 38,000 t was held privately as investments, about 33,000 t was in official bullion holdings worldwide, about 22,900 t was in other fabricated products, and about 3,600 t was unaccounted for (O’Connell and others, 2017, p. 36).

Legislation and Government Programs

Gold mining has been identified as a potential source of funding for armed groups involved in civil unrest in the Democratic Republic of the Congo [Congo (Kinshasa)] and adjoining countries. The United States, through the enactment of Section 1502 of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) on July 21, 2010, made it a statutory obligation for all companies registered with the U.S. Securities and Exchange Commission (SEC) to perform due diligence to determine whether the products they manufacture, or the components of the products they manufacture, contain tantalum, tin, tungsten, or gold (3TG) minerals and, if so, to determine whether these minerals were sourced from Congo (Kinshasa) and (or) its bordering countries. Accordingly, companies were required to file a specialized disclosure form (SD form) with the SEC including their findings as to whether 3TG minerals used in their products and components were sourced from the conflict region (U.S. Government Printing Office, 2010, p. 2213–2220). In 2016 (the latest information available), 1,283 companies filed conflict minerals SD forms for 2015 (1,321 companies filed disclosures for 2014). Of the 2015 filings, an estimated 49% of the reporting companies were able to determine the country of origin of their conflict minerals, compared with 30% in 2014. The ability of reporting companies to identify the country of origin of their conflict minerals was hindered when there were multiple tiers of suppliers between the reporting company and the upstream concentrate-processing facility. For those reporting companies that identified the country of origin of their conflict minerals, a majority could not determine whether or not the minerals financed or benefited armed groups in the covered countries. This was because of uncertainties about source and chain of custody of the conflict minerals processed at the processing facilities. Although reporting companies were not required to identify which conflict minerals they used, of those that did, 48% reported using gold in 2015 (U.S. Government Accountability Office, 2016, p. 16–23).

On June 16, 2016, members of the European Parliament reached an agreement that most European Union firms would be required to perform due diligence on the sources of 3TG minerals used in their products (European Parliament, 2016). Other countries, groups, and international organizations, including but not limited to Canada, the Electronic Industry Citizenship Coalition, the London Bullion Trade Association,

the Organisation for Economic Co-operation and Development, the Public Private Alliance on Responsible Mineral Trade, the Responsible Jewellery Council, the United Nations, and the World Gold Council, were developing programs to assist companies in avoiding contributing to regional conflicts. Some have reported that this type of legislation has hampered legal and informal mining while encouraging criminal mining activities in the region. Once gold is melted down and combined with other sources of gold, it is difficult to track (Webb, 2015).

Production

Domestic lode mine production data for gold were compiled by the U.S. Geological Survey (USGS) from two separate voluntary monthly surveys of U.S. mining operations and from publicly available sources; the surveys represented 99% of this chapter's tabulated domestic gold production. Data on placer gold production in Alaska, provided by the Alaska Division of Geological & Geophysical Surveys, were included in the domestic production figures. However, individual company production data listed in table 3 or cited elsewhere in this chapter were obtained from published sources, such as company annual reports.

Alaska.—In 2016, Alaska produced 27,600 kg of gold, from both lode and placer operations, valued at \$1.11 billion (table 2). This was slightly less by weight but 6% more by value than output in 2015. Gold was produced at 1 open pit gold mine, 2 underground gold mines, 1 underground zinc-silver mine, and 236 placer operations. The open pit Fort Knox Mine near Fairbanks was Alaska's leading gold producer, with output of 12,700 kg of gold equivalent in 2016, slightly more than that in 2015 (Kinross Gold Corp., 2017, p. 9).

The underground Kensington Mine, 74 kilometers (km) northwest of Juneau, produced 3,870 kg of gold, a slight decrease from that produced in 2015 (Coeur Mining, Inc., 2017, p. 7). The underground Pogo Mine, 145 km southeast of Fairbanks, produced 8,380 kg of gold in 2016, 5% less than 2015 production (Athey and Werdon, 2017, p. 45–46).

Other lode-gold production in Alaska was as a byproduct from the underground Greens Creek silver-zinc mine on Admiralty Island near Juneau, which produced 1,680 kg of gold, 11% less than in 2015 (Hecla Mining Co., 2017, p. 9).

According to estimates by the State of Alaska, placer operations produced 1,610 kg of gold in 2016, 23% less than the estimated output in 2015 (Athey and Werdon, 2017, p. 39–40).

California.—In 2016, gold was produced at the Mesquite Mine and the new Soledad Mountain Mine. The Mesquite Mine, 70 km northwest of Yuma, AZ, produced 3,460 kg of gold, 18% less than that produced in 2015, owing to lower gold recovery rates (New Gold Inc., 2017, p. 30–31). The Soledad Mountain Mine, 8 km south of Mojave in Kern County, CA, began production in March 2016, and produced 592 kg of gold during the year (Golden Queen Mining Co. Ltd., 2017, p. 5, 24).

Small quantities of gold were also produced in California as a byproduct from industrial mineral operations (such as limestone and sand and gravel operations), from several small underground mines that primarily recovered specimen gold products, and from small artisanal placer workings. This production was not included in the USGS production data.

Colorado.—In 2016, the open pit Cripple Creek Mine, near the town of Victor, produced 12,300 kg, twice as much as 2015 production owing to the completion of a mine life expansion project. AngloGold Ashanti Ltd. sold Cripple Creek & Victor Gold Mining Co., operator of the Cripple Creek Mine, to Newmont Mining Corp. in August 2015 (AngloGold Ashanti Ltd., 2017, p. 99; Newmont Mining Corp., 2017a, p. 72; 2017b, p. 1).

Montana.—Gold production at the Golden Sunlight Mine, 48 km east of Butte, decreased by about 50% in 2016 compared with that in 2015 to 1,060 kg as a result of the closure of the main pit in November 2015. Barrick Gold Corp. was planning to construct an underground mine at the site and continued to explore in the area to extend the mine's life (Barrick Gold Corp., 2017a; Dunlap, 2017). Other gold production in the State was as a byproduct of Stillwater Mining Co.'s Stillwater platinum-group-metals mine near Nye.

Nevada.—In 2016, Nevada produced about 165,000 kg of gold valued at \$6.63 billion, which was slightly more by weight and 9.6% more by value than that produced in 2015, and retained its long-standing position as the Nation's leading gold-producing State.

In 2016, Barrick produced 75,600 kg of gold, 8% less than 2015 production, from its wholly owned Cortez Operations and Goldstrike Mine; partial-month production from the Bald Mountain Mine (sold on January 11 to Kinross Gold Corp.); its 75% share of the Turquoise Ridge Mine; and partial-month production from its 50% share of the Round Mountain Mine (sold on January 11 to Kinross). In 2016, gold production from the Cortez Operations increased by 6% to 32,900 kg owing to an increase in the average ore grade from the Cortez Hills open pit mine and an increase in the tonnage of ore processed. Production from the Goldstrike Mine, the leading domestic gold-producing mine, was 34,100 kg, 4% more than 2015 production because of increased production from the autoclave. Production from the Turquoise Ridge Mine increased by 23% compared with that of 2015 owing to increased tonnage mined, increased labor, and improved equipment availability. Attributed production from the Bald Mountain and Round Mountain Mines totaled just 249 kg in 2016 because they were both sold to Kinross in January (attributed production in 2015 was 5,940 kg from Bald Mountain and 5,950 kg from Round Mountain) (Barrick Gold Corp., 2017a; 2017b, p. 50, 52, 61). The South Arturo Mine in northern Nevada began production in August 2016. The mine was a joint venture between Barrick's wholly owned subsidiary Barrick Gold Exploration Inc. (60%) and Premier Gold Mines Ltd. (40%). The ore was processed at Barrick's Goldstrike facilities approximately 5 km to the south of South Arturo (Premier Gold Mines Ltd., 2016).

Newmont's operations in Nevada produced 57,000 kg of gold, a 17% increase compared with 2015, from the Carlin Mines Operations and the Long Canyon, Phoenix, Twin Creeks, and the joint-venture Turquoise Ridge (25% share) Mines. Long Canyon started production in the fourth quarter of 2016 and produced 684 kg of gold during the year. The Carlin Mines Operations produced 29,400 kg, 7% more than 2015 production primarily because of increased tonnages processed from the Leeville Mine, higher tonnages and average ore grade at the Silverstar Mine, and higher heap-leach recoveries at the

Emigrant Mine. In 2016, gold produced at the Twin Creeks Mine decreased by 4% owing to a planned increase in waste stripping. The Phoenix project operations produced slightly more gold in 2016 than in 2015 owing to higher production from the Lone Tree Mine's Brooks pit, which was partially offset by lower mill recovery at Lone Tree (Newmont Mining Corp., 2017a, p. 66; 2017b, p. 1).

On January 11, Kinross obtained full ownership of both Bald Mountain and Round Mountain, in White Pine and Nye Counties, respectively. In 2016, Bald Mountain produced 4,050 kg of gold equivalent and Round Mountain produced 11,800 kg of gold equivalent (Kinross Gold Corp., 2017, p. 9).

In 2016, Klondex Mines Ltd. produced 4,080 kg, 24% more than that produced in 2015 owing to the increased amount of ore processed and higher mill grades. Klondex owned and operated the Fire Creek and Midas Mines, which produced 3,150 kg and 928 kg of gold, respectively. The ore from both mines was processed at the Midas mill (Klondex Mines Ltd., 2017, p. 38–39).

Other mines in Nevada recorded decreased gold production in 2016. Scorpio Gold Corp.'s Mineral Ridge operations produced 1,150 kg of gold, 7% less than production in 2015 owing to a decrease in the amount of ore mined and a lower average gold ore grade (Scorpio Gold Corp., 2017). Silver Standard Resources Inc.'s Marigold Mine produced 6,380 kg of gold in concentrates, slightly less than that produced in 2015 because increased waste removal reduced the amount of ore produced (Silver Standard Resources Inc., 2017, p. 2). Gold production at Coeur Mining Inc.'s Rochester silver mine was about 1,580 kg in 2016, a 3% decrease from production in 2015 (Coeur Mining, Inc., 2017, p. 6).

Klondex entered into an agreement to acquire Carlin Resources, LLC, a subsidiary of Waterton Precious Metals Fund II Cayman, LP, for \$63 million in cash and \$17 million in a secured promissory note. Following regulatory approval and satisfaction of other transfer conditions, Klondex took ownership of the Hollister Mine, the Esmeralda Mine and ore milling complex, and other properties in northern Nevada in October (Klondex Mines Ltd., 2016; 2017, p. 23).

Rye Patch Gold Corp. signed an agreement on May 25, 2016, to purchase the Florida Canyon Mine and the Standard Mine, in Pershing County, NV, from Jipangu Inc. (Japan) for \$15 million and 20 million common shares of Rye Patch Gold Corp. Rye Patch Gold also secured \$27 million to fund the redevelopment of the Florida Canyon Mine; the work would include a mine expansion, a new leach pad, and a waste storage facility (Rye Patch Gold Corp., 2016).

South Dakota.—In 2016, the Wharf Mine near Lead produced about 3,400 kg of gold, 40% more than 2015 production owing to increased amounts of ore processed, higher ore grades, and higher mill recovery rates (Coeur Mining, Inc., 2017, p. 8).

Utah.—The Bingham Canyon Mine near Salt Lake City produced 4,770 kg of gold as a byproduct from copper and molybdenum mining. Gold production was 17% greater than that of 2015 owing to an increase in ore grade. This more than offset the decrease in ore mined that resulted from reduced access to the pit (Rio Tinto plc, 2017, p. 4, 13, 23).

Washington.—In 2016, the underground Kettle River-Buckhorn Mine in the north-central part of the State produced about 3,490 kg of gold equivalent, 15% more than that produced in 2015. Ore was shipped to the Kettle River Mill adjacent to the closed Kettle River Mine, which was about 76 km from the Kettle River-Buckhorn Mine. Although the Kettle River-Buckhorn Mine was nearing its end of life, production increased owing to the processing of higher grade ore and increased mill recovery (Kinross Gold Corp., 2017, p. 4, 9).

Consumption

Thomson Reuters Gold Fields Mineral Services Ltd. (GFMS) reported that total global fabrication in 2016, including scrap, consumed 2,520 t of gold, almost 17% less than revised consumption in 2015. A reduction in jewelry fabrication was the main reason for the drop in gold consumption. In 2016, gold consumption for the fabrication of gold was 1,890 t, a 21% decrease compared with that of 2015 owing to the higher price of gold in U.S. dollars and weak global economic growth. The six leading jewelry-manufacturing countries, in descending order by gold consumed for jewelry, were China (636 t), India (454 t), Italy (79.3 t), Turkey (77.6 t), the United States (65.8 t), and Indonesia (43.5 t). Combined, they accounted for 72% of the world's gold jewelry fabrication. In 2016, 13 countries had significant (more than 3 t) decreases in gold consumed to make jewelry; the largest declines were in India (down by 282 t), China (130 t), Turkey (14.0 t), Egypt (10.9 t), and Saudi Arabia (9.3 t). Only two countries had significant increases (more than 3 t) in gold used in jewelry fabrication—Sri Lanka (up by 3.9 t) and Iran (3.5 t) (O'Connell and others, 2017, p. 43–49).

In 2016, consumption of gold for industrial uses decreased by 3.2%, the sixth consecutive year of decline owing to sluggish economies in many countries, higher gold prices, and increasing substitution. Globally, gold consumption for electronics (254 t) and dentistry (29.8 t) decreased by 2% and 5%, respectively. Gold used in other industrial and decorative applications (70.2 t) decreased by 7% owing to decreases in China, India, Italy, and the Republic of Korea (O'Connell and others, 2017, p. 49–52).

Prices and Investment

The Engelhard daily price of gold continued to be volatile. The price began the year at \$1,080.48 per troy ounce, near the lowest level for the year (\$1,077.98 per troy ounce on January 5). The price increased to the yearly high of \$1,372.98 per troy ounce on July 6 before it trended downward and ended the year at \$1,160.62 per troy ounce. The yearly low was the lowest average daily price since October 2009. The annual average daily price for 2016 of \$1,252.17 per troy ounce was 7.6% or \$88.84 per troy ounce higher than the average annual price in 2015.

The components of gold investments are the retail investments—gold bars, official coins, medals, and imitation coins—and the change in physical gold held by gold exchange-traded funds (ETFs). Global net gold investment in 2016 increased by 52% compared with that in 2015 to 1,580 t, the highest level since 2012, as a result of increases in ETF gold holdings. These increases were caused by investor uncertainty in the global economy owing to increasing geopolitical uncertainty,

the United Kingdom's referendum to leave the European Union, expectation of another increase in United States interest rates, and the United States Presidential election. Following 3 consecutive years of ETF net selling, the ETFs purchased a net of 524 t of gold in 2016, compared to a net selling of 125 t in 2015. The bulk of the global net retail investment was purchases of gold bars totaling 787 t, 10% less than 2015 purchases. In 2016, global purchases of official coins, medals, and imitation coins decreased by 5% to 271 t. Historically, India has been one of the leading purchasers of gold retail investment products. The Government of India took steps to regulate the unaccounted wealth of individuals and the amount of cash flowing into the gold and jewelry markets by passing an excise duty on gold on March 1, 2016. The new excise duty, along with the higher gold price, caused retail investment purchases to decline by 29% in India (O'Connell and others, 2017, p. 17–21). In 2016, the U.S. Mint sold 30,637 kg of American Eagle gold bullion coins and 6,827 kg of American Buffalo gold bullion coins, an increase of 23% and a slight decrease, respectively, from quantities sold in 2015 (U.S. Mint, 2017).

According to GFMS estimates, the official sector (Governments and national banks) purchased a net 257 t of gold in 2016, which was 42% less than 2015 net purchases and the lowest level since 2010. It was the seventh consecutive year of net purchases. Some of the leading buyers in 2016 were Russia (201 t), China (80 t), Kazakhstan (36 t), and Qatar (7.5 t). Venezuela and Azerbaijan were the major net sellers with sales of 85 t and 10.2 t, respectively (O'Connell and others, 2017, p. 11, 40–41).

Foreign Trade

The United States was a net exporter (exports minus imports) of 63,900 kg of refined bullion in 2016 (tables 1, 4, 6). Based on unrounded data, refined bullion constituted 47% of U.S. total gold imports (table 6) and 61% of exports (table 4). In 2016, imports of refined bullion increased by 97% from those in 2015 and exports of refined bullion decreased by 32%. The United Kingdom (39%), Hong Kong (29%), Switzerland (17%), and India (8%) were the principal destinations for refined bullion exports in 2016. Canada (39%), Switzerland (36%), and Brazil (8%) were the leading sources of refined bullion imported in 2016.

World Review

According to GFMS' annual review of world gold supply and demand, total global supply of gold in 2016 was 4,510 t, slightly more than the 4,400 t in 2015. The supply increase included a 13-t increase in global primary production and 21-t net increase in producer stocks. Gold recovery from old scrap increased for the second consecutive year and increased by 8% to 1,270 t. Higher gold prices motivated sellers to reduce gold scrap stocks, particularly in India, Indonesia, Kazakhstan, Taiwan, Thailand, the United Kingdom, and Vietnam. China, the leading scrap-producing country, produced 233 t of gold scrap, which was an increase of 3% compared with 2015 production. Some countries' scrap production decreased, most notably Russia (down by 10%) and the United States (down by 8%) (O'Connell and others, 2017, p. 11, 36–38).

In 2016, world mine output of gold from almost 100 countries having reported or estimated quantities of production was about

3,120 t, slightly more than that in 2015 (table 8). It was the eighth consecutive year of increase. Gold production increased significantly in Australia and Sudan (each by 11,000 kg), Guyana (8,144 kg), the United States (8,000 kg), the Dominican Republic (6,913 kg), Peru (5,919 kg), and Kazakhstan (5,520 kg). Major decreases were recorded in Mexico (down by 13,274 kg), Indonesia (12,300 kg), Mongolia (10,992 kg), and Argentina (6,000 kg).

The 12 leading gold-producing countries, in decreasing order of production, were China, Australia, Russia, the United States, Canada, Peru, South Africa, Mexico, Uzbekistan, Sudan, Brazil, and Indonesia; these accounted for about 69% of global production. The next 12 leading gold-producing countries accounted for about 19% of global gold production.

Argentina.—In 2016, gold production was estimated to be 56,000 kg, 10% less than 2015 production. Much of the decrease was due to the production decline at Goldcorp Inc.'s Cerro Negro Mine, which produced 11,300 kg of gold, down by 28%. The decline, however, was relative to output in 2015 that benefitted from the drawdown of high-grade stockpiles, and it reflected labor disruptions in the second quarter of 2016 (Goldcorp Inc., 2017, p. 30). Barrick's Veladero Mine produced 16,900 kg of gold, a 10% decrease compared with 2015 gold production owing to lower grade ore placed on the leach pads and the temporary suspension of operations in the third quarter of 2016 because of a spill of leach solution (Barrick Gold Corp., 2017a; 2017b, p. 58).

Australia.—In 2016, gold production in Australia was 290,000 kg, up by 4%. Much of the increase was from Newmont's Kalgoorlie Mine, which produced 11,900 kg of gold, 21% more than 2015 production because of increased throughputs and higher grade ore. The other Newmont mines (Boddington and Tanami) produced a total of 39,200 kg of gold in 2016, compared with 38,300 kg in 2015 (Newmont Mining Corp., 2017a, p. 68; 2017b, p. 1). Newcrest Mining Ltd.'s Cadia East Mine produced 23,500 kg of gold, 19% more than that produced in 2015 because of an increase in the amount of ore mined (Newcrest Mining Ltd., 2016, p. 5; 2017, p. 5). Production declines were reported by the Tropicana Mine, a joint venture between AngloGold (70%) and Independence Group NL (30%), owing to lower ore grades, and the Telfer Mine (Newcrest Mining Ltd.), which had less ore mined and lower ore grades (Newcrest Mining Ltd., 2016, p. 5; 2017, p. 5; AngloGold Ashanti Ltd., 2017, p. 88).

Canada.—Canada's gold mine output increased slightly in 2016 to 165,034 kg. The Detour Lake Mine (Detour Gold Corp.) produced 16,700 kg of gold in 2016, 6% more than 2015 production owing to an increase in mill throughput (Detour Gold Corp., 2017, p. 13). Agnico Eagle Mines Ltd.'s LaRonde and Goldex Mines produced 9,550 kg (up by 14%) and 3,750 kg of gold (up by 5%), respectively. This partially offset the 18% production decrease from the company's Meadowbank Mine, which produced 9,710 kg during the year. The leading gold mine in the country was the Canadian Malartic Mine, jointly owned by Agnico Eagle (50%) and Yamana Gold Inc. (50%); output in 2016 was 18,200 kg of gold, slightly more than that in 2015 (Agnico Eagle Mines Ltd., 2017, p. 61–67). Production from Goldcorp's Red Lake Mine was 10,100 kg of gold, 14% less than that in 2015 owing to lower ore grades (Goldcorp Inc., 2017, p. 34).

China.—In 2016, gold production was estimated at 453,000 kg, a slight increase from that of 2015. Gold production from gold mines was 395,000 kg, and byproduct output from other nonferrous metals mining was 58,600 kg. The combined mined production from the top four companies—China Gold International Resources Corp. Ltd., Zijin Mining Group Co. Ltd., Shandong Gold Group Co. Ltd., and Shandong Zhaojin Group Co. Ltd. (in descending order of production)—was almost one-half of the country’s gold production (Precious Metals Monthly, 2017).

According to the China Gold Association, China’s gold consumption (which includes bullion consumption) in 2016 was 975,000 kg, down by 6.74%. Notwithstanding this decline, China remained the leading gold consumer for the fourth consecutive year. The largest consumption of gold was for jewelry (611,000 kg), down by 18.9%. In contrast, consumption of gold bullion was 258,000 kg, an increase of 28.1%, and consumption of gold for coin minting was 31,200 kg, an increase of 36.8%. Consumption of gold for industrial and other applications was 75,400 kg, an increase of 10.1% compared with that in 2015 (Precious Metals Monthly, 2017).

Dominican Republic.—In 2016, gold production in the Dominican Republic was 37,729 kg, 22% more than that in 2015. Gold production at the Pueblo Viejo Mine, a joint venture between Barrick (60%) and Goldcorp (40%), increased by 22% in 2016 to 36,300 kg owing to higher ore grades and recovery rates (Goldcorp Inc., 2017, p. 32).

Egypt.—In 2016, the Sukari Mine (Centamin plc, 50%, and Egyptian Mineral Resources Authority, 50%) produced 17,139 kg of gold, about 26% more than that produced in 2015. The increase reflected increases in the amount of ore processed, ore grade, and recovery rates. The mine was the only large-scale gold-producing mine in Egypt (Centamin plc, 2017, p. 3–4).

Ghana.—Reported production of gold in 2016 was 79,199 kg, which was slightly less than that in 2015. Newmont’s Ahafo operation produced 10,900 kg of gold, 5% more than that produced in 2015; the increase resulted from higher ore throughput that partially offset lower ore grades. At Newmont’s Akyem Mine, production was 14,600 kg of gold, slightly less than that in 2015 (Newmont Mining Corp., 2017a, p. 69–70). Kinross’s Chirano Mine produced 6,590 kg of gold in 2016, about 17% less than 2015 production (Kinross Gold Corp., 2017, p. 9). Perseus Mining Ltd.’s Edikan Mine produced 4,770 kg of gold, 19% less than that produced in 2015 (Perseus Mining Ltd., 2016, p. 2; 2017, p. 3). Asanko Gold Inc.’s Asanko Mine commenced mining in 2016, and output for the year was 4,590 kg (Asanko Gold Inc., 2017, p. 7).

Guyana.—The 2016 reported gold production was 22,168 kg, 58% more than production in 2015 owing to the first full year of production from Guyana Goldfields Inc.’s Aurora Mine and Troy Resources Ltd.’s Karouni Mine, both of which had commenced production in 2015. In 2016, the Aurora Mine produced 4,720 kg of gold (Guyana Goldfields Inc., 2017, p. 4) and the Karouni Mine produced 1,960 kg of gold (Troy Resources Ltd., 2016, p. 2; 2017, p. 2).

Indonesia.—In 2016, gold production was an estimated 80,000 kg, significantly lower than output in 2015. Freeport-McMoRan Inc.’s Grasberg Mine accounted for about 40% of

gold production in Indonesia. Gold production at Grasberg decreased by 14% in 2016 to 33,000 kg owing to decreases in gold ore grade and recovery rates (Freeport-McMoRan Inc., 2017, p. 40). The 2016 gold production at Newcrest’s Gosowong Mine declined by 47% owing to the temporary suspension of mining at the Kencana Mine to conduct a geotechnical study (Newcrest Mining Ltd., 2016, p. 5; 2017, p. 5).

In November 2016, Newmont completed the sale of its 48.5% interest in PT Newmont Nusa Tenggara, which operated the Batu Hijau copper and gold mine, to PT Amman Mineral Internasional for \$1.3 billion (Newmont Mining Corp., 2016).

Mexico.—In 2016, reported gold mine production in Mexico decreased by 11% from that in 2015 to 111,307 kg owing mostly to decreased output from Goldcorp’s Peñasquito Mine. The 14,500-kg (or 46%) decline at Peñasquito was due to a combination of lower ore grades and reduced mill throughput (Goldcorp Inc., 2017, p. 27). Torex Gold Resources Inc. commenced operations at the El Limón-Guajes Mine in April. The mine produced 8,710 kg of gold (Torex Gold Resources Inc., 2017, p. 10, 13).

Peru.—In 2016, gold production was 153,029 kg, 4% more than that in 2015. The increased output was mostly owing to the first full year of production from Hochschild Mining Plc’s Inmaculada Mine (Hochschild Mining Plc, 2017, p. 4) and the startup of Tahoe Resources Inc.’s Shahuindo Mine (Tahoe Resources Inc., 2017, p. 2). The Yanacocha Mine, jointly owned by Newmont and Compañía de Minas Buenaventura S.A.A., produced about 20,400 kg of gold in 2016, a decline of 29% from that produced in 2015 because of lower mill throughput, average ore grade, and recovery rates (Newmont Mining Corp., 2017a, p. 67). In 2016, Barrick’s Lagunas Norte Mine produced 13,500 kg of gold, 22% less than 2015 production owing to a decrease in the amount of ore placed on the leach pads caused by a lack of equipment availability (Barrick Gold Corp., 2017b, p. 56).

Russia.—In 2016, Russia was reported to have produced 253,150 kg of gold, slightly more than production in 2015. In 2016, gold production from PJSC Polyus Gold’s Blagodatnoye and Olimpiada operations was 14,200 kg (8% increase) and 29,300 kg (24% increase), respectively. Production increased at both mines because of increased ore throughput (PJSC Polyus Gold, 2017, p. 35–37). Gold production in 2016 from Nordgold SE’s Berezitovoye Mine was 2,480 kg, 36% less than that in 2015 owing to a lower average gold ore grade (Nordgold SE, 2017, p. 75–76). Production at Petropavlovsk PLC’s Pioneer Mine decreased by 39% to 4,410 kg in 2016 because of reductions in the amount of ore mined, ore grades, and the gold recovery rate at the mill (Petropavlovsk PLC, 2017, p. 5).

South Africa.—In 2016, gold production was 144,500 kg, nearly unchanged from output in 2015. AngloGold’s Mponeng Mine produced 7,900 kg of gold, 16% more than that produced in 2015 owing to the implementation of a new mining plan. At the company’s TauTona Mine, output was 4,540 kg of gold, 30% less than that in 2015 owing to lower gold ore grades and a decrease in the tonnage mined (AngloGold Ashanti Ltd., 2017, p. 64, 99–102). Sibanye Gold Ltd.’s Kloof Mine produced 15,200 kg of gold, 8% more than 2015 production owing to increased throughput and yield. At the company’s Driefontein

Mine, however, output was 16,100 kg of gold, 7% less than that in 2015 because of infrastructure problems, power outages, and safety stoppages (Sibanye Gold Ltd., 2017, p. 38–42). In 2016, Gold Fields Ltd.'s South Deep Mine, which was still ramping up, increased gold production to 9,020 kg, 46% more than that in 2015 (Gold Fields Ltd., 2017, p. 7).

Suriname.—In 2016, gold production was estimated at 30,200 kg, an apparent 5% increase compared with 2015 production. The main reason for the increase was the startup of Newmont's Merian Mine, approximately 60 km south of Moengo. In 2016, the mine produced 3,230 kg of gold (Newmont Mining Corp., 2017a, p. 67).

Turkey.—In 2016, gold production was estimated to have decreased by about 14% to 24,000 kg. Gold production from the Çöpler Mine (Alacer Gold Corp., 80%, and Çalık Holding AŞ, 20%) decreased by 42% to 3,700 kg. Output fell because pit wall instability in the Marble pit limited the amount of ore mined (Alacer Gold Corp., 2017, p. 6–7). In 2016, Eldorado Gold Corp.'s Kışladağ Mine produced 6,570 kg of gold, a 25% decrease compared with that produced in 2015 owing to a decrease in the amount of ore placed on the leach pads (Eldorado Gold Corp., 2017, p. 7). In contrast to these declines, Stratex International plc's Altıntepe Mine, which started up in late 2015, had its first full year of operation in 2016 and produced 1,110 kg of gold during the year (Stratex International plc, 2017, p. 5).

Outlook

Historically, investors have purchased gold as a safe haven, hedge against economic failures, portfolio diversifier, and store of wealth. In 2017, global consumption of gold is expected to increase because any decline in jewelry purchases resulting from gold price increases is expected to be more than offset by increased gold demand by investors. Domestic and worldwide gold mine production are expected to increase slightly, and worldwide gold recycling is expected to decline in 2017 owing to lack of gold scrap stocks.

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TABLE 1
SALIENT GOLD STATISTICS¹

		2012	2013	2014	2015	2016
United States:						
Production:						
Mine:						
Quantity	kilograms	235,000	230,000	210,000	214,000	222,000
Value	thousands	\$12,600,000	\$10,400,000	\$8,570,000	\$8,000,000	\$8,950,000
Gold recovered by cyanidation, leached in open heaps or dumps ²	kilograms	206,000	196,000	173,000	192,000 ^r	200,000
Refinery:						
From ore concentrates and dore	do.	218,000	223,000	253,000	248,000	248,000
From recycled materials (new and old scrap)	do.	215,000	210,000	135,000	124,000	123,000
Exports, refined bullion	do.	373,000 ^r	484,000 ^r	370,000 ^r	352,000 ^r	241,000
Imports for consumption, refined bullion	do.	107,000	98,700	121,000	89,800	177,000
Stocks, December 31:						
Industry ³	do.	4,070	5,940	7,540	7,330	4,110
Gold exchange traded funds holdings ⁴	do.	2,690,000	1,810,000	1,660,000 ^r	1,530,000	2,060,000
COMEX inventories	do.	344,000	243,000	325,000	198,000	285,000
U.S. Department of the Treasury	do.	8,140,000	8,140,000	8,140,000	8,140,000	8,140,000
Consumption:						
American Buffalo gold bullion coin ⁵	do.	2,460	7,430	5,520	6,860	6,830
American Eagle gold bullion coin ⁵	do.	23,400	24,100	16,300	24,900	30,600
Jewelry, industry, and the arts	do.	147,000	160,000	152,000	165,000 ^r	171,000
Price, average ⁶	dollars per troy ounce	1,672.75	1,414.80	1,269.45	1,163.33	1,252.17
Employment, mine and mill only ⁷		12,700	12,500	12,000	11,900	11,900
World:						
Production, mine	kilograms	2,750,000	2,930,000 ^r	3,030,000 ^r	3,090,000 ^r	3,120,000
Official bullion reserves ⁸	do.	31,700,000	31,900,000	32,000,000 ^r	32,700,000 ^r	33,300,000

^rRevised. do. Ditto.

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits, except prices.

²May include tailings, waste dumps, and previously mined ore at some inactive mines.

³Unfabricated refined gold held by refiners, fabricators, and dealers.

⁴Data from GFMS Ltd., Thomson Reuters.

⁵Data from the U.S. Mint.

⁶Annual average daily Engelhard quotation.

⁷Data from the U.S. Mine Safety and Health Administration.

⁸Held by central banks, governments, and international monetary organizations at the end of the year. Data from the World Gold Council.

TABLE 2
MINE PRODUCTION OF GOLD IN THE UNITED STATES, BY STATE¹

(Kilograms)

State	2015	2016
Alaska	28,000	27,600
Nevada	162,000	165,000
Other States ²	24,200	30,000
Total	214,000	222,000

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes Arizona, California, Colorado, Idaho, Michigan, Montana, New Mexico, South Dakota, Utah, and Washington.

TABLE 3
LEADING GOLD-PRODUCING OPERATIONS IN THE UNITED STATES IN 2016, IN ORDER OF OUTPUT¹

(Kilograms)

Rank	Operation	County and State ²	Majority owner ³	Quantity	
				2015	2016
1	Goldstrike	Elko and Eureka, NV	Barrick Gold Corp.	32,800	34,100
2	Cortez Operations	Eureka and Lander, NV	do.	31,100	32,900
3	Carlin Mines Operations ⁴	Elko, Eureka, and Humboldt, NV	Newmont Mining Corp.	27,600	29,400
4	Twin Creeks	Humboldt, NV	do.	14,700	14,100
5	Fort Knox	Eastern Interior Region, AK	Kinross Gold Corp.	12,500 ⁵	12,700 ⁵
6	Cripple Creek	Teller, CO	Newmont Mining Corp.	6,160	12,300
7	Round Mountain	Nye, NV	Kinross Gold Corp. ⁶	11,900	11,800 ⁵
8	Turquoise Ridge	Humboldt, NV	Barrick Gold Corp. (75%), Newmont Mining Corp. (25%)	9,000	11,000
9	Pogo	Eastern Interior Region, AK	Sumitomo Metal Mining Co., Ltd. (85%), Sumitomo Corp. (15%)	8,800	8,380
10	Phoenix	Lander, NV	Newmont Mining Corp.	6,380	6,500
11	Marigold	Humboldt, NV	Silver Standard Resources Inc.	6,440 ⁷	6,380 ⁷
12	Bingham Canyon	Salt Lake, UT	Rio Tinto Kennecott Corp. ⁸	4,070	4,770
13	Midas and Fire Creek	Elko and Lander, NV	Klondex Mines Ltd.	3,290	4,080
14	Bald Mountain	White Pine, NV	Kinross Gold Corp. ⁶	5,940	4,050 ⁵
15	Kensington	Southeastern Region, AK	Coeur Mining, Inc.	3,930	3,870
16	Kettle River-Buckhorn	Okanogan, WA	Kinross Gold Corp.	3,030 ⁵	3,490 ⁵
17	Mesquite	Imperial, CA	New Gold Inc.	4,200	3,460
18	Wharf	Lawrence, SD	Coeur Mining, Inc.	2,430 ^r	3,400
19	Greens Creek	Southeastern Region, AK	Hecla Mining Co.	1,880	1,680
20	Rochester	Pershing, NV	Coeur Mining, Inc.	1,640	1,580
21	Mineral Ridge	Esmeralda, NV	Scorpio Gold Corp.	1,230	1,150
22	Golden Sunlight	Jefferson, MT	Barrick Gold Corp.	2,120	1,060
23	Long Canyon	Elko, NV	Newmont Mining Corp.	--	684
(9)	Hycroft	Humboldt and Pershing, NV	Hycroft Mining Corp.	3,360	NA
(9)	Jerritt Canyon	Elko, NV	Sprout Mining Inc.	5,220	NA
(9)	Robinson	White Pine, NV	KGHM International Ltd.	1,880	NA

^rRevised. do. Ditto. NA Not available from publicly available information. -- Zero.

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits; the operations listed accounted for more than 99% of U.S. output in 2016. Data shown are from publicly available information and may differ from proprietary information used to generate the U.S. totals listed in tables 1 and 8.

²For Alaska, mines are located by geographic region, as delineated by the Alaska Division of Geological & Geophysical Surveys in its Special Report 72, Alaska's mineral industry 2016—Exploration activity.

³When multiple owners are listed, the operating owner is listed first, and when only one owner is listed, the company had full ownership. As of December 31, 2016.

⁴Includes four open pit operations and four underground operations. Does not include Long Canyon, Phoenix, Twin Creeks, and joint-venture underground Turquoise Ridge Mines, which are listed separately.

⁵Quantity refers to the reported total gold equivalent of coproduct or byproduct metals recovered.

⁶On January 11, 2016, Kinross Gold Corp. acquired the remaining 50% interest in the Round Mountain Mine and 100% of Bald Mountain Mine from Barrick Gold Corp.

⁷Quantity refers to total quantity of gold content of concentrates produced.

⁸Wholly owned subsidiary of Rio Tinto plc.

⁹The rank order is not shown to avoid disclosing company proprietary data.

Sources: Company annual reports, company 10-K reports submitted to the U.S. Securities and Exchange Commission, and State Geologists' reports.

TABLE 4
U.S. EXPORTS OF REFINED GOLD, BY COUNTRY OR LOCALITY¹

(Kilograms, gold content, and thousand dollars)

Year and country or locality	Ores and concentrates ²		Dore and precipitates		Refined bullion ³		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2015	5,280	193,000	121,000 ^r	4,640,000 ^r	352,000 ^r	13,300,000 ^r	478,000 ^r	18,200,000 ^r
2016:								
Armenia	--	--	--	--	5	219	5	219
Australia	(4)	4	1	22	951	37,800	952	37,800
Austria	--	--	--	--	6	210	6	210
Bahamas, The	--	--	--	--	6	224	6	224
Belgium	--	--	--	--	4	150	4	150
Bermuda	--	--	--	--	66	2,620	66	2,620
Bolivia	--	--	--	--	248	9,340	248	9,340
Canada	24	946	252	10,600	5,110	209,000	5,390	221,000
Cayman Islands	--	--	118	4,230	7	279	125	4,500
Chile	--	--	--	--	356	14,800	356	14,800
China	3,500	130,000	--	--	1,000	38,200	4,500	168,000
Dominican Republic	158	5,780	--	--	7	248	165	6,020
Germany	26	892	(4)	5	1,400	52,400	1,430	53,300
Guatemala	--	--	--	--	37	1,540	37	1,540
Hong Kong	16	639	1	44	69,900	2,750,000	69,900	2,750,000
India	--	--	21,000	819,000	20,400	797,000	41,400	1,620,000
Indonesia	--	--	--	--	97	3,600	97	3,600
Ireland	--	--	--	--	19	701	19	701
Israel	--	--	18	724	--	--	18	724
Italy	--	--	--	--	238	9,300	238	9,300
Japan	471	17,800	--	--	51	1,710	522	19,500
Korea, Republic of	20	728	--	--	(4)	19	21	747
Laos	--	--	--	--	13	485	13	485
Liechtenstein	--	--	--	--	173	6,200	173	6,200
Luxembourg	--	--	--	--	26	1,020	26	1,020
Malaysia	--	--	--	--	8	295	8	295
Mexico	--	--	--	--	1,880	74,300	1,880	74,300
New Zealand	--	--	4	176	46	1,910	50	2,090
Oman	--	--	--	--	101	3,900	101	3,900
Pakistan	--	--	--	--	35	1,410	35	1,410
Panama	--	--	1	32	13	484	13	516
Singapore	(4)	4	--	--	631	24,600	631	24,600
Sweden	--	--	--	--	53	2,190	53	2,190
Switzerland	(4)	3	109,000	4,210,000	41,000	1,670,000	150,000	5,880,000
Thailand	--	--	--	--	2,030	76,600	2,030	76,600
Turkey	--	--	152	5,850	8	297	160	6,150
United Arab Emirates	--	--	16,800	680,000	181	7,080	17,000	687,000
United Kingdom	(4)	5	(4)	8	94,900	3,850,000	94,900	3,850,000
Vietnam	--	--	--	--	19	830	19	830
Other	(4)	3	(4)	4	5	230	6	236
Total	4,220	157,000	147,000	5,730,000	241,000	9,650,000	393,000	15,500,000

¹Revised. -- Zero.

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits; may not add to totals shown.

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

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

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF GOLD-BEARING MATERIALS, BY COUNTRY OR LOCALITY¹

(Kilograms, gross weight, and thousand dollars)

Year and country or locality	Waste and scrap		Metal powder		Gold compounds	
	Quantity	Value	Quantity	Value	Quantity	Value
2015 [†]	348,000	1,360,000	504	9,250	171,000	93,600
2016:						
Canada	63,800	868,000	3	30	840	8,380
China	256	1,820	11	327	614	9,560
Costa Rica	--	--	1	32	224	4,050
Dominican Republic	--	--	7	167	181	489
Ecuador	--	--	--	--	251	22
France	--	--	4	78	157	93
Germany	2,500	12,100	70	1,730	56,000	1,750
Hong Kong	1,090	103	37	978	32	554
India	7	90	57	2,270	34	162
Ireland	699	79	--	--	2	3
Italy	35	904	--	--	10	10
Japan	4,040	12,000	11	226	306	56
Korea, Republic of	39,300	726	7	100	821,000	21,400
Malaysia	--	--	--	--	429	9,600
Mexico	--	--	1	46	788	18,700
Netherlands	(2)	6	--	--	8	247
Oman	--	--	--	--	14	508
Singapore	--	--	--	--	7,070	25,300
South Africa	--	--	--	--	169,000	2,410
Switzerland	102,000	1,310,000	--	--	19	7
Taiwan	--	--	6	107	704	1,460
Thailand	--	--	115	1,760	10	135
Turkey	17	153	13	96	--	--
United Kingdom	107,000	54,100	76	2,450	305	283
Vietnam	--	--	19	609	--	--
Other	5	71	2	56	307	357
Total	321,000	2,260,000	438	11,100	1,060,000	106,000

[†]Revised. -- Zero.

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits; may not add to totals shown.

²Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF REFINED GOLD, BY COUNTRY OR LOCALITY¹

(Kilograms, gold content, and thousand dollars)

Year and country or locality	Ores and concentrates ²		Dore and precipitates		Refined bullion ³		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
2015	447	18,400	174,000	6,710,000	89,800	3,380,000	265,000	10,100,000
2016:								
Argentina	--	--	2,270	93,200	--	--	2,270	93,200
Aruba	--	--	20	788	--	--	20	788
Australia	--	--	206	8,600	667	26,000	873	34,600
Bahamas, The	--	--	5	203	(4)	3	5	206
Barbados	--	--	18	700	--	--	18	700
Bolivia	--	--	12,200	491,000	--	--	12,200	491,000
Brazil	--	--	1,340	53,000	13,600	545,000	14,900	598,000
Canada	158	4,630	5,300	213,000	69,900	2,810,000	75,400	3,030,000
Cayman Islands	--	--	1,740	69,800	--	--	1,740	69,800
Chile	--	--	698	27,400	99	4,030	797	31,400
China	--	--	1	33	21	809	22	841
Colombia	--	--	35,500	1,410,000	3,150	125,000	38,700	1,540,000
Costa Rica	--	--	195	7,720	160	6,290	355	14,000
Curacao	--	--	3,800	151,000	(4)	9	3,800	151,000
Dominican Republic	--	--	1,200	47,600	5	231	1,210	47,800
Ecuador	--	--	6,350	247,000	44	1,680	6,400	249,000
France	--	--	--	--	340	13,700	340	13,700
Germany	--	--	13	501	135	6,000	148	6,500
Ghana	--	--	186	8,570	37	1,420	223	10,000
Greece	95	3,540	--	--	--	--	95	3,540
Guatemala	--	--	2,300	104,000	--	--	2,300	104,000
Guinea	--	--	12	452	5	204	17	655
Guyana	--	--	7,420	297,000	--	--	7,420	297,000
Honduras	--	--	371	14,900	2,290	91,100	2,660	106,000
Hong Kong	--	--	--	--	1,490	64,500	1,490	64,500
Israel	--	--	(4)	3	57	2,200	57	2,200
Jamaica	--	--	9	330	--	--	9	330
Japan	--	--	1	35	4,500	188,000	4,500	188,000
Mexico	4	162	62,900	2,580,000	8,640	341,000	71,600	2,920,000
Nicaragua	--	--	8,700	356,000	32	1,290	8,730	357,000
Panama	--	--	326	13,100	127	5,040	453	18,100
Paraguay	--	--	565	21,800	17	677	582	22,500
Peru	--	--	39,600	1,600,000	488	19,500	40,100	1,620,000
Singapore	--	--	(4)	2	2,910	127,000	2,910	127,000
South Africa	--	--	1	34	3,530	142,000	3,530	142,000
Switzerland	--	--	2,790	110,000	64,400	2,660,000	67,200	2,770,000
United Arab Emirates	--	--	116	4,740	218	8,420	335	13,200
United Kingdom	--	--	1	38	167	6,390	168	6,430
Venezuela	--	--	96	3,860	31	1,090	126	4,950
Other	--	--	12	477	9	362	21	840
Total	258	8,330	196,000	7,940,000	177,000	7,190,000	374,000	15,100,000

-- Zero.

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits; may not add to totals shown.

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

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

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS OF GOLD-BEARING MATERIALS, BY COUNTRY OR LOCALITY¹

(Kilograms, gross weight, and thousand dollars)

Year and country or locality	Waste and scrap		Metal powder		Gold compounds	
	Quantity	Value	Quantity	Value	Quantity	Value
2015	60,900	618,000	373	10,100	57,300 ^r	5,950 ^r
2016:						
Antigua and Barbuda	8	176	--	--	--	--
Aruba	77	1,900	--	--	--	--
Australia	8	207	2	35	--	--
Bahamas, The	64	1,350	--	--	--	--
Barbados	40	728	--	--	--	--
Bermuda	21	496	--	--	--	--
Bolivia	55	1,560	--	--	--	--
Canada	5,510	132,000	88	3,560	--	--
Cayman Islands	8	196	--	--	--	--
Chile	197	5,290	--	--	--	--
China	20	299	--	--	1	3
Colombia	119	3,380	3	76	--	--
Costa Rica	652	9,500	--	--	179	5
Curacao	68	1,560	--	--	--	--
Dominica	16	362	--	--	--	--
Dominican Republic	1,330	33,700	7	50	--	--
El Salvador	599	8,720	--	--	--	--
French Polynesia	34	406	--	--	--	--
Germany	653	15,500	94	3,780	11,200	426
Grenada	13	219	--	--	--	--
Guadeloupe	24	357	--	--	--	--
Guatemala	757	12,400	--	--	--	--
Honduras	2,140	59,800	--	--	29,400	629
Ireland	5	119	--	--	--	--
Italy	6	134	1	40	750	86
Jamaica	433	7,760	--	--	--	--
Japan	(2)	3	1	26	2,880	5,050
Malaysia	118	1,330	--	--	--	--
Martinique	67	1,950	--	--	--	--
Mexico	8,510	133,000	29	367	--	--
Nicaragua	275	5,700	--	--	--	--
Panama	482	9,810	--	--	--	--
Philippines	224	6,080	--	--	--	--
Portugal	244	5,760	--	--	--	--
Spain	45	955	--	--	--	--
St. Vincent and the Grenadines	11	202	--	--	--	--
Switzerland	2	35	12	462	--	--
United Kingdom	69	921	22	554	2	5
Other	71	919	2	21	--	--
Total	23,000	464,000	260	8,970	44,400	6,210

^rRevised. -- Zero.

¹Table includes data available through May 9, 2018. Data are rounded to no more than three significant digits; may not add to totals shown.

²Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
GOLD: WORLD MINE PRODUCTION, BY COUNTRY OR LOCALITY¹

(Kilograms, gold content)

Country or locality ²	2012	2013	2014	2015	2016
Afghanistan	-- ^r	30	50	40	40 ^e
Algeria	264	140	85 ^{r,e}	85 ^{r,e}	85 ^e
Argentina	54,664 ^r	48,966 ^r	60,170 ^r	61,952 ^r	56,000 ^e
Armenia	2,896	3,473	3,994 ^r	3,100 ^r	3,140
Australia	250,000 ^r	267,000 ^r	273,963	279,000 ^r	290,000
Azerbaijan	1,563	1,619	1,873	2,229	1,895
Bolivia	7,047	18,127	24,803	12,810 ^r	12,811
Botswana	1,522 ^r	1,205	958	756	833
Brazil	66,773	79,573	81,038	83,280 ^r	85,000 ^e
Bulgaria, gold content of concentrates	7,058 ^r	7,385 ^r	7,899 ^r	7,300	7,000 ^e
Burkina Faso ³	28,939	32,713 ^r	36,283 ^r	36,351 ^r	37,400
Burma ³	787	893	1,315	1,692	1,700 ^e
Burundi ^c	500	400	500	500	500
Cameroon ^c	1,500	1,600	1,500	1,800 ^r	1,800
Canada	107,486 ^r	133,636 ^r	152,460 ^r	162,504 ^r	165,034
Central African Republic ^c	55	60	60	60	60
Chad	--	14 ^e	14 ^e	14 ^e	14 ^e
Chile	49,936	51,309	46,031	42,501	42,000 ^e
China ^e	403,000 ^r	428,000 ^r	451,000 ^r	450,000	453,000
Colombia	66,178	55,745	57,015	59,202	61,805
Congo (Brazzaville) ^c	150	150	150	150	150
Congo (Kinshasa) ^c	14,000	17,000	31,000	37,000	36,000
Costa Rica ^c	400	300 ^r	100 ^r	100 ^r	100
Côte d'Ivoire	10,943	12,819 ^r	17,089 ^r	19,442 ^r	20,827
Denmark ⁴	307	100	--	--	--
Dominican Republic	4,106	26,084 ^r	35,081	30,816	37,729
Ecuador	5,319 ^r	8,676	7,322 ^r	7,723 ^r	6,756
Egypt	8,175	11,102 ^r	11,733 ^r	13,653 ^r	17,139
Eritrea	9,735	3,008	905	1,390	900
Ethiopia ⁵	12,311	12,581	11,970 ^r	10,600 ^r	11,000 ^e
Fiji	1,653	1,240	1,188 ^r	1,277 ^r	1,490
Finland	10,886 ^r	9,981	9,385 ^r	8,342 ^r	8,865
French Guiana ^c	1,150 ^r	1,220 ^r	1,700 ^r	1,500 ^r	1,500
Gabon	666	1,136	1,012	1,301 ^r	1,300 ^e
Georgia	3,900 ⁶	4,300 ⁶	2,600 ^{r,e}	3,100 ^{r,e}	3,600 ^e
Ghana	86,972	89,224	90,754	80,325 ^r	79,199
Greece	26 ^r	823 ^r	552 ^r	510 ^r	86
Guatemala	6,473	6,386	5,928	5,641 ^r	3,826
Guinea	14,790	15,147 ^r	16,955	17,000 ^e	16,000 ^e
Guyana	13,643	14,964	12,052 ^r	14,024 ^r	22,168
Honduras	1,858	1,985	2,762	2,598	2,600 ^e
India	1,748 ^r	1,423 ^r	1,587 ^r	1,375 ^r	1,400 ^e
Indonesia ⁷	69,291	59,804	69,349 ^r	92,339 ^r	80,000 ^e
Iran ⁸	2,800 ^{r,e}	2,500 ^{r,e}	3,300 ^{r,e}	3,500 ^r	3,500 ^e
Japan	7,233	7,411	7,115	7,700	8,000 ^e
Kazakhstan	39,903	42,552	50,339	63,614	69,134
Kenya	3,600	2,100	200	107 ^r	160
Korea, Republic of	336	413	284 ^r	269 ^r	300 ^e
Kyrgyzstan	10,332 ^r	19,000 ^e	18,000 ^e	16,900 ^{r,e}	18,000 ^e
Laos	6,415 ^r	6,838	5,265	6,893	6,764
Liberia	641	587	620	883	900 ^e
Madagascar	157	--	--	--	--
Malaysia	4,625	3,823 ^r	4,308	4,732	2,249
Mali	41,016 ^r	41,392	40,900 ^r	40,900 ^r	42,000 ^e
Mauritania	7,652	9,153 ^r	9,625 ^r	8,618 ^r	6,469
Mexico	102,802	119,774 ^r	117,771 ^r	124,581 ^r	111,307

See footnotes at end of table.

TABLE 8—Continued
GOLD: WORLD MINE PRODUCTION, BY COUNTRY OR LOCALITY¹

(Kilograms, gold content)

Country or locality ²	2012	2013	2014	2015	2016
Mongolia	5,995	7,244	18,311 ^r	20,323 ^r	9,331
Morocco	519	320 ^r	212 ^r	292 ^r	300 ^e
Mozambique	178	198	197	250	250 ^e
Namibia	2,302	1,960	2,377	6,105	6,410
New Zealand	10,164	12,468	11,989 ^r	12,687 ^r	11,000 ^e
Nicaragua	6,981	8,612 ^r	8,648	6,814 ^r	7,000 ^e
Niger	1,677 ^r	1,150	732	1,220 ^r	999
Nigeria	4,303	6,261	7,200 ^{r,e}	7,900 ^{r,e}	7,900 ^e
Oman	19	76	165 ^e	102	100 ^e
Panama	2,115	2,141	3,000 ^{r,e}	2,000 ^{r,e}	2,000 ^e
Papua New Guinea	59,100	54,092	57,939	60,046	62,293
Peru	161,544	156,264 ^r	140,090 ^r	147,110 ^r	153,029
Philippines	14,596	17,248	18,423	21,314 ^r	23,053
Poland, metal	916	1,066	2,575	2,703	3,539
Russia	217,800	231,700 ^r	249,100	251,210 ^r	253,150
Rwanda	-- ^e	-- ^e	160 ^e	319	300 ^e
Saudi Arabia, concentrates	5,215 ^r	4,655 ^r	4,954 ^r	5,078 ^r	5,000 ^e
Senegal	6,666	6,445	6,588	5,670	6,741
Serbia	900	866	1,310	628	600 ^e
Sierra Leone	135	98	43	106 ^r	100 ^e
Slovakia	546	533	582	611 ^r	492 ^e
Solomon Islands	2,180	1,886	1,403	--	--
South Africa	155,286	160,016	151,622	144,504 ^r	144,500
Spain	1,529	1,870 ^e	2,020 ^{r,e}	1,800	1,600 ^e
Sudan	46,133 ⁶	70,000 ^e	73,300 ^e	82,400 ^e	93,400 ^e
Suriname	33,474	34,213	33,000 ^e	28,800 ^{r,e}	30,200 ^e
Sweden	6,015	6,530	6,849	6,030 ^r	6,500 ^e
Tajikistan	2,400 ^r	2,774 ^r	3,477	4,200 ^r	6,987
Tanzania	40,650	42,534	40,481	43,293 ^r	45,115
Thailand	4,895	4,419	4,514	3,305	4,293
Togo ⁹	18,551	21,086	20,583 ^r	15,568	15,000 ^e
Turkey	29,390	33,980	31,260 ^r	27,800 ^r	24,000 ^e
Uganda	4	5	24 ^r	13 ^r	10 ^e
United Kingdom	102	42	--	--	--
United States	235,000	230,000	210,000	214,000	222,000
Uruguay ⁵	1,725	2,022	1,875 ^r	1,664	1,113
Uzbekistan ^e	93,000	98,000	100,000	102,000	102,000
Venezuela	1,981	1,675 ^r	1,056 ^r	588 ^r	500 ^e
Vietnam	600 ^e	1,872 ^r	164 ^e	--	--
Zambia	4,230 ^r	5,210 ^r	4,800 ^{r,e}	4,240 ^r	4,000 ^e
Zimbabwe	14,745 ^r	14,001 ^r	15,385 ^r	20,023 ^r	21,000 ^e
Total	2,750,000	2,930,000 ^r	3,030,000 ^r	3,090,000 ^r	3,120,000

^eEstimated. ^rRevised. -- Zero.

¹Table includes data available through August 10, 2017. All data are reported unless otherwise noted. Totals, U.S. data, and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the countries and (or) localities listed, Benin, Cambodia, Cuba, El Salvador, Equatorial Guinea, Haiti, Macedonia, Malawi, North Korea, Pakistan, Paraguay, Portugal, and South Sudan may have produced gold (either as undocumented artisanal or byproduct production), but available information was inadequate to make reliable estimates of output levels.

³Does not include artisanal or byproduct production.

⁴All production is from Greenland.

⁵Production is based on fiscal year, with starting dates as follows: Ethiopia, July 6; and Uruguay, April 1.

⁶Reported exports.

⁷Does not include production from so-called people's mines, which may be as much as 20,000 kilograms per year, but includes gold recovered as byproduct of copper mining.

⁸Includes gold recovered from the Mouteh gold mine and from the Sarcheshmeh copper complex.

⁹Data reported by the Government of Togo as exports predominantly include artisanal gold mine production transiting Togo from neighboring countries and, to a lesser extent, domestic artisanal mine production. Data may include gold from other artisanal sources.