

2014 Minerals Yearbook

GOLD [ADVANCE RELEASE]

Gold

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In 2014, domestic mine production of gold decreased, for the second consecutive year, to 210,000 kilograms (kg) from 230,000 kg in 2013 (tables 1, 2). In 2014, the value of domestic production decreased by 18% to \$8.6 billion, owing to a 10% decrease in the average price of gold and the 8.5% decrease in domestic gold production. Nevada and Alaska, the two leading producing States, accounted for about 72% and 15%, respectively, of domestic gold production in 2014 (table 2). The remaining production, in descending order of quantity, came from mines in Utah, Colorado, California, Washington, Montana, South Dakota, New Mexico, and Arizona. 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 29 leading operations, listed in table 3, accounted for 99% of domestic gold production.

In 2014, the global exploration budget for gold, the leading nonfuel mineral exploration target, decreased by 31% from that in 2013 to \$4.6 billion and accounted for about 43% of the budgeted nonfuel mineral exploration expenditures of \$10.7 billion. Gold exploration in Australia, Canada, and the United States accounted for 36% (\$1.65 billion) of the budgeted 2014 global gold exploration expenditure. The next 10 countries (in descending order, Mexico, China, Russia, Colombia, Peru, Burkina Faso, Chile, Papua New Guinea, Brazil, and Indonesia) accounted for an additional 38% (\$1.73 billion) (SNL Metals & Mining, 2014, p. 1–2).

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 manufacturers in California, Florida, and Texas. In 2014, the estimated percentages for commercial products (excluding investment products but including official coinage) of gold were jewelry, 43%; electrical and electronics, 37%; official coins, 14%; dental and medical, 4%; and other, 2%.

In 2014, the five leading global gold-producing companies in descending order of mine production, Barrick Gold Corp., Newmont Mining Corp., AngloGold Ashanti Ltd., Goldcorp Inc., and Kinross Gold Corp.—accounted for about 22% of world gold mine production (O'Connell and others, 2015, p. 44).

Total world mine production of gold in 2014 was about 3,010 metric tons (t), 94.8 t more than production in 2013. China, where estimated mine production increased by 20 t, remained the leading gold producer. In 2014, the 5 leading producers among more than 100 gold-mining countries—in

descending order of production, China, Australia, Russia, the United States, and Canada—accounted for 44% of global gold production (table 8).

Through 2014, global historical gold mine production totaled an estimated 184,000 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 2014, about 30,900 t was held by central banks worldwide as official stocks, about 36,800 t was held privately as investments, about 87,000 t was held privately as jewelry, about 25,200 t was in other fabricated products, and the remaining 3,700 t was unaccounted for (O'Connell and others, 2015, p. 52).

Legislation and Government Programs

Gold mining has been identified as a potential source of funding for armed groups engaged in civil unrest in the Democratic Republic of 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. Companies that determined that their products or components include 3TG minerals from the conflict region were required to trace those minerals back through the supply chain to the mine of origin (U.S. Government Printing Office, 2010, p. 2213-2220). Under rules issued by the SEC, publicly traded companies were required to begin reporting the sources of 3TG minerals used by May 2014. However, the U.S. Federal Appeals Court ruled in 2015 that the requirement that companies publish on their public Web sites a list of their products that could not be considered conflict free was a violation of a company's First Amendment right (Browning, 2015). Although the United States was the only country to enact "conflict" legislation, other groups, international organizations, and countries, including but not limited to Canada, the Electronic Industries Citizenship Coalition (EICC-GeSI), the London Bullion Trade Association (LBMA), the Organisation for Economic Co-operation and Development (OECD), 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 (Heymann, 2013).

Production

Domestic lode mine production data for gold were compiled by the U.S. Geological Survey from two separate voluntary monthly surveys of U.S. mining operations and from publicly available sources and represented 100% of tabulated domestic gold production. Data on placer gold production in Alaska, provided by the Alaska Division of Geological & Geophysical Surveys, was included in the domestic production figures. However, individual company production and performance data listed in table 3 or cited elsewhere in this report were obtained from published sources, such as company annual reports.

Alaska.—In 2014, Alaska produced 31,400 kg of gold, from both lode and placer operations, valued at \$1.28 billion, which was slightly less by weight and 13% less by value than that produced in 2013. Gold was produced at one open pit gold mine, two underground gold mines, one underground zincsilver mine, and various placer operations. Kinross's open pit Fort Knox Mine near Fairbanks, Alaska's leading gold producer, produced 12,050 kg of gold in 2014, 10% less than in 2013. The decrease resulted from a decrease in the amount of ore processed (Freeman and others, 2015, p. 41–42).

The underground Pogo Mine, 145 kilometers (km) southeast of Fairbanks, a joint venture between Sumitomo Metal Mining Co., Ltd. (85%) and Sumitomo Co. (15%), produced about 10,600 kg of gold during 2014, a slight increase compared with output in 2013 (Freeman and others, 2015, p. 44). The underground Kensington Mine, 74 km northwest of Juneau, owned by Coeur Mining, Inc., produced 3,660 kg of gold, a 5% increase from that in 2013 owing to an increase in ore throughput (Coeur Mining, Inc., 2015, p. 6).

Other lode-gold production in Alaska was as a byproduct from Hecla Mining Co.'s underground Greens Creek zinc-silver mine on Admiralty Island near Juneau, which produced 1,830 kg of gold (Freeman and others, 2015, p. 47).

According to the Alaska Division of Geological & Geophysical Surveys, 1,280 kg of gold was produced at 173 placer operations during 2014, including recreational operations, which is more than one-half of what was produced in 2013. Four of the operations had annual production of more than 78 kg of gold and were considered large, 10 medium operations had annual production more than 20 kg but less than 78 kg, and 159 small operations had annual production of less than 20 kg (Freeman and others, 2015, p. 35).

Overall nonfuel mineral exploration expenditures in Alaska decreased to \$96.2 million in 2014, down from \$175.1 million in 2013. Gold exploration accounted for almost 62% of total exploration expenditures, of which various gold-quartz vein deposits accounted for 33%, intrusion-related gold deposits accounted for 15%, and porphyry copper-gold deposits accounted for 14% (Freeman and others, 2015, p. 7–10).

Much of the decrease in exploration expenditures was caused by the significant drop in exploration expenditures at the Pebble project. In 2013, Anglo American plc withdrew from the project, leaving Northern Dynasty Minerals Ltd. as the sole owner and reducing the amount of available explorations funds (Freeman and others, 2015, p. 7, 21).

In 2014, mining project development expenditures in Alaska were \$281.7 million, 22% less than in 2013. Development expenditures refer to building infrastructure or activities that facilitate the production of mineral products. The gold projects that had more than \$5 million in expenditures were, in descending order of expenditure, the Fort Knox, Pogo, Kensington, and Donlin Creek Mines, and the Nome offshore lease area (placer operations) (Freeman and others, 2015, p. 29).

California.—In 2014, gold was produced at Atna Resources Ltd.'s Briggs Mine and New Gold Inc.'s Mesquite Mine. The Mesquite Mine, 70 km northwest of Yuma, AZ, produced 3,320 kg of gold, which was slightly less than that produced in 2013 (New Gold Inc., 2015, p. 32). The Briggs Mine, about 110 km southeast of Lone Pine, CA, produced 960 kg of gold, a decrease of 3% from 2013 production owing to an increase in stripping rate in the last 9 months of 2014 (Atna Resources Ltd., 2015, p. 3–4). Small quantities of gold were also produced in California as a byproduct from industrial mineral operations (such as limestone and sand and gravel operations) and from several small underground mines that primarily recovered specimen gold products.

Colorado.—In 2014, Colorado remained the fourth-ranked gold-producing State in the United States. Cripple Creek & Victor Gold Mining Co., a wholly owned subsidiary of AngloGold Ashanti Ltd., reported that its open pit Cripple Creek Mine produced 6,560 kg of gold in 2014. Production decreased by 9% from that in 2013 owing to a lower quantity of ore processed and a lower recovery rate (AngloGold Ashanti Ltd., 2015, p. 100–101).

Montana.—Barrick's Golden Sunlight Mine, 48 km east of Butte, produced 2,680 kg of gold, a 6% decrease compared with production in 2013 owing to a decrease in ore grade (Barrick Gold Corp., 2015a). Other gold production in the State was as a coproduct of Stillwater Mining Co.'s Stillwater platinum-group-metals mine near Nye.

Nevada.—Gold production decreased by 11% to 151,000 kg in 2014; nonetheless, Nevada retained its long-standing position as the Nation's leading gold-producing State.

In 2014, Barrick produced 73,700 kg of gold, 15% less than in 2013, from its wholly owned Bald Mountain, Cortez, Goldstrike, and Ruby Hill Mines; its 75% share of the Turquoise Ridge Mine (a joint venture with Newmont, 25%); and its 50% share of the Round Mountain Mine, operated under the name Smoky Valley Common Operation (50% owned and operated by Kinross). In 2014, gold production from the Cortez Mine was 28,100 kg, 33% less than 2013 production owing to a 48% drop in ore grade. The mine was to transition to an underground mine in 2015 and ore grade would increase but tonnage would decrease. Production from the Ruby Hill Mine was 1,030 kg, a 64% decrease from that in 2013 owing to no active mining in 2014; only stockpiled ore was processed. Production from the Bald Mountain Mine was 5,010 kg, a 72% increase because of an increase in the amount of ore placed on the leach pads and an increase in the ore grade following a mine development phase during 2013. Production from the Turquoise Ridge Mine in 2014 increased by 17% compared with that of 2013 owing to higher

ore grade and throughput, and production from the Goldstrike Mine was slightly higher as higher ore grade more than offset lower throughput (Barrick Gold Corp., 2015a; b, p. 43–45, 53). A 4% increase in gold production at the Round Mountain Mine was attributed to higher ore grade and increased recovery (Kinross Gold Corp., 2015, p. 27).

Newmont's operations in Nevada produced 46,900 kg of gold, a 15% decrease compared to that of 2013, from the Carlin Mines operations and the Phoenix, Twin Creeks, and the joint-venture Turquoise Ridge (25% share) Mines. The Carlin Mines operations produced 28,200 kg, 12% less than 2013 production because of planned stripping campaigns, partially offset by higher mill throughput following mill optimization. In 2014, gold produced at Twin Creeks decreased by 24% following the February 10 sale of the Midas Mine to Klondex Mines Ltd., which was a source for Twin Creeks mill and a planned development phase at Twin Creek. The Phoenix Mine produced 10% less owing to lower ore grade and throughput (Newmont Mining Corp., 2015, p. 73).

On November 25, 2013, Waterton Global Mining Co., LLC announced that mining had ceased at the Hollister gold-silver mine and that processing would stop at the Esmeralda mill when stockpiles were exhausted (Rivituso, 2013). In 2014, production of gold was 73 kg, a decrease from 829 kg in 2013. Production also decreased significantly at KGHM International Ltd.'s Robinson copper mine, which recovered 45% less gold than in 2013 (Perry and Visher, 2015).

Several mines in Nevada increased gold production in 2014. The Veris Gold Corp.'s Jerritt Canyon Complex produced 5,000 kg of gold, a 15% increase compared with that in 2013 and Allied Nevada Gold Corp.'s Hycroft Mine produced 6,670 kg of gold, 18% more than in 2013 (Perry and Visher, 2015). Klondex continued to perform bulk sampling and limited mining at its Fire Creek Mines and, in 2014, produced about 2,000 kg of gold, which was processed at the Midas Mine mill (Klondex Mines Ltd., 2015). Gold production at Coeur's Rochester silver mine was about 1,400 kg in 2014, a 45% increase from production in 2013 owing to increases in ore processed and ore grade (Coeur Mining, Inc., 2015).

Utah.—Rio Tinto plc's Bingham Canyon Mine near Salt Lake City, operated by Kennecott Utah Copper Corp., produced 8,080 kg of gold as a byproduct from copper mining. Gold production was 26% higher than that of 2013 despite the decreased production of copper and molybdenum in 2014 and a 65-day planned smelter shutdown in the fourth quarter of 2014 (Rio Tinto plc, 2015, p. 30, 199).

Washington.—In 2014, Kinross's underground Kettle River-Buckhorn Mine in the north-central part of the State produced about 3,840 kg of gold equivalent, 18% less than in 2013 owing to a decrease in ore grade and amount of ore processed (Kinross Gold Corp., 2015, p. 28).

Consumption

Thomson Reuters Gold Fields Mineral Services Ltd. (GFMS) reported that total global fabrication in 2014, including scrap, consumed 2,830 t of gold, almost 13% less than in 2013, despite the lower gold price. Jewelry used 2,210 t of gold, 9% less than in 2013. The six leading jewelry manufacturing countries were,

in descending order by gold contained in jewelry, India (690 t), China (641 t), Turkey (115 t), Italy (86 t), the United States (64 t), and Russia (50 t). Combined, they accounted for 74% of the world's gold jewelry fabrication. In 2013, seven countries had significant (more than 3 t) decreases in gold used in jewelry fabrication and all were located in Asia or the Middle East; China (a 317-t decrease), Iran (7.3 t), and Indonesia (7.1 t) had the largest decreases. Four countries had significant increases (of more than 3 t) in gold used in jewelry fabrication—India (an 82.6-t increase), Turkey (27.7 t), Italy (3.6 t), and Brazil (3.5 t) (O'Connell and others, 2015, p. 71–79).

In 2014, consumption of gold for industrial uses decreased owing to the sluggish economic recoveries in major electronic producing regions. Global gold consumption for electronics (279 t) and dentistry (33.9 t) decreased by 4% and 7%, respectively. Gold used in other industrial and decorative applications (87.1 t) decreased by 6%, owing to decreases in Brazil and India (O'Connell and others, 2015, p. 93–97).

Price and Investment

The Engelhard daily price of gold was volatile. The price began the year at \$1,226.73 per troy ounce, increased to the yearly high of \$1,387.00 per troy ounce on March 14, trended downward to the yearly low of \$1,146.59 per troy ounce on November 5, and ended the year at \$1,199.68 per troy ounce. The yearly low was the lowest average daily price since November 2009. The annual average daily price for 2014 of \$1,269.45 per troy ounce was 10% or \$145.35 per troy ounce less than the annual average price in 2013 and was the lowest price since 2010.

Global net gold investment in 2014 increased to 919 t, a slight increase compared with that in 2013. The components of gold investments are retail investments-gold bars, official coins, medals and imitation coins, and the change in gold held by gold exchange-traded funds (ETFs). An improved economic outlook and the concern that the U.S. Federal Reserve would raise interest rates constrained the demand for gold investment. The bulk of the investment was purchases of gold bars totaling 829 t, a 41% decrease from revised data for 2013 purchases. In 2014, global official coin minting decreased by 37% to 173 t owing to coin production in 2013 having been unusually large and investors losing confidence in the investment value of gold. Production of medals and imitation coins decreased by 25% to 77 t owing to a decrease in demand in India because of increased regulation of unofficial coins and a decrease in the expectation of future gold prices. Gold held by ETFs decreased by 160 t to 1,652 t; however, this decrease was significantly smaller than the 880-t selloff in 2013 and was the reason that net gold investment increased slightly (O'Connell and others, 2015, p. 15, 20, 28-31). In 2014, the U.S. Mint sold 16,314 kg of American Eagle gold coins and 5,221 kg of American Buffalo gold coins, decreases of 32% and 26%, respectively, from quantities sold in 2013 (U.S. Mint, 2015).

According to GFMS estimates, the official sector (governments and national banks) purchased a net 466 t of gold in 2014, which was 14% more than 2013 net purchases and the second highest historical level. Some of the leading buyers in 2014 were Russia (173 t), Kazakhstan (48 t), and Iraq (47 t). The Ukraine was a net seller of 19 t (O'Connell and others, 2015, p. 60–63).

Foreign Trade

The United States was a net exporter (exports minus imports) of 257,000 kg of refined bullion in 2014 (tables 4, 6). Based on unrounded data, refined bullion constituted 39% of U.S. gold imports and 76% of exports (tables 4, 6). In 2014, imports of refined bullion increased by 23%, and exports of refined bullion decreased by 23% from those in 2013. Canada and Mexico provided almost 62% and 17%, respectively, of the refined bullion imported in 2014. Hong Kong (39%), Switzerland (23%), and the United Kingdom (21%) were the principal destinations for U.S. refined bullion exports.

World Review

According to its annual review of world gold supply and demand, GFMS calculated the total global supply of gold in 2014 was 4,362 t, a slight increase compared with 4,310 t in 2013. It included an estimated 72-t increase in global primary production and 142 t of net decrease in producer stocks. Gold recovery from old scrap decreased by 162 t to 1,125 t and was at the lowest level since 2007. Weaker gold prices motivated buyers and sellers to maintain gold scrap stocks in anticipation of higher gold prices (O'Connell and others, 2015, p. 8-10). In 2014, world mine output of gold from almost 100 countries having reported or estimated quantities of production was about 3,010 t, 3% more than that in 2013 (table 8). It was the sixth consecutive year that world production increased. Gold production increased significantly in Canada (28,100 kg), Bolivia (21,000 kg), China (20,000 kg), Russia (17,000 kg), and Congo (Kinshasa) (15,000 kg). These increases were partially offset by significant gold production decreases in the United States (18,200 kg), Peru (11,500 kg), South Africa (7,920 kg), Chile (5,280 kg), and Turkey (3,980 kg).

The 12 leading gold-producing countries—in decreasing order of production, China, Australia, Russia, the United States, Canada, South Africa, Peru, Mexico, Uzbekistan, Ghana, Brazil, and Indonesia—accounted for almost 70% of global production. The next 12 leading gold-producing countries accounted for almost 17% of global gold production.

Argentina.—In 2014, gold production was estimated at 59,000 kg, 16% more than 2013 production. On July 25, Goldcorp's Cerro Negro Mine began production and produced about 4,700 kg of gold by yearend (Goldcorp Inc., 2015, p. 37). Barrick's Veladero Mine increased gold production owing to higher ore grade, which more than offset the decreases in mined ore owing to equipment availability issues (Barrick Gold Corp., 2015a). Yamana Gold Inc.'s Gualcamayo Mine produced 5,610 kg of gold, almost a 50% increase from 2013 production owing to higher ore grade and the rampup of the underground operations (Yamana Gold Inc., 2015, p. 29, 40).

Australia.—In 2014, gold production in Australia was 273,963 kg, slightly more than that in 2013. Production increased at recently commissioned mines—Andy Well (Doray Minerals Ltd.), Tropicana (AngloGold), Mount Carlton (Evolution Mining Ltd.), and Tomingley (Alkane Resources

Ltd.)—and at some more established mines—Olympic Dam copper mine (BHP Billiton Ltd.), Prominent Hill copper mine (OZ Minerals Ltd.), and Ridgeway gold mine (Newcrest Mining Ltd.). The increases were partially offset by production losses at the Cowa (Barrick), Jundee [Northern Star Resources Ltd. (purchased from Newmont in July 2014)], Mount Monger (Silver Lake Resources Ltd.), Ravenswood (Resolute Mining Ltd.), St Ives (Gold Fields Ltd.), and Telfer (Newcrest) Mines. Several smaller operations were placed on careand-maintenance status during 2013 and 2014 (AngloGold Ashanti Ltd., 2015, p. 84–87; Barrick Gold Corp., 2015a; O'Connell and others, 2015, p. 43).

Brazil.—In 2014, gold production was estimated to be 80,000 kg, a slight increase compared with that in 2013. Brio Gold Inc. (a subsidiary of Yamana Gold Inc.) completed construction of the Pilar Mine in 2013 but the mine did not reach full production rate until the fourth quarter of 2014 (Yamana Gold Inc., 2015, p. 34). Vale S.A.'s Salobo copper mine continued to ramp up to full capacity and produced gold as a byproduct. These increases were partially offset by production losses from the closure of Aura Minerals Inc.'s São Vicente Mine and a decrease in ore grade at Beadell Resources Ltd.'s Tucano gold mine (Aura Minerals Inc., 2015, p. 2; O'Connell and others, 2015, p. 39).

Burkina Faso.—In 2014, gold production was 36,199 kg, an 11% increase compared with 2013 gold production. The increase resulted from increased ore grades at the Essakane (IAMGOLD Corp.) and the Mana (SEMAFO Inc.) Mines (O'Connell and others, 2015, p. 35).

Canada.—Canada's gold mine output increased by 23% in 2014 to 152,105 kg. Production increased primarily owing to the continued ramping up of the Detour Lake Mine, which poured its first gold bar in February 2013 and produced 14,200 kg of gold in 2014 (Detour Gold Corp., 2015, p. 6). Other mines that had production increases were Agnico Eagle Mines Ltd.'s Meadowbank and Goldex Mines. In 2014, the Meadowbank Mine produced more than 14,000 kg of gold, 5% more than that in 2013 owing to higher than expected ore grades from the Goose pit. The Goldex Mine, which was restarted in late 2013, produced 3,120 kg of gold in 2014 (Agnico Eagle Mines Ltd., 2015, p. 5). In mid-2014, Yamana and Agnico jointly purchased the Canadian Malartic Mine from Osisko Mining Corp., and the mine produced 16,600 kg of gold in 2014, about 13% more than in 2013 (Yamana Gold Inc., 2015, p. 40). The Thompson Creek Metals Co. Inc.'s Mount Miligan copper mine started production in late 2013, and in 2014 the mine produced 5,500 kg of byproduct gold (Thompson Creek Metals Co. Inc., 2015). AuRico Gold Inc.'s Young-Davidson Mine produced more gold because of an increase in ore grade and mill throughput and Lake Shore Gold Corp.'s Timmins West Mine produced more gold because of higher ore grade and mill throughput following a mill expansion in the third quarter of 2013 (O'Connell and others, 2015, p. 38).

Chile.—In 2014, gold production was 46,031 kg, a 10% decrease compared with 2013 production primarily owing to the suspension of mining at Kinross's La Coipa Mine in October 2013. Lower grades at the Centinela Mine (Antofagasta Plc, 70%, and Marubeni Corp., 30%) and El

Peñón Mine (Yamana), the country's leading gold mines, also contributed to the overall decrease. These more than offset the production increase at Kinross's Maricunga Mine owing to higher ore grades and higher recovery rates (Kinross Gold Corp., 2015, p. 30, 35; O'Connell and others, 2015, p. 39; Yamana Gold Inc., 2015, p. 40).

China.—China's gold production increased by about 5% to an estimated 450,000 kg in 2014, and China remained the leading gold-producing country for the eighth consecutive year. The main source of the increase was small and mid-sized miners that sell ores and concentrates to third party gold smelters (O'Connell and others, 2015, p. 40).

Congo (Kinshasa).—Estimated gold production increased by 15,000 kg to 32,000 kg owing to the continued establishment of the formal mining sector. The Kibali Mine (Randgold Resources Ltd., 45%; AngloGold, 45%; and Société Minière de Kilo-Moto, 10%) was commissioned in the first quarter of 2013 and produced 16,400 kg of gold in 2014 (Randgold Resources Ltd., 2015, p. 59). Banro Corp. completed a plant expansion at the Twangiza Mine in the first half of 2014 and produced over 3,000 kg of gold during the year, a 19% increase compared with production in 2013. Banro's Namoya Mine began construction in the first quarter of 2014 and produced 569 kg of gold by yearend (Banro Corp., 2015, p. 64–67).

Côte d'Ivoire.—In 2014, gold production in Côte d'Ivoire increased to 17,318 kg, an increase of 34% compared with that of 2013. The increase was from Endeavour Mining Corp.'s Agbaou Mine, which achieved commercial production in late January and produced 4,560 kg of gold during the year (Endeavour Mining Corp., 2015, p. 2).

Dominican Republic.—In 2014, gold production in the Dominican Republic was 35,081 kg of gold, 34% more than in 2013. The Pueblo Viejo Mine, a joint venture between Barrick (60%) and Goldcorp (40%), reached full production capacity in the second quarter of 2014 and produced about 34,400 kg of gold, 36% more than in 2013 (Barrick Gold Corp., 2015a).

Ghana.—Production of gold in 2014 was 90,754 kg, which was slightly more than that of 2013. The increase was primarily from Newmont's Akyem Mine, which produced 14,700 kg of gold in its first full year of operations. Other operations produced less gold in 2014. Newmont's Ahafo operation produced 13,700 kg of gold, 22% less than in 2013 because of lower ore grade and mill throughput. Gold Fields's Tarkwa Mine and Golden Star Resource Ltd.'s Wassa Mine processed higher grade ore, but not enough to offset the lower mill throughputs. Decreased production from AngloGold's Iduapriem Mine was the result of processing more stockpile material of lower ore grade (AngloGold Ashanti Ltd., 2015, p. 78; Newmont Mining Corp., 2015, p. 40, 76; O'Connell and others, 2015, p. 35).

Indonesia.—In 2014, gold production increased by 16% to 69,100 kg. Freeport-McMoRan Copper & Gold Inc.'s Grasberg operations, which included the Grasberg open pit and Deep Ore Zone and the Big Gossan underground mines, produced 35,200 kg of gold as a byproduct of copper and accounted for 51% of gold production in Indonesia. Gold Production at Grasberg was slightly more than that in 2013 owing to an increase in ore grades even though there was a reduction in mining owing to underground development activities.

Newmont's Batu Hijau copper mine produced 2,360 kg, 58% more than in 2013 owing to higher ore grades and increased recovery rates (Freeport-McMoRan Inc., 2015, p. 30; Newmont Mining Corp., 2015, p. 76). In 2014, production at the Gosowong Mine (Newcrest, 75%, and PT Antam (Persero) Tbk, 25%) increased by about 1,000 kg owing to increases in ore grade. The North Lanut and the startup of the Seruyung mines [jointly owned by PT J Resources Asia Pasifik Tbk (79.1%) and Sumatra Copper & Gold Plc. (20%)] combined for a 3,000-kg increase in production in 2014. Production increases more than offset the production decreases at the Martabe gold mine (G-Resources Group Ltd, 95%, and Pt Artha Nugraha Agung, 5%) and Mt Muro Mine (Aeris Resources Ltd.), which ceased mining during 2014 (O'Connell and others, 2015, p. 41).

Kazakhstan.—In 2014, reported gold mine production was 49,207 kg, a 16% increase from 2013 production. The main reason for the increase was from the state-owned Tau-Ken Samruk Mine, which started developing the Eshkeolmes deposit. In 2014, Kaz Minerals produced slightly less gold owing to a drop in ore grade at the Artemyevsky Mine and production at Glencore's mines decreased by 13% because of lower ore grade at the Vasilkovskye Mine (O'Connell and others, 2015, p. 41).

Mexico.—In 2014, reported gold mine production in Mexico was 117,717 kg, a slight decrease from 2013 production. The decrease was owing to lower ore grades at the Cerro San Pedro (New Gold), El Sauzal (Goldcorp), Los Filos (Goldcorp), Mulatos (Alamos Gold Inc.), and Palmarejo (Coeur) Mines. Decreased production was also recorded at the Cieneguita (Pan American Goldfields Ltd.), Mina Moris (Hochschild Mining Plc), and Soledad-Dipolos [Fresnillo plc (formerly a joint venture with Newmont)] Mines, all of which suspended operation during the year. These production decreases were partially offset by increased production from the El Concheño (Minera Frisco S.A.B. de C.V.) and La India (Agnico Eagle) Mines, both of which were commissioned in 2014, and Goldcorp's Peñasquito Mine, where production increased by 5,100 kg owing to increases in ore grade, recovery rate, and mill throughput (Agnico Eagle Mines Ltd., 2015, p. 8; Coeur Mining, Inc., 2015, p. 4; Fresnillo plc, 2015, p. 66; Goldcorp Inc., 2015, p. 25-30; O'Connell and others, 2015, p. 41; Minera Frisco S.A.B. de C.V., 2015, p. 30; New Gold Inc., 2015, p. 39).

Peru.—In 2014, gold production was estimated at 140,000 kg, 8% less than in 2013. The leading gold mine in Peru, the Yanacocha Mine, jointly owned by Newmont and Cia de Minas Buenaventura S.A.A., produced about 30,000 kg, 5% less than in 2013 owing to lower heap leach production (Newmont Mining Corp., 2015, p. 74). Owing to the drop in the gold price, several mines, including Ares (Hochschild), Coricancha (Nystar N.V.), and Pierina (Barrick), were placed on care-and-maintenance status. According to the Ministry of Energy and Mines, government programs intended to formalize small-scale mining and curtail illegal mining led to an 8,000-kg drop in output in the Madre de Dios Region (O'Connell and others, 2015, p. 39).

Russia.—In 2014, Russia was estimated to have produced 247,000 kg of gold, 7% more than 2013 production. Production at Kinross's Kupol Mine in 2014 was estimated to be 23,400 kg, a 37% increase compared with 2013 production

owing to higher grade ore from the Dvoinoye operation (Kinross Gold Corp., 2015, p. 31).

In 2014, production from Polymetal International Plc's Mayskoye Mine increased to 4,450 kg in the first full year of production, and output from its Omolon operations increased to about 7,000 kg, a 43% increase compared with that of 2013 (Polymetal International Plc, 2015, p. 29–32).

Production also increased at the OJSC Polyus Gold's Verninskoye operation by about 2,000 kg owing to increases in ore grades and at its Olimpiada operations owing to an increase in throughput. Gold byproduct production from Russia's base-metal producers increased by about 2,000 kg from 2013 production (O'Connell and others, 2015, p. 42). Production from Highland Gold Mining Ltd.'s Belaya Gora Mines, which began mid-2013, increased to 1,200 kg from 220 kg in 2013 (Highland Gold Mining Ltd., 2015, p. 13).

In 2014, Petropavlovsk PLC operations produced 19,400 kg of gold, 16% less than produced in 2013. The only operation that increased production was Albyn, which produced 5,790 kg, or 38% more than 2013, owing to an increase in ore grade. The Pioneer, Pokrovskiy, and Molomir Mines and alluvial operations produced less gold owing to a drop in ore grade (Petropavlovsk PLC, 2015, p. 41–47).

South Africa.—After a modest increase in gold mine output in South Africa in 2013, gold production decreased by 5% in 2014 owing to decreased production from AngloGold's South Deep Mine, which suspended underground mining for 4 months while a ground support improvement project was implemented. Despite higher ore grades, gold production was lower at AngloGold's Mponeng Mine and Harmony Gold Mining Co. Ltd.'s Doornkop Mine, owing to lower mill throughput (AngloGold Ashanti Ltd., 2015, p. 70–76; O'Connell and others, 2015, p. 34–35).

Sudan.—In 2014, gold exports from Sudan were estimated to be 73,300 kg, 5% greater than that of 2013. Output from small-scale operations increased from lower-than-average production levels in 2013 (O'Connell and others, 2015, p. 37).

Turkey.—In 2014, gold production was estimated to have decreased by 12% to 30,000 kg mainly because gold production at the Çöpler Mine (Alacer Gold Corp., 80%, and Calik Holding AS, 20%) decreased by 16% to about 7,000 kg owing to a significant decrease in processed ore grade (Alacer Gold Corp., 2015, p. 14).

Uzbekistan.—In 2014, gold production increased slightly following improved operation efficiencies at Navoi Mining and Metallurgical Combinat's Muruntau Mine and the development and modernization at its Kochbulak Mine (O'Connell and others, 2015, p. 41).

Outlook

Historically, investors have purchased gold as a safe haven, a hedge against economic failures, a portfolio diversifier, and as a store of wealth. In 2015, anticipated global consumption of gold is expected to remain unchanged because gold consumption in jewelry and other industries is expected to decrease while gold demand from investors is expected to increase. Worldwide gold production is expected to remain unchanged in 2015 owing to the startup of new mines, the rampup of recently developed

mines, and the selective mining at some mines to increase ore grades and reduce operating costs, being offset by the shutdown of high-cost operations.

References Cited

- Agnico Eagle Mines Ltd., 2015, Discovering value—2014 annual report: Toronto, Ontario, Canada, Agnico Eagle Mines Ltd., 165 p. (Accessed June 28, 2015, at http://s1.q4cdn.com/150142668/files/doc_financials/2014/ March2015/AEM_2014AR_SEDAR.pdf.)
- Alacer Gold Corp., 2015, Continuing to deliver—2014 annual report: Toronto, Ontario, Canada, Alacer Gold Corp., 82 p. (Accessed July 20, 2015, at http://www.alacergold.com/docs/default-source/Regulatory-Filings/alacer_ ar_2014.pdf?sfvrsn=2.)
- AngloGold Ashanti Ltd., 2015, A truly global producer of gold—2014 annual integrated report: Johannesburg, South Africa, AngloGold Ashanti Ltd., 148 p. (Accessed March 9, 2015, at http://www.anglogoldashanti.com/en/ Media/Reports/Annual%20Reports/AGA-IR14.pdf.)
- Atna Resources Ltd., 2015, Management's discussion and analysis—For the year ended December 31, 2014: Golden, CO, Atna Resources Ltd., 50 p. (Accessed April 30, 2015, at http://www.atna.com/i/pdf/MDA 2014 Final unlinkedCorrect.pdf.)
- Aura Minerals Inc., 2015, Management's discussion and analysis—For the three months ended March 31, 2015: Toronto, Ontario, Canada, Aura Minerals Inc., May 11, 22 p. (Accessed June 6, 2015, at http://s1.q4cdn.com/557075924/files/doc_financials_mda/2015/q1/FINAL-Q1-MDA.pdf.)
- Banro Corp., 2015, Consolidated financial statements—December 31, 2014 and 2013: Toronto, Ontario, Canada, Banro Corp., 85 p. (Accessed June 6, 2015, at http://www.banro.com/assets/docs/fs/2014AnnualReport.pdf.)
- Barrick Gold Corp., 2015a, 2014 Q4 and year-end mine statistics: Toronto, Ontario, Canada, Barrick Gold Corp., 6 p. (Accessed February 23, 2015, at http://www.barrick.com/files/quarterly-reports/2014/Barrick-Mine-Stats-2014-Q4.pdf.)
- Barrick Gold Corp., 2015b, Barrick Gold Corporation annual report 2014: Toronto, Ontario, Canada, Barrick Gold Corp., 176 p. (Accessed March 31, 2015, at http://www.barrick.com/files/annual-report/Barrick-Annual-Report-2014.pdf.)
- Browning, Lynnley, 2015, Companies struggle to comply with rules on conflict minerals: The New York Times, September 7. (Accessed April 8, 2016, at http://www.nytimes.com/2015/09/08/business/dealbook/companies-struggle-to-comply-with-conflict-minerals-rule.html?_r=0.)
- Coeur Mining, Inc., 2015, Coeur reports fourth quarter and full year 2014 results: Chicago, IL, Coeur Mining, Inc. press release, February 18, 17 p. (Accessed February 24, 2014, at http://investors.coeur.com/file.aspx?IID=434 9317&FID=1500068555.)
- Detour Gold Corp., 2015, Management's discussion and analysis—For the years ended December 31, 2014 and 2013: Toronto, Ontario, Canada, Detour Gold Corp., 45 p. (Accessed April 3, 2015, at http://s1.q4cdn.com/320803946/files/ doc_financials/DGC-Q4-14-MDA-SEDAR_v001_c82jye.pdf.)
- Endeavour Mining Corp., 2015, Management's discussion and analysis of results of operations and financial condition—For the year ended December 31, 2014: George Town, Cayman Islands [United Kingdom], Endeavour Mining Corp., 85 p. (Accessed March 31, 2015, at https://www.endeavourmining.com/assets/docs/fs/2014-fs-q4.pdf.)
- Freeman, L.K., Athey, J.E., Lasley, P.S., and Van Oss, E.J., 2015, Alaska's mineral industry 2014: Alaska Division of Geological & Geophysics Surveys Special Report 70, 53 p. plus appendixes.
- Freeport-McMoRan Inc., 2015, Value at our core—2014 annual report: Phoenix, AZ, Freeport-McMoRan Inc., 114 p. (Accessed April 8, 2016, at http://s2.q4cdn.com/089924811/files/doc_financials/annual/2014/ FCX_AR_2014.pdf.)
- Fresnillo plc, 2015, Financial results for the year ending 31 December 2014: Mexico City, Mexico, Fresnillo plc, 71 p. (Accessed April 7, 2016, at http://www.fresnilloplc.com/media/168918/fresnillo-fy14-results.pdf.)
- Goldcorp Inc., 2015, Management's discussion and analysis of financial condition and results of operations for the year ended December 31, 2014: Toronto, Ontario, Canada, Goldcorp Inc., 135 p. (Accessed May 9, 2015, at http://s1.q4cdn.com/038672619/files/MDA-and-Financials-2014-FINAL_ v001_s1e6s5.pdf.)
- Heymann, Terry, 2013, A fair-trade gold standard: Mining Journal, April 5, p. 26–27.

Highland Gold Mining Ltd., 2015, Annual report & accounts 2014: St. Helier, Jersey [United Kingdom], Highland Gold Mining Ltd., 88 p. (Accessed June 14, 2015, at http://www.highlandgold.com/upload/iblock/ade/ ade543c165f18965472b88c75288e1de.pdf.)

Kinross Gold Corp., 2015, 2014 annual report—Delivering results: Toronto, Ontario, Canada, Kinross Gold Corp., 148 p. (Accessed February 23, 2015, at http://s2.q4cdn.com/496390694/files/doc_financials/annual/2014/kinross-2014-annual-report.pdf.)

Klondex Mines Ltd., 2015, Annual report 2014—Pursuing a dream—Building a legacy: Reno, NV, Klondex Mines Ltd. (Accessed March 31, 2015, via https://ar2014.klondexmines.com.)

Minera Frisco S.A.B. de C.V., 2015, 2014 annual report: Mexico City, Mexico, Minera Frisco S.A.B. de C.V., 112 p. (Accessed April 7, 2016, at https://minerafriscomx-public.sharepoint.com/ENInvestor_relationsfinancial_ reportinganual repor/2014.pdf.)

New Gold Inc., 2015, 2014 financial review: Vancouver, British Columbia, Canada, New Gold Inc., 146 p. (Accessed February 24, 2014, at http://s1.q4cdn.com/240714812/files/documents_financials/2014/AR/New_ Gold Financial Review 2014 posting v001 p62ay4.pdf.)

Newmont Mining Corp., 2015, Delivering on our commitments—2014 annual report and form 10–K: Greenwood Village, CO, Newmont Mining Corp., 176 p. (Accessed March 31, 2015, at http://s1.q4cdn.com/259923520/files/ doc_financials/annual/861753_as-printed-Annual-Report_2014_v001_ e83uds.pdf.)

O'Connell, Rhona, Tankard, William, Alexander, Cameron, Leyland, Andrew, Strachan, Ross, Piggott, Matthew, Litosh, Saida, Nambiath, Sudheesh, Tourney, Janette, Wiebe, Johanna, Wong, Ling, Rannestad, Erica, Li, Samson, Zhao, Sara, Scott-Grey, Natalie, Aranda, Dante, Rodwell, Gregory, Bedi, John, Salmon, Beverly, and Troman-Taylor, Milo, 2015, GFMS gold survey 2014: London, United Kingdom, Thomson Reuters Ltd., April, 116 p.

Perry, Rich, and Visher, Mike, 2015, Major mines of Nevada 2014: Nevada Bureau of Mines and Geology, Special Publication P–26, 28 p.

Petropavlovsk PLC, 2015, Annual report 2014: London, United Kingdom, Petropavlovsk PLC, 180 p. (Accessed June 14, 2015, at http://www.petropavlovsk.net/images/stories/FinancialsAnnualReports/ POG Annual Report 2014.pdf.)

Polymetal International Plc, 2015, Sustaining growth and creating value—Annual report 2014: St. Helier, Jersey [United Kingdom], Polymetal International Plc, 83 p. (Accessed June 14, 2015, at http://www.polymetalinternational.com/~/media/Files/P/Polymetal/Annual Reports/2014 Polymetal Annual Report eng 2704.pdf.)

Randgold Resources Ltd., 2015, A new level of production and profitfocused delivery—Annual report 2014: St. Helier, Jersey [United Kingdom], Randgold Resources Ltd., 258 p. (Accessed June 6, 2015, at http://reports.randgoldresources.com/sites/reports.randgoldresources.com/ files/Annual Report 2014 0.pdf.)

Rio Tinto plc, 2015, 2014 annual report—Delivering sustainable shareholder returns: London, United Kingdom, Rio Tinto plc, 232 p. (Accessed March 31, 2015, at http://www.riotinto.com/documents/ RT Annual report 2014.pdf.)

Rivituso, Christopher, 2013, Waterton Global Mining to pause operations, lay off workers at Nev. sites: Charlottesville, VA, SNL Financial LC, November 27. (Accessed February 11, 2015, via http://www.snl.com/.)

SNL Metals & Mining, 2014, Corporation exploration strategies 2014— Exploration budget by target, 2014: Charlottesville, VA, SNL Metals & Mining, 66 p. (Accessed December 3, 2014, via http://www.snl.com/.) Thompson Creek Metals Co. Inc., 2015, Thompson Creek reports 2014 production results and announces 2015 guidance: Denver, CO, Thompson Creek Metals Co. Inc. press release, January 19, 6 p. (Accessed April 7, 2016, at http://www.thompsoncreekmetals.com/index.php/investor/newsreleases/2015/245-thompson-creek-reports-2014-production-results-andannounces-2015-guidance.)

U.S. Mint, 2015, Bullion sales/mintage figures: Washington, DC, U.S. Mint. (Accessed March 31, 2015, via http://www.usmint.gov.)

U.S. Government Printing Office, 2010, Public Law 111–203–21, 2010—Dodd-Frank Wall Street Reform and Consumer Protection Act: Washington DC, U.S. Government Printing Office, July 21, 2223 p.

Yamana Gold Inc., 2015, 2014 annual report: Toronto, Ontario, Canada, Yamana Gold Inc., March 27, 216 p. (Accessed June 6, 2015, at http://s2.q4cdn.com/271094385/files/doc_financials/annual/2014/ 2014-Yamana-AR-27-03-15-final-lowres.pdf.)

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

Conflict Minerals from the Democratic Republic of the Congo— Gold Supply Chain. Fact Sheet 2015–3075, 2015.

Estimated Water Requirements for Gold Heap-leach Operations. Open-File Report 2012–1085, 2012.

Geology and Resources of Gold in the United States. Bulletin 1857, 1988.

Gold. Ch. in Mineral Commodity Summaries, annual.

Gold. Ch. in United States Mineral Resources, Professional Paper 820, 1973.

Gold. Mineral Industry Surveys, monthly.

Gold (Au). Ch. in Metal Prices in the United States Through 2010, Scientific Investigations Report 2012–5188, 2013.

Gold Recycling in the United States in 1998. Ch. in Flow Studies for Recycling Metal Commodities in the United States, Circular 1196–A–M, 2004.

Historical Statistics for Mineral and Material Commodities in the United States. Data Series 140.

Principal Gold Producing Districts of the United States. Professional Paper 610, 1968.

Review of Selected Global Mineral Industries in 2011 and an Outlook to 2017. Open-File Report 2013–1091, 2013.

Other

Gold. Ch. in Mineral Facts and Problems, U.S. Bureau of Mines Bulletin 675, 1985.

World Gold—A Minerals Availability Appraisal. U.S. Bureau of Mines Special Publication 24, 1994.

TABLE 1 SALIENT GOLD STATISTICS¹

		2010	2011	2012	2013	2014
United States:						
Production:						
Mine:						
Quantity	kilograms	231,000	234,000	235,000	230,000	210,000
Value	thousands	\$9,130,000	\$11,800,000	\$12,600,000	\$10,400,000	\$8,570,000
Gold recovered by cyanidation:						
Extracted in vats, tanks, closed containers ²	kilograms	W	W	W	W	W
Leached in open heaps or dumps ³	do.	193,000	201,000	206,000	196,000 ^r	185,000
Refinery:						
Concentrates and dore	do.	175,000	220,000	222,000	223,000	203,000
Recycled materials (new and old scrap)	do.	198,000	263,000	215,000	210,000	161,000
Exports, refined bullion	do.	295,000	426,000	373,000	489,000	379,000
Imports for consumption, refined bullion	do.	198,000	156,000	107,000	98,600	121,000
Net deliveries from foreign stocks in the Federal Rese	erve					
Bank of New York	do.		3,670		-5,160	-1,490
Stocks, December 31:						
Industry ⁴	do.	6,810	6,470	4,070	5,940	6,750
Gold exchange traded funds holdings ⁵	do.	2,210,000	2,410,000	2,690,000	1,810,000	2,280,000
COMEX inventories	do.	361,000	353,000	344,000	243,000	325,000
U.S. Department of the Treasury	do.	8,140,000	8,140,000	8,140,000	8,140,000	8,140,000
U.S. Gold Futures Trading ⁶	do.	139,000,000	153,000,000	137,000,000	147,000,000	144,000,000
Consumption:						
American Buffalo gold bullion coin ⁷	do.	6,500	5,430	2,460	7,430	5,460
American Eagle gold bullion coin ⁷	do.	38,000	31,100	23,400	24,100	29,200
Jewelry industry and the arts	do.	180,000	168,000	147,000	160,000	164,000
Price, average ⁸	dollars per troy ounce	1,230.00	1,570.00	1,670.00	1,420.00	1,270.00
Employment, mine and mill only ⁹		10,300	11,100	12,700	13,000	11,800
World:			,			
Production, mine	kilograms	2,600,000 r	2,670,000 r	2,750,000 r	2,920,000 r	3,010,000
Official bullion reserves ¹⁰	do.	30,700,000	31,100,000	31,700,000	31,900,000	31,400,000

Estimated. ^rRevised. do. Ditto. W Withheld to avoid disclosing company proprietary data. -- Zero.

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

²May include small quantities recovered by gravity methods.

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

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

⁵Data from CPM Group.

⁶COMEX only.

⁷Data from U.S. Mint.

⁸Engelhard quotation.

⁹Data from the Mine Safety and Health Administration.

¹⁰Held 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 STATE¹

(Kilograms)

State	2013	2014
Alaska	32,200	31,400
Nevada	170,000	151,000
Other States ²	27,800	27,800
Total	230,000	210,000

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

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

TABLE 3 LEADING GOLD-PRODUCING MINES IN THE UNITED STATES IN 2014, IN ORDER OF OUTPUT $^{\rm 1}$

				Quantity
Rank	Mine	County and State ²	Majority owner ³	(kilograms)
1	Carlin Mines Operations ⁴	Elko, Eureka, and, Humboldt, NV	Newmont Mining Corp.	28,200
2	Cortez	Eureka and Lander, NV	Barrick Gold Corp.	28,100
2	Goldstrike	Elko and Eureka, NV	do.	28,100
4	Twin Creeks	Humboldt, NV	Newmont Mining Corp.	12,100
5	Fort Knox	Eastern Interior Region, AK	Kinross Gold Corp.	12,000 5
6	Pogo	do.	Sumitomo Metal Mining Co. (85%), Sumitomo Corp. (15%)	10,600
7	Smoky Valley Common Operation	Nye, NV	Kinross Gold Corp. (50%), Barrick Gold Corp. (50%)	10,200
8	Turquoise Ridge	Humboldt, NV	Barrick Gold Corp. (75%), Newmont Mining Corp (25%)	8,090
9	Bingham Canyon	Salt Lake, UT	Kennecott Utah Copper Corp. ⁶	8,080 7
10	Hycroft	Humboldt and Pershing, NV	Allied Nevada Gold Corp.	6,670
11	Cripple Creek ⁸	Teller, CO	AngloGold Ashanti Ltd.	6,560
11	Phoenix	Lander, NV	Newmont Mining Corp.	6,560
13	Marigold	Humboldt, NV	Silver Standard Resources Inc. ⁹	5,050
14	Bald Mountain	White Pine, NV	Barrick Gold Corp.	5,010
15	Jerritt Canyon	Elko, NV	Veris Gold Corp.	5,000
16	Kettle River-Buckhorn	Okanogan, WA	Kinross Gold Corp.	3,840 5
17	Kensington	Southeastern Region, AK	Coeur Mining, Inc.	3,660
18	Mesquite	Imperial, CA	New Gold Inc.	3,320
19	Wharf	Lawrence, SD	Goldcorp Inc.	2,920
20	Midas	Elko and Lander, NV	Klondex Mines Ltd. ¹⁰	2,730
21	Golden Sunlight	Jefferson, MT	Barrick Gold Corp.	2,680
22	Greens Creek	Southeastern Region, AK	Hecla Mining Co.	1,830
23	Rochester	Pershing, NV	Coeur Mining, Inc.	1,400
24	Mineral Ridge	Esmeralda, NV	Scorpio Gold Corp.	1,270
25	Florida Canyon	Pershing, NV	Jipangu Inc.	1,250
26	Ruby Hill	Eureka, NV	Barrick Gold Corp.	1,030
27	Briggs	Inyo, CA	Atna Resources Ltd.	960
28	Denton-Rawhide	Mineral, NV	Rawhide Mining, LLC	885
29	Robinson	White Pine, NV	KGHM International Ltd.	778

do. Ditto.

¹Data are rounded to no more than three significant digits; the operations listed accounted for more than 99% of U.S. gold production in 2014.

²For Alaska, mines are located by geographic region, as delineated by the Alaska Division of Geological & Geophysical Surveys in its Special Report 70, Alaska's mineral industry 2014—Exploration activity.

³When multiple owners are listed, the operating owner is listed first, and when only one owner is listed, the company has full ownership.

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

⁵Quantity refers to total gold equivalent.

⁶Wholly owned subsidiary of Rio Tinto plc.

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

⁸Formerly listed as the Cresson Mine.

⁹Silver Standard Resources Inc. accrued 100% interest on April 4, 2014, from Barrick Gold Corp. and Goldcorp Inc.

¹⁰Klondex Mines Ltd. acquired 100% interest on February 10, 2014, from Newmont Mining Corp. Totals also include production from Fire Creek Mine in Lander County.

Sources: Company annual reports, company 10-K reports submitted to the U.S. Securities and Exchange Commission, company news releases, and the Nevada Bureau of Mines and Geology.

TABLE 4U.S. EXPORTS OF GOLD, BY COUNTRY^{1, 2}

(Kilograms, gold content unless otherwise specified)

	Ores and co	oncentrates ³	Dore and	precipitates	Refined bullion ⁴		Total	
		Value		Value		Value		Value
Year and country	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2013	7,210	\$316,000	195,000	\$8,390,000	489,000	\$22,800,000	691,000	\$31,500,000
2014:	_							
Australia			11	473	6,420	271,000	6,430	272,000
Austria					38	1,710	38	1,710
Belgium	137	5,990					137	5,990
Canada	- 1	39	141	5,920	3,160	132,000	3,300	138,000
Cayman Islands			36	1,590	5	230	41	1,820
Chile			2	67	10	418	12	485
China	2,310	91,000			10,300	393,000	12,600	484,000
Dominican Republic	581	24,900					581	24,900
Germany			(5)	8	232	9,400	232	9,400
Guatemala					18	781	18	781
Hong Kong	31	1,360	3	111	147,000	5,870,000	147,000	5,870,000
India			11,500	470,000	15,800	617,000	27,300	1,090,000
Israel			12	493	14	672	26	1,170
Italy			(5)	4	4	183	4	187
Japan	1,260	53,700			1,010	39,500	2,270	93,200
Jordan					400	15,300	400	15,300
Laos					10	403	10	403
Malaysia					10	380	10	380
Mexico	12	580			421	17,100	434	17,700
Netherlands					12	575	12	575
Oman					809	33,000	809	33,000
Panama			(5)	3	3	122	3	125
Peru					4	168	4	168
Singapore			1	28	9,450	376,000	9,450	376,000
Switzerland	(5)	18	85,700	3,500,000	87,600	3,570,000	173,000	7,070,000
Thailand	(5)	4			13,800	548,000	13,800	548,000
Turkey			614	24,300	1,000	37,600	1,620	61,900
United Arab Emirates			19,400	791,000	890	35,700	20,300	826,000
United Kingdom	(5)	14			80,000	3,280,000	80,000	3,280,000
Vietnam					10	409	10	409
Other	1	63	1	41	10	454	12	559
Total	4,340	178,000	117,000	4,790,000	379,000	15,200,000	500,000	20,200,000

⁻⁻ Zero.

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

²Ash and residues data were zero for listed years.

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

⁴Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold is excluded. ⁵Less than ½ unit.

TABLE 5U.S. EXPORTS OF GOLD, BY COUNTRY1

(Kilograms, gross weight unless otherwise specified)

	Waste a	nd scrap	Metal	powder	Gold compounds		
		Value		Value		Value	
Year and country	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	
2013	128,000	\$951,000	269	\$8,650	1,170,000	\$92,100	
2014:							
Australia			(2)	3	158	462	
Belgium	38,200	43,500			5	73	
Brazil					464	24	
Canada	25,100	629,000	798	33,400	825	7,250	
China	70	828	13	395	982	15,300	
Costa Rica			24	202	225	4,650	
Dominican Republic			5	141	230	413	
Ecuador					260	17	
Germany	814	20,800	12	82	143	210	
Hong Kong	(2)	6	28	715	41	571	
India	1	24	126	5,050	28	160	
Ireland					40	1,690	
Italy	3,560	12,900			1	3	
Japan	525	13,000	24	502	373	81	
Korea, Republic of	188	132	6	67	273	2,690	
Malaysia					506	12,300	
Mexico			(2)	3	759	25,400	
Netherlands			4	155	19	393	
Peru					133	63	
Philippines					444	200	
Singapore	30	42	1	5	6,120	23,700	
Sweden	70	484			1	3	
Switzerland	826	18,400			13	55	
Taiwan			2	74	448	2,640	
Thailand			3	72	21	164	
United Kingdom	76,400	62,100	77	2,170	82	478	
Vietnam			32	1,010	2	4	
Other	1	39	15	169	241	306	
Total	146,000	802,000	1,170	44,200	12,800	99,200	

-- Zero.

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

²Less than ¹/₂ unit.

TABLE 6 U.S. IMPORTS FOR CONSUMPTION OF GOLD, BY COUNTRY¹

(Kilograms, gold content unless otherwise specified)

	Ores and co	oncentrates ²	Dore and	precipitates	Refined bullion ³		Total	
		Value		Value		Value		Value
Year and country	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)
2013	369	\$18,200	216,000	\$9,610,000	98,600	\$4,430,000	315,000	\$14,100,00
2014:								
Argentina			461	21,500	530	25,500	991	47,00
Aruba			33	1,410			33	1,41
Australia			4	188	63	3,350	67	3,54
Belgium			1	43	6	227	7	27
Bolivia			32,200	1,320,000	646	26,600	32,900	1,350,00
Brazil			1,270	51,400	2,900	116,000	4,170	168,00
Burkina Faso			35	1,520			35	1,52
Canada	347	12,600	3,630	148,000	75,200	3,100,000	79,200	3,260,00
Cayman Islands			136	5,340	32	1,340	168	6,68
Chile			2,760	120,000	258	10,100	3,020	130,00
China			2	87	4	176	6	26-
Colombia			34,700	1,350,000	2	85	34,700	1,350,000
Costa Rica			102	4,210	3	127	105	4,34
Curacao			1,010	41,700	12	482	1,020	42,20
Dominican Republic			1,600	63,100	8	353	1,610	63,40
Ecuador			22,900	909,000	384	15,200	23,300	924,00
France					294	12,100	294	12,10
Germany					42	1,860	42	1,86
Ghana			261	11,600	61	2,410	322	14,00
Guatemala			5,810	361,000		_,	5,810	361,000
Guinea			7	248			7	248
Guyana			7,440	302,000	1,080	43,100	8,520	345,00
Honduras			1,340	54,400	2,500	104,000	3,840	158,00
Hong Kong			(4)	9	18	749	18	75
Israel					6	258	6	25
Jamaica			28	1,110			28	1,110
Lebanon			5	240			5	24
Mexico	92	773	44,300	1,890,000	21,200	863,000	65,600	2,760,00
Netherlands			5	238			5	2,700,000
Nicaragua			4,560	184,000	44	1,740	4,610	186,00
Panama			4,500	8,010	433	1,740	4,010	25,400
			193	4,570	433 50	1,400	161	6,520
Paraguay Peru	5	177			30 40	1,900	18,100	
South Africa	3		18,000	739,000			,	741,00
			725		7,980	333,000	7,980 725	,
Suriname Sweden				28,200	7	264	725	28,20 26
Switzerland	66	2,930	500	21,400	7,590	318,000	8,160	342,00
United Arab Emirates			3	116	2	98	5	21
United Kingdom			(4)	12	35	1,510	35	1,52
Venezuela			2,150	89,100	7	293	2,160	89,40
Other			13	554	17	708	30	1,26
Total Zero.	510	16,500	186,000	7,740,000	121,000	5,010,000	308,000	12,800,00

-- Zero.

¹Data 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.

TABLE 7 U.S. IMPORTS FOR CONSUMPTION OF GOLD, BY COUNTRY¹

(Kilograms, gross weight unless otherwise specified)

	Waste a	and scrap	Metal	powder	Gold compounds		
		Value		Value	Value		
Year and country	Quantity	(thousands)	Quantity	(thousands)	Quantity	(thousands)	
2013	286,000	\$1,220,000	4,050	\$9,550	17,100	\$1,080	
2014:							
Aruba	126	3,140					
Australia	26	769	(2)	2			
Austria	60	916					
Bahamas, The	172	3,250					
Barbados	119	1,660					
Bermuda	45	913					
Bolivia	1,590	43,300					
Canada	8,420	160,000	5	39			
Cayman Islands	53	1,220					
China	509	590			1	15	
Colombia	388	10,800					
Costa Rica	3,830	22,200	28	251			
Curacao	181	4,650					
Dominica	13	274					
Dominican Republic	3,750	42,700					
El Salvador	1,140	22,000					
France		3,950					
French Polynesia	39	556					
Germany	1,370	32,700	427	4,770	12	268	
Guadeloupe	23	682		4,770		200	
Guatemala	1,600	25,700					
Guyana	1,000	35,100					
Honduras	1,320	32,600	(2)	6			
Hong Kong	40	1,030	(2)	0		7	
India	40	280			1	/	
Ireland		280 791					
Israel	2,560	2,270		7			
Italy	2,300	496	1	26			
Jamaica	23	13,300			13		
	2	<i>,</i>	 6	100		2 520	
Japan		47			1,710	3,520	
Malaysia	21	539					
Martinique	127	3,660	4	104			
Mexico	16,600	317,000	36	313			
Netherlands	457	12,000					
Nicaragua	947	22,700					
Panama	546	11,600					
Paraguay	14	486					
Philippines	224	4,620					
Portugal	21	601					
Sierra Leone			52	554			
Sint Maarten	23	579					
Spain	725	18,700					
St. Lucia	61	716					
Switzerland			15	609	3	14	
Thailand	23	302					
Trinidad and Tobago	59	774					
United Kingdom	4,480	101,000	19	415	67	166	
Other	126	1,510	2	18	6	25	
Total	53,800	965,000	596	7,210	1,810	4,090	

-- Zero.

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

²Less than ¹/₂ unit.

TABLE 8 GOLD: WORLD MINE PRODUCTION, BY COUNTRY^{1, 2}

(Kilograms)

Country ³	2010	2011	2012	2013	2014 ^e
Afghanistan	NA	NA	NA	30	50
Algeria	723	449 ^r	264 r	140 ^r	200
Argentina	63,138	59,140	54,651	50,650	59,000
Armenia	2,098	2,736	2,896	3,473 ^r	4,700
Australia	261,000	260,000	252,000	268,000 r	273,963 4
Azerbaijan	2,092	1,775	1,563	1,619	1,873 4
Bolivia	6,394	6,513	7,047 ^r	18,127 ^r	39,152 4
Botswana	1,774	1,562 ^r	1,096 ^r	1,206 r	884 4
Brazil	62,047	65,209	66,773	79,573 ^r	80,000
Bulgaria ^e	4,490 r	5,300 r	7,060 ^r	7,390 ^r	8,000
Burkina Faso ⁵	22,939	31,774	28,939 r	32,714 ^r	36,199 4
Burma	NA ^r	NA ^r	787 ^r	893 ^r	900
Burundi ^e	300	300	400	400	400
Cameroon ^e	1,600	1,600	1,500	1,600 ^r	1,500
Canada	102,693	102,624	107,498 ^r	124,054	152,105 4
Central African Republic ^e	60	50	60	60 r	60
Chile	39,494	45,137	49,936	51,309	46,031 4
China ^e	345,000	362,000	405,000	430,000	450,000
Colombia	53,605	55,908	66,178	55,745	57,015 4
Congo (Brazzaville) ^e	150	150	150	150	150
Congo (Kinshasa) ^e	12,000	3,500	14,000	17,000	32,000
Costa Rica ^e	300	500	400	400	400
Côte d'Ivoire	5,310	11,009 ^r	10,943 ^r	12,949 ^r	17,318 ⁴
		103 ^r	10,943 307 ^r	12,949 100 ^r	
Denmark ⁶					
Dominican Republic	533	495	4,106	26,083 r	35,081 4
Ecuador ⁷	4,593	4,923 r	5,139 ^r	8,676 ^r	7,323 4
Egypt	2,087	6,304 ^r	8,175	11,101 ^r	11,734 4
Eritrea	50 e	11,788	9,735	2,862 r	1,000
Ethiopia ⁸	6,773	10,891	12,311	12,581	12,500
Fiji	1,856	1,622	1,653	1,240	1,160
Finland	7,628	8,461	10,814	9,981	9,385 ⁴
France ^e	1,500	r			
French Guiana ^e	1,140	1,130 ^r	1,460 r	1,600 r	1,600
Gabon ^{e, 9}	^r	^r	670	1,140 ^r	1,240
Georgia ^e	5,000 r	7,000 r	3,900 10	4,300 10	4,000
Ghana	76,332 ^{r, 11}	82,598 ^r	86,972 ^r	89,224 ^r	90,754 4
Greece ^e	500 4	500	600	1,400 r	800
Guatemala	9,213	11,898	6,473	6,386 ^r	5,928 4
Guinea	15,217 r	15,695 ^r	14,790 ^r	14,147 ^r	16,955 ⁴
Guyana	9,594	11,293	13,643	14,964	12,053 4
Honduras	2,197	1,893	1,858	1,985 ^r	2,762 4
India ¹²	2,320 r	2,245 ^r	1,740 ^r	1,570 ^r	1,600
Indonesia ¹³	106,316 ^r	77,722 ^r	69,291	59,804 ^r	69,100
Iran ^{e, 14}	2,000	2,000	2,500	3,000	3,000
Italy ^e	450	450			
Japan	8,544	8,691	7,233	7,411	7,115 4
Kazakhstan	30,272	36,846	39,903	42,552 r	49,207 4
Kenya	2,355	1,636	3,600	2,100 r	2,000
Korea, Republic of	235	209	336 r	413 r	267 4
Kyrgyzstan	18,072 r	18,647 r	10,333	19,000	18,000
Laos	5,061	3,984	6,414 ^r	6,838	5,265 4
Liberia	666	448	641	600	598 ⁴
Madagascar ¹⁰	46	1	157	160	160
Malaysia	3,765 ^r	4,219	4,625	3,822 r	4,000
Mali	36,360 ^r	35,728 ^r	40,132 ^r	41,392 ^r	39,724 4

See footnotes at end of table.

TABLE 8—Continued GOLD: WORLD MINE PRODUCTION, BY COUNTRY^{1, 2}

(Kilograms)

Country ³	2010	2011	2012	2013	2014 ^e
Mauritania	8,305 ^r	8,172 ^r	7,652 ^r	9,517	9,600
Mexico	72,596	88,648 ^r	102,802 r	119,773 ^r	117,717 4
Mongolia	6,037	5,703	5,995	7,244 ^r	7,377 4
Morocco ^{e, 10}	650	520	520	550	500
Mozambique	106	111	178	198 ^r	180
Namibia	2,675	2,053	2,302	1,960 r	1,938 4
New Zealand	13,494	11,761	10,164	12,468 r	11,000
Nicaragua	4,900	6,395	6,981 ^r	8,611	8,648 4
Niger	1,950	1,934 ^r	1,662	1,150 ^r	732 4
Nigeria ^e	3,720 ^r	4,000 r	4,000 r	4,200 r	4,200
Oman	27 ^r	r			
Panama	870	1,675	2,115	2,141 ^r	12 4
Papua New Guinea	62,900	62,200 r	59,100 ^r	54,092 r	52,858 4
Peru ¹⁵	164,084	166,187	161,544 ^r	151,486	140,000
Philippines	40,847	31,120	14,596	17,248	18,423 4
Poland	766	704	916 ^r	1,066	2,575 4
Romania	400	r	r	r	
Russia	189,000	199,642	217,800	229,982	247,000
Rwanda ^{e, 10}	3 4	3	3	3	3
Saudi Arabia	4,476	4,612 ^r	4,286 ^r	4,158 ^r	4,789 4
Senegal	4,381	4,089	6,666	6,445	6,588 4
Serbia	356 ^r	1,032 ^r	900 ^r	866 ^r	1,310 4
Sierra Leone	270	164	135	98 r	43 4
Slovakia	534 ^r	398 ^r	546 ^r	533 ^r	582 4
Solomon Islands ^e	130	1,640	2,180	1,890 ^r	1,400
South Africa	188,702	180,293	154,178	159,542	151,618 4
Spain ^e		530	1,530	1,870 ^r	2,000
Sudan ¹⁰	26,317	23,379	46,133	70,000 r	73,300
Suriname	31,048 ^r	32,308 ^r	33,474 ^r	34,213 ^r	33,000
Sweden	6,285	5,935	6,015	6,530	6,849 ⁴
Tajikistan	2,049	2,240	2,401	3,000	3,477 4
Tanzania	39,448	42,300	40,650	42,534	40,481 4
Thailand	4,046 r	2,860 r	4,895	4,419 ^r	4,576 4
Togo ¹⁶	10,452	16,469	18,551	21,086 r	20,585 4
Turkey	16,890	24,400	29,390 ^r	33,980 ^r	30,000
Uganda	4 r	1 r	1 r	r	
United Kingdom	171	202	102	42	
United States	231,000	234,000	235,000	228,000 r	210,000 4
Uruguay ¹⁷	1,743	1,736	1,725	2,022 r	1,889 4
Uzbekistan ^e	90,000	91,000	93,000	98,000	100,000
Venezuela	6,991	4,608	1,981	1,691	1,500
Vietnam ^e	1,030 r	4,008 1,330 ^r	1,981 1,060 ^r	1,691 1,680 ^r	1,300
Zambia ^e	3,600 r	3,800	4,500	5,400 r	5,000
Zimbabwe	9,100	12,824	14,742	14,065 r	14,500
Total	2,600,000 r	2,670,000 r	2,750,000 r	2,920,000 r	3,010,000

^eEstimated. ^rRevised. NA Not available. -- Zero.

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

²Includes data available through November 2, 2015.

³In addition to the countries listed, Benin, Cambodia, Chad, Cuba, El Salvador, Equatorial Guinea, Haiti, Macedonia, Malawi, North Korea, Pakistan, Paraguay, Portugal, and South Sudan may produce gold (either as undocumented artisanal or byproduct production), but available information is inadequate to make reliable of estimate output levels.

⁴Reported figure.

⁵Does not include artisanal or byproduct production.

⁶All production from Greenland.

⁷The country has made moves to legitimize and account for its artisanal production.

⁸Year ending July 7 of that stated.

⁹Undocumented artisanal production.

¹²Refinery output.

¹³Does 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.

¹⁴Includes gold recovered from the Mouteh gold mine and from the Sarcheshmeh copper complex.

¹⁵Includes documented production from placer artisanal production.

¹⁶Data reported by the Government of Togo as exports predominately 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.

¹⁷Data are for fiscal year ending on March 31 of that stated.

¹⁰Reported exports.

¹¹Does not include artisanal ans small-scale mining output, which in2010 was estimated to be more than 25,000 kilograms.