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2013 Minerals Yearbook

SILVER [ADVANCE RELEASE]

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Silver

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In 2013, the United States produced 1,040 metric tons (t) of silver, which was slightly less than that of 2012 (table 1). Silver was produced in 11 States in 2013, and Alaska remained the country's leading silver-producing State, followed by Nevada and Idaho. Approximately 99% of domestic silver was produced from base-metal ores at 10 mines and from precious-metal ores at 14 mines, 3 of which were principally silver mines (table 3).

The Handy & Harman price of silver averaged $23.80 per troy ounce in 2013, a 24% decrease compared with the high 2012 average price of $31.21 per troy ounce (table 1). Contributing factors for the lower silver price included increased sales by investors in silver futures and options positions, sales from large investor physical inventories, and a lower price for gold, which was at a record-high level in 2012 (Silver Institute, The, 2014, p. 14).

Traditional use categories for silver included coin and medal fabrication; industrial applications, including electrical and electronics components; jewelry and silverware; and photography. In 2013, global silver use increased by 13% compared with that of 2012. Global silver use decreased only for electric and electronics and photography applications (Silver Institute, The, 2014, p. 8, 50). In 2013, apparent consumption of silver in the United States was 6,720 t, 12% greater than that of 2012 owing to a large decrease in exports of bullion and ore.

U.S. imports of silver bullion and dore decreased slightly to 5,020 t in 2013. The principal import sources of bullion and dore were, in descending order of tonnage, Mexico and Canada. Exports of silver bullion and dore decreased by 56% to 395 t in 2013. Principal destinations were, in descending order, Australia, Canada, and Mexico (tables 4, 6). Canada and several countries in the European Union accounted for most of the decrease in U.S. silver bullion exports (Silver Institute, The, 2014, p. 46).

In 2013, silver was mined in approximately 60 countries. Production was 25,900 t, a slight increase from 25,500 t in 2012. Mexico was the leading producer, followed by China, Peru, Australia, and Russia. These five countries accounted for 63% of the global production of silver. The United States ranked ninth in world silver mine production in 2013.

Legislation and Government Programs

On September 30, 2013, the amount and value of Deep Storage and Working Stock custodial silver reserves in the U.S. Mint were 498 t with a total market value of $347 million at $21.68 per fine troy ounce and a statutory value of $20.7 million. As custodian, the U.S. Mint is responsible for safeguarding much of the Nation's gold and silver. In accordance with 31 U.S. Code section 5117(b) and 31 U.S. Code section 5116(b)(2), a statutory rate of no less than $1.292929292 per fine troy ounce was used to value the custodial silver held by the U.S. Mint (U.S. Mint, 2014, p. 40). The U.S. Mint's six facilities are in Denver, CO, Fort Knox, KY, Philadelphia, PA, San Francisco, CA, Washington, DC, and West Point, NY.

Fiscal year 2013 was a record revenue year for the U.S. Mint. Revenue from sales of 43.6 million American Eagle Silver Bullion Coins increased by 14% to $1.23 billion, surpassing record sales in 2011 (U.S. Mint, 2014, p. 2, 13–15).

Production

Domestic mine production data were requested from 42 operations known to produce silver. Of these, 36 responded to the U.S. Geological Survey (USGS) canvass and estimates for the 6 others were developed from company reports, representing 100% of U.S. mine production listed in table 1. Domestic mine production of silver was 1,040 t in 2013, which was slightly less than that in 2012. Silver in the United States was mainly produced as a byproduct from gold and base-metal ores, although silver produced as a principal product at three mines accounted for 18% of U.S. silver production. Coeur d'Alene Mines Corp.'s Rochester Mine, near Pershing, in northwestern Nevada, accounted for about 8% of U.S. silver production in 2013 or 87 t, slightly less than that of 2012 (Coeur Mining, Inc., 2014, p. 8, 26). U.S. Silver & Gold Inc. and Scorpio Mining Corp.'s Galena Mine near Shoshone, ID, produced 67 t of silver in 2013 compared with 70 t in 2012 (U.S. Silver & Gold Inc., 2014b, p. 5).

At Hecla Mining Co.'s Lucky Friday Mine, resumption of mining in February, following rehabilitation of the primary access shaft, accounted for increased production in Idaho. Lucky Friday, which had no production in 2012, produced 45 t in 2013 (Hecla Mining Co., 2014, p. 20, 32).

Rio Tinto Group, which operated the Bingham Canyon Mine through its Kennecott Utah Copper Corp. subsidiary, accounted for all of the increased production in Utah. The company recovered 89 t of silver at Bingham Canyon compared with 65 t in 2012 owing to processing of higher grade ore (Rio Tinto plc, 2014a, p. 213; 2014b, p. 22). Production at Hecla's Greens Creek Mine on Admiralty Island near Juneau, AK, increased by 17% to 232 t from 199 t in 2012 owing to higher throughput and processing of higher ore grades (Hecla Mining Co., 2014, p. 18, 27).

In October, Capstone Mining Corp. purchased the Pinto Valley Mine in Arizona from BHP Copper Inc. The Pinto Valley Mine, which produced byproduct molybdenum and silver in addition to copper, was recommissioned in December 2012 after having been closed in 2009 (Capstone Mining Corp., 2013, 2014). Allied Nevada Gold Corp. produced 27 t of silver at its Hycroft Mine in Nevada in 2013 compared with

25 t in 2012. Output at the mine increased in the fourth quarter of 2013 with the expansion of a heap-leaching operation (Allied Nevada Gold Corp., 2014, p. 24, 26).

In response to lower gold and silver prices, several mines closed during the year. U.S. Silver & Gold Inc. closed its Drumlummon Mine in Montana, and Fire River Gold Corp. placed its Nixon Fork Mine in Alaska on care-and-maintenance status (Fire River Gold Corp., 2013; U.S. Silver & Gold Inc., 2014a, p. 10; 2014b, p. 6). Gryphon Gold Corp., which operated the Borealis gold and silver mine in Nevada, filed for Chapter 11 bankruptcy protection in July (Gryphon Gold Corp., 2013).

Consumption

Fabrication consumption of silver in the United States was 5,490 t in 2013, a slight decrease from that of 2012. Decreased use for electrical and electronics fabrication and jewelry fabrication offset the increase in coin and medal fabrication (Silver Institute, The, 2014, p. 52).

Coin and Medal Fabrication.—Approximately 1,370 t of silver was used for coins and medals in the United States in 2013, a 27% increase from 1,080 t in 2012 (Silver Institute, The, 2014, p. 23). Continued interest by consumers in seeking out safe investments and declining silver prices contributed to the growth in coin and medal sales (Silver Institute, The, 2014, p. 17). The use of silver in circulating coins has been mostly phased out.

Industrial Applications.—Approximately 3,820 t of silver was used in the United States in 2013 for industrial applications, an 8% decrease from the 4,130 t of silver that was used for those applications in 2012 (Silver Institute, The, 2014, p. 55).

The principal components of industrial demand for silver were brazing alloys and solders, catalysts, electrical, electronic (including photovoltaics), and other applications. Adding silver to the process of soldering (joining metals at less than 600 °C) or brazing (joining metals at more than 600 °C) helps produce smooth, leak-tight, and corrosion-resistant joints. Silver brazing alloys were used widely in a variety of applications including air conditioning and refrigeration and electric power distribution. They also were important in the automobile and aerospace industries (Silver Institute, The, undated).

Silver was one of the essential materials used in the manufacture of films and photographic papers. The decline in the use of silver for photography began in 2000 in response to digital camera technology and the decline in the production of color film and paper. Domestic applications of silver for photographic use decreased by 5% to 498 t in 2013 from 523 t in 2012. The use of silver film and paper in consumer applications declined more rapidly than its use in manufacturing motion picture film because of the slower conversion of motion picture film to digital format (Silver Institute, The, 2014, p. 64–65). Other broad photographic-use categories included commercial photography, dental and industrial x-rays, graphic arts, and medical x-rays (Silver Institute, The, undated).

As a catalyst, silver can be used in the form of mesh screens or crystals to produce ethylene oxide and formaldehyde, which are essential ingredients in plastics. Approximately 90% of the silver used as an industrial catalyst was for the production of ethylene oxide from ethylene (Silver Institute, The, undated). In the United States, use as a catalyst was only about 4 t, about the same as in recent years, because no ethylene oxide was produced domestically.

One of silver's electric applications is in batteries. The most common silver-oxide battery was the small button-cell battery, which was used in calculators, cameras, hearing aids, toys, and watches, and contained about 35% silver by weight. Because of environmental and safety concerns, silver-oxide batteries also were beginning to replace lithium-ion batteries in mobile phones and laptop computers. Silver-zinc batteries use a water-based chemistry and contain no lithium or flammable liquids. Some larger silver-oxide and silver-zinc batteries were used in military applications. Silver also was used in conductors, contacts, fuses, switches, and timers (Silver Institute, The, undated).

Silver membrane switches were used in buttons on electronics such as computer keyboards, microwave ovens, telephones, televisions, and toys. Silver-based inks and films were applied to composite boards to create electrical pathways in printed circuit boards. Silver-based inks also were used in radio frequency identification (RFID) tags used in myriad products to prevent theft and allow easy inventory control. Silver paste was used in 90% of all crystalline silicon photovoltaic cells, the most common type of solar cell; this has been a growth market in the United States for the past several years, although in 2013 it declined (Silver Institute, The, undated).

Dental amalgam contains silver but was declining in use because of its mercury content (U.S. Food and Drug Administration, 2015). Owing to silver's antibacterial properties, it also was used in such products as clothing, laundry machines, shoes, and toothbrushes. Silver embedded in locker room surfaces was used to reduce staph infections, and silver-based disinfectants have been introduced as a low-cost, environmentally sensitive option for use in care centers and food processing facilities (Silver Institute, The, undated).

Jewelry and Silverware.—In 2013, U.S. consumption of silver for jewelry and silverware was 288 t, a 16% decrease compared with the 342 t used in 2012. Increased demand for gold jewelry resulted in decreased use of silver in jewelry manufacturing. U.S. demand for silverware also declined in 2013 (Silver Institute, The, 2014, p. 68–69, 76).

Prices and Stocks

The Handy & Harman average monthly silver price began the year at $30.65 per troy ounce, the highest level of the year. The price declined through midyear to $19.69 per troy ounce, increased to $22.49 per troy ounce in September, and declined to a yearly low of $19.67 per troy ounce in December. The average price for 2013 of $23.80 per troy ounce was 24% lower than the average of $31.21 per troy ounce in 2012 (table 1). Contributing factors for the decreased silver price were increased sales by investors of silver futures and options positions and sales from large investor physical inventories (Silver Institute, The, 2014, p. 14).

Global silver inventories in various Exchange Traded Funds (ETFs), including iShares Silver Trust, ETF Securities, and other ETFs, increased slightly to approximately 19,700 t at

yearend 2013, compared with 19,600 t at yearend 2012 (Silver Institute, The, 2014, p. 21).

Foreign Trade

U.S. exports of silver bullion and dore decreased by 56% to 395 t in 2013 from 905 t in 2012. Principal destinations were Australia (32%), Canada (20%), Mexico (19%), and India (10%). Decreased exports to Mexico and the United Kingdom accounted for the bulk of the decrease in exports of bullion and dore (table 4). The United Kingdom and Mexico had been the leading recipients of exports from the United States, accounting for 40% and 28%, respectively, of bullion and dore exports in 2012.

U.S. imports of bullion and dore decreased slightly to 5,020 t in 2013 from 5,060 t in 2012. The principal import sources of bullion and dore were Mexico (57%) and Canada (32%) (table 6).

World Review

World mine production of silver increased for the seventh consecutive year to 25,900 t in 2013, a slight increase from 25,500 t in 2012. Mexico continued to be the leading producer of silver, accounting for 19% of world production, followed by China (16%); Peru (14%); Australia and Russia (7% each); Bolivia, Poland, and Chile (5% each); and the United States and Kazakhstan (4% each). These 10 countries accounted for about 85% of global silver production.

Silver production increased in 8 of these top 10 producing countries in 2013, with slight decreases in production in Chile and the United States (table 8). Higher mill throughput, increased recovery rates, higher ore grades, commissioning of new mines, and (or) restarting of existing mines after upgrades contributed to significant increases in production in many countries. China and Peru had the largest tonnage increases in production in 2013 (200 t and 195 t, respectively) (table 8).

According to The Silver Institute, about 29% of global silver production was from primary ores, 38% was from lead and zinc ores, 20% from copper ores, 13% from gold ores, and less than 1% was from other types of mining operations (Silver Institute, The, 2014, p. 99).

Silver recovered from scrap declined by 24% to 5,970 t in 2013 owing to the lower price of silver. Other contributing factors included stricter government regulation in some countries and less coin and jewelry recycling as the economy of industrialized nations improved (Silver Institute, The, 2014, p. 10).

Global silver consumption increased by 13% to 33,600 t in 2013 from 29,700 t in 2012. Industrial applications, accounting for 54% of the total global consumption, was the leading end use of silver, followed by jewelry (18%), physical bars (12%), coins and medals (11%), and silverware (5%). Physical investment (bars, coins, and medals), which increased by 76% to 7,640 t from 4,330 t, accounted for 85% of the global consumption increase in 2013. Lower silver prices permitted investors to increase their coin and bar holdings, and improving economies and lower prices resulted in increased consumer interest in jewelry, particularly in India and China. Global silver use for industrial fabrication declined slightly, owing largely to lower economic performance of several industrial sectors in Europe. Substitution for silver and more efficient use of silver, particularly in electrical and electronics fabrication, also contributed to the decline in global consumption (Silver Institute, The, 2014, p. 8, 50–51, 66).

Australia.—MMG Ltd. increased recovery of silver at its Century Mine to 36 t in 2013 from 2 t in 2012 following mine improvement programs conducted in 2012 (MMG Ltd., 2014, p. 27). Production of recoverable silver in concentrate at BHP Billiton plc's Cannington Mine decreased by 10% to 904 t in 2013 from 1,000 t in 2012 owing to lower average ore grades (BHP Billiton Ltd., 2013a, p. 2, 8; 2013b, p. 2, 7; 2014, p. 14).

Bolivia.—Pan American Silver Corp. increased production at its San Vicente Mine to 123 t in 2013 from 116 t in 2012 owing to higher throughput and increased recoveries (Pan American Silver Corp., 2014, p. 15).

China.—Production increased by 5% to 4,100 t in 2013 from 3,900 t in 2012 (table 8). The increase took place because of increased lead and zinc production, from which silver was recovered as a byproduct (Silver Institute, The, 2014, p. 30).

Congo (Kinshasa).—Mawson West Ltd. produced 60 t of silver at its Dikulushi Mine in 2013 compared with 12 t in 2012 owing to higher throughput and higher mill feed grade (Mawson West Ltd., 2014, p. 11, 29).

Guatemala.—Tahoe Resources Inc.'s Escobal Mine and mill were undergoing commissioning in late 2013. The company produced 44 t of silver during this period with anticipated silver production of 560 to 653 t in 2014 (Tahoe Resources Inc., 2014, p. 4–5). Goldcorp Inc. reported an increase in silver production to 219 t in 2013 from 205 t in 2012 at its Marlin Mine as a result of higher throughput and mill grades and a production increase at its Pueblo Viejo Mine to 26 t in 2013 from 6 t in 2012 because of greater throughput, improvements in processing, and higher ore grades (Goldcorp Inc., 2014, p. 7, 41, 46).

Mexico.—Fresnillo plc increased its silver production by 5% to 1,330 t in 2013 from 1,270 t in 2012 because of higher ore grades and higher throughput at the Ciénega, San Ramón, and Saucito Mines. Silver production at its Fresnillo Mine decreased because of lower ore grades and throughput (Fresnillo plc, 2014, p. 58–63). First Majestic Silver Corp. increased output to 330 t in 2013 from 256 t in 2012 owing to higher throughput, higher average ore grades, facility improvements at its various operations, and the startup of the Del Toro Mine (First Majestic Silver Corp., 2014, p. 16–25, 81–90). Goldcorp produced 698 t of silver at its Peñasquito Mine in 2013, a 5% decrease from 737 t in 2012 owing to lower ore grades (Goldcorp Inc., 2014, p. 35, 76). Nyrstar NV's production decreased by 14% to 148 t in 2013 from 172 t in 2012 primarily owing to a 2-month shutdown of its Campo Morado Mine because of licensing issues and placement of the Coricancha Mine on care-and-maintenance status in 2013 (Nyrstar NV, 2014, p. 6, 19, 55).

Morocco.—Société Minière d'Imiter, Morocco's leading silver producer, reported a 14% increase in production to 194 t in 2013 from 170 t in 2012 (Groupe Managem, 2014, p. 36, 43).

Poland.—KGHM Polska Miedź S.A., Poland's leading silver producer, reported that the silver content of its copper concentrate production was 4% more than in 2012, but production of silver metal at its smelter decreased by 9% to 1,160 t in 2013 from 1,270 t in 2012 (KGHM Polska Miedź S.A., 2014, p. 111).

Peru.—Compañía de Minas Buenaventura S.A.A., Peru's leading silver producer, produced 597 t in 2013, a slight increase from 587 t in 2012. Production at Buenaventura's Julcani Mine and its Uchucchacua Mine, its second leading and leading silver mine, respectively, increased in 2013 owing to greater throughput that compensated for lower ore grades (Compañía de Minas Buenaventura S.A.A., 2014, p. 21, 51–53). Pan American Silver increased production at its Huaron Mine by 13% to 103 t in 2013 from 91 t, despite lower ore grades because of greater mill throughput. Production at its Morococha Mine increased to 75 t in 2013 from 65 t in 2012 because of higher ore grades and greater throughput (Pan American Silver Corp., 2014, p. 14).

Russia.—Polymetal International plc, the leading silver producer in Russia, increased its production in 2013 owing to greater throughput at its Dukat Hub Mines that more than offset lower ore grades and production at several of its other silver-producing mines (Polymetal International plc, 2014, p. 23).

Outlook

World production of silver is expected to increase in 2014, with most of the increase coming from gold mines and primary silver mines. Significant increases are expected at the Escobal Mine in Guatemala, which started operation in 2013 and was continuing to increase production, and the Lucky Friday Mine in the United States, where production was ramping up following the restart of operations in 2013. Production from base-metal operations is expected to be relatively unchanged. Low silver prices, however, have resulted in several projects being abandoned or placed on hold. Further declines in silver prices could slow any growth in production in 2014 (Silver Institute, The, 2014, p. 32).

The use of silver in photographic applications continued to decrease; much of the remaining use was for medical x-ray film. As hospitals convert their x-ray systems to digital systems, silver use in photography is expected to continue to decline until it remains only in niche applications such as artistic photography.

New uses for silver include those that use its biocidal or conductive properties. Antimicrobial silver technology is expected to be used in cooking utensils, food packaging, medical products, textiles, toiletries, and water-purification devices. The photovoltaic industry, which has emerged as a significant industrial-use sector for silver, is expected to become a more substantial user of silver in the future. The use of RFIDs for tracking stocks and shipments, including silver-base high-data-capacity tags, readers, and computer systems, is expected to increase. Although already used in many products, demand for silver-oxide batteries may increase with the proliferation of laptop and tablet computers and cellular telephones with advanced computing capabilities.

References Cited

Allied Nevada Gold Corp., 2014, Form 10–K—2013: U.S. Securities and Exchange Commission, 76 p. (Accessed April 20, 2015, at http://www.alliednevada.com/wp-content/uploads/2013-q4.pdf.)

BHP Billiton Ltd., 2013a, BHP Billiton production report for the nine months ended 31 March 2013: Melbourne, Victoria, Australia, BHP Billiton Ltd. news release, April 17, 14 p. (Accessed April 20, 2015, at http://www.bhpbilliton.com/home/investors/reports/Documents/2013/130417_BHP Billiton Production Report for the Nine Months Ended 31 March 2013.pdf.)

BHP Billiton Ltd., 2013b, BHP Billiton production report for the year ended 30 June 2013: Melbourne, Victoria, Australia, BHP Billiton Ltd. news release, July 17, 14 p. (Accessed April 20, 2015, at http://www.bhpbilliton.com/home/investors/reports/Documents/2013/130717_BHPBillitonProductionReportfortheYearEnded30June2013.pdf.)

BHP Billiton Ltd., 2014, BHP Billiton production report for the half year ended 31 December 2013: Melbourne, Victoria, Australia, BHP Billiton Ltd. news release, January 22, 25 p. (Accessed April 20, 2015, at http://www.bhpbilliton.com/home/investors/news/Documents/2014/140122_BHPBillitonOperationalReviewfortheHalfYearEnded31December2013.pdf.)

Capstone Mining Corp., 2013, Capstone Mining completes acquisition of Pinto Valley mining operations: Vancouver, British Columbia, Canada, Capstone Mining Corp. press release, October 11, 1 p. (Accessed April 12, 2015, at http://capstonemining.com/files/doc_news/2013/2013-10-11_NR.pdf.)

Capstone Mining Corp., 2014, Pinto Valley: Vancouver, British Columbia, Canada, Capstone Mining Corp. (Accessed April 13, 2015, via http://capstonemining.com/operations/pinto-valley/overview/default.aspx.)

Coeur Mining, Inc., 2014, 2013 annual report—Transforming our future: Chicago, IL, Coeur Mining, Inc., 54 p. and appendixes. (Accessed April 6, 2015, via http://investors.coeur.com/Cache/22875513.PDF?Y=&O=PDF&D=&FID=22875513&T=&OSID=9&IID=4349317.)

Compañía de Minas Buenaventura S.A.A., 2014, Form 20–F: U.S. Securities and Exchange Commission, April 30, 139 p. (Accessed April 6, 2015, at http://www.b2i.cc/b2iContent/1454/BVN_-_2014_Form_20-F.PDF?D=1&M=dl&B=1454&F=&Download=Click+to+open.)

Fire River Gold Corp., 2013, Fire River Gold suspends operations: Vancouver, British Columbia, Canada, Fire River Gold Corp. press release, June 28, 1 p. (Accessed April 10, 2015, at http://www.firerivergold.com/i/pdf/FAU280613.pdf.)

First Majestic Silver Corp., 2014, Annual report 2013: Vancouver, British Columbia, Canada, First Majestic Silver Corp., 110 p. (Accessed April 16, 2015, at http://www.firstmajestic.com/i/pdf/2013-AR.pdf.)

Fresnillo plc, 2014, Looking beyond the cycle—Annual report 2013: London, United Kingdom, Fresnillo plc, March 3, 240 p. (Accessed April 23, 2015, at http://www.fresnilloplc.com/media/122000/fresnilloar13.pdf.)

Goldcorp Inc., 2014, One company, thousands of opportunities—2013 annual report: Vancouver, British Columbia, Canada, Goldcorp Inc., 146 p. (Accessed April 13, 2015, at http://csr.goldcorp.com/2013/index.php.)

Groupe Managem, 2014, 2013 financial report: Casablanca, Morocco, Groupe Managem, March 20, 124 p. (Accessed April 21, 2015, via http://www.managemgroup.com/Investisseurs/Publications.)

Gryphon Gold Corp., 2013, Gryphon Gold Corporation: Reno, NV, Gryphon Gold Corp. (Accessed April 13, 2015, at http://www.gryphongold.com/.)

Hecla Mining Co., 2014, 2013 annual report: Coeur d'Alene, ID, Hecla Mining Co., 48 p. (Accessed April 7, 2015, at http://www.hecla-mining.com/documents/HMC_2013AR_033114_web.pdf.)

KGHM Polska Miedź S.A., 2014, Annual report R 2013: Lubin, Poland, KGHM Polska Miedź S.A., March, 179 p. (Accessed April 16, 2015, at http://kghm.com/sites/kghm2014/files/document-attachments/report_s_2013.pdf.)

Mawson West Ltd., 2014, 2013 annual report: West Perth, Western Australia, Australia, Mawson West Ltd., March 28, 96 p. (Accessed April 21, 2015, at http://www.mawsonwest.com/IRM/Company/ShowPage.aspx/PDFs/1004-53819857/AnnualReport2013.)

MMG Ltd., 2014, Annual report 2013: Southbank, Victoria, Australia, MMG Ltd., March 11, 164 p. (Accessed April 20, 2015, at http://www.mmg.com/en/Investors-and-Media/Reports-and-Presentations/~/media/Reports and Presentations/Annual Reports/2013/e_2014-04-10_2013 Annual Report.ashx.)

Nyrstar NV, 2014, Transforming for tomorrow—2013 annual report: Zurich, Switzerland, Nyrstar NV, February 14, 209 p. (Accessed April 20, 2015, at http://www.nyrstar.com/investors/en/Nyr_Documents/English/Nyrstar_AnnualReport13_EN.pdf.)

Pan American Silver Corp., 2014, Annual report 2013: Vancouver, British Columbia, Canada, Pan American Silver Corp., 91 p. (Accessed April 20, 2015, at http://www.panamericansilver.com/documents/PAS_interactive/2013_Anual_Report/#101/z.)
Polymetal International plc, 2014, Annual report 2013: St. Helier, Jersey [United Kingdom], Polymetal International plc, 163 p. (Accessed April 16, 2015, at http://www.polymetalinternational.com/~/media/Files/P/Polymetal/Annual Reports/Polymetal AR13_Online English.pdf.)
Rio Tinto plc, 2014a, 2013 annual report: London, United Kingdom, Rio Tinto plc, 244 p. (Accessed April 8, 2015, at http://www.riotinto.com/documents/RT_Annual_report_2013.pdf.)
Rio Tinto plc, 2014b, Rio Tinto announces record production for iron ore, bauxite and thermal coal in 2013: London, United Kingdom, Rio Tinto plc, January 16, 26 p. (Accessed April 8, 2015, at http://www.riotinto.com/documents/PR828g2_Rio_Tinto_announces_record_production_for_iron_ore_bauxite_and_thermal_coal_in_2013.pdf.)
Silver Institute, The, 2014, World silver survey 2014: Washington, DC, The Silver Institute, May, 100 p.
Silver Institute, The, [undated], The global source: Washington, DC, The Silver Institute. (Accessed April 21, 2015, via https://www.silverinstitute.org/site/.)
Tahoe Resources Inc., 2014, Management's discussion and analysis for year ended December 31, 2013: Vancouver, British Columbia, Canada, Tahoe Resources Inc., March 12, 20 p. (Accessed April 21, 2015, at http://www.tahoeresourcesinc.com/wp-content/uploads/2014/03/2013-Q4-Tahoe-MDA.pdf.)
U.S. Food and Drug Administration, 2015, About dental amalgam fillings: Washington, DC, U.S. Food and Drug Administration, February 10. (Accessed April 21, 2015, at http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/DentalProducts/DentalAmalgam/ucm171094.htm.)
U.S. Mint, 2014, 2013 annual report: U.S. Mint, January 8, 59 p. (Accessed August 10, 2012, at http://www.usmint.gov/downloads/about/annual_report/2013AnnualReport.pdf.)
U.S. Silver & Gold Inc., 2014a, 2013 annual report: Toronto, Ontario, Canada, U.S. Silver & Gold Inc., 71 p. (Accessed April 8, 2015, at http://ussilver.q4web.com/files/2013ar.pdf.)
U.S. Silver & Gold Inc., 2014b, Management discussion and analysis: Toronto, Ontario, Canada, U.S. Silver & Gold Inc., March 14, 27 p. (Accessed April 13, 2015, via http://www.sedar.com/DisplayCompanyDocuments.do?lang=EN&issuerNo=00033485&LanguageId=1.)

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

1998 Assessment of Undiscovered Deposits of Gold, Silver, Copper, Lead, and Zinc in the United States. Circular 1178, 2000.
Historical Statistics for Mineral and Material Commodities in the United States. Data Series 140.
Precious Metals. Mineral Industry Surveys, monthly (through December 2003).
Silver. Ch. in Mineral Commodity Summaries, annual.
Silver. Ch. in United States Mineral Resources, Professional Paper 820, 1973.
Silver. Mineral Industry Surveys, monthly (since January 2004).
Silver (Ag). Ch. in Metal Prices in the United States Through 2010, Scientific Investigations Report 2012–5188, 2013.

Other

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

TABLE 1
SALIENT SILVER STATISTICS[1]

		2009	2010	2011	2012	2013
United States:						
Mine production:						
Quantity	metric tons	1,250	1,280	1,120	1,060	1,040
Value	thousands	$588,000	$829,000	$1,270,000	$1,060,000	$793,000
Refinery production:						
Domestic and foreign ores and concentrates	metric tons	796	819	790	796	800
Scrap (old and new)	do.	1,340	1,330	1,710	1,660	1,700
Exports:						
Ore and concentrate	do.	122	82	172	42	14
Bullion and dore	do.	297	627	732	905	395
Imports for consumption:						
Ore and concentrate[2]	do.	1	4	84	83	11
Bullion and dore	do.	3,450	5,370	6,320	5,060	5,020
Stocks, December 31:						
Industry	do.	150	123	150	109	110
COMEX	do.	3,500	3,260	3,650	4,610	5,350
U.S. Department of the Treasury	do.	498	498	498	498	498
Bullion coin production[3]	do.	895	1,100	1,310	1,070	1,100
Price, average[4]	dollars per troy ounce	14.69	20.20	35.26	31.21	23.80
Employment, mine and mill workers[5]		764 r	814	632	709	819
World, mine production	metric tons	22,600 r	24,100 r	24,300 r	25,500	25,900 e

eEstimated. rRevised. do. Ditto.

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

[2]Includes silver content of ash and residues.

[3]Data from the U.S. Mint.

[4]Price data are the annual Handy & Harman quotations published in Platts Metals Week.

[5]Employment data are from the U.S. Department of Labor, Mine Safety and Health Administration, for mines classified as (active and temporarily idle) silver mines by the U.S. Geological Survey.

TABLE 2
MINE PRODUCTION OF SILVER IN THE UNITED STATES, BY STATE[1]

(Kilograms)

State	2011	2012	2013
Nevada	209,000	250,000	255,000
Other[2]	913,000	805,000	782,000
Total	1,120,000	1,060,000	1,040,000

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

[2]Includes Alaska, Arizona, California, Colorado, Idaho, Missouri, Montana, New Mexico, South Dakota, and Utah.

TABLE 3

LEADING SILVER-PRODUCING MINES IN THE UNITED STATES IN 2013, IN ORDER OF OUTPUT[1]

Rank	Mine	County and State[2]	Operator	Source of silver
1	Red Dog	Northern Region, AK	Teck Alaska Inc.	Zinc-lead ore.
2	Greens Creek	Southeastern Region, AK	Hecla Mining Co.	Zinc-silver ore.
3	Bingham Canyon	Salt Lake, UT	Kennecott Utah Copper Corp.[3]	Copper-molybdenum ore.
4	Rochester	Pershing, NV	Coeur d'Alene Mines Corp.	Silver ore.
5	Galena	Shoshone, ID	U.S. Silver & Gold Inc. and Scorpio Mining Corp.	Do.
6	Phoenix	Lander, NV	Newmont Mining Corp.	Gold-copper ore.
7	Lucky Friday	Shoshone, ID	Hecla Mining Co.	Silver ore.
8	Mission Complex	Pima, AZ	ASARCO LLC[4]	Copper-molybdenum ore.
9	Bagdad	Yavapai, AZ	Freeport-McMoRan Copper & Gold Inc.	Do.
10	Hycroft	Humboldt and Pershing, NV	Allied Nevada Gold Corp.	Gold ore.
11	Smoky Valley Common Operation	Nye, NV	Kinross Gold Corp.	Do.
12	Continental Pit	Silver Bow, MT	Montana Resources	Copper-molybdenum ore.
13	Mineral Park	Mohave, AZ	Mercator Minerals Ltd.	Do.
14	Carlin Mines Operations[5]	Elko and Eureka, NV	Newmont Mining Corp.	Gold ore.
15	Denton-Rawhide	Mineral, NV	Rawhide Mining, LLC	Do.
16	Morenci	Greenlee, AZ	Freeport-McMoRan Copper & Gold Inc.	Copper-molybdenum ore.
17	Ray	Pinal, AZ	ASARCO LLC[4]	Copper ore.
18	Goldstrike[6]	Elko and Eureka, NV	Barrick Gold Corp.	Gold ore.
19	Pinto Valley	Gila, AZ	Eureka Copper, Inc.	Gold-copper ore.
20	Ruby Hill	Elko and Eureka, NV	Barrick Gold Corp.	Gold ore.
21	Hollister	Elko, NV	Great Basin Gold Ltd.	Do.
22	Florida Canyon	Pershing, NV	Jiangsu Inc.	Do.
23	Chino	Grant, NM	Freeport-McMoRan Copper & Gold Inc.	Copper ore.
24	Wharf	Lawrence, SD	Goldcorp Inc.	Gold ore.

Do. Ditto.

[1]The mines on this list accounted for more than 99% of U.S. mine production in 2013.

[2]For Alaska, mines are located by geographic region, as delineated by the Alaska Division of Geological & Geophysical Surveys in its Special Report 67, Alaska's mineral industry 2011—Exploration activity.

[3]Wholly owned subsidiary of Rio Tinto plc.

[4]Wholly owned subsidiary of Grupo México, S.A.B. de C.V.

[5]Includes nine open pit operations (Emigrant, Genesis, Gold Quarry, Lantern, Lone Tree, Midas, Pay Raise, Twin Creeks, and Widge Mines) and six underground operations (Carlin East, Chukar, Exodus, Leesville, Pete Bajo, and Vista Mines).

[6]Includes Betze-Post, Meikle, and Storm Mines.

TABLE 4
U.S. EXPORTS OF REFINED SILVER, BY COUNTRY[1]

Year and country	Silver ores and concentrates		Bullion		Dore		Total	
	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)
2012	41,500	$39,900	837,000	$795,000	67,900	$70,400	964,000	$905,000
2013:								
Argentina	--	--	96	86	--	--	96	86
Australia	1	3	124,000	80,000	498	432	125,000	80,500
Austria	--	--	1,830	1,620	1,620	1,250	3,450	2,870
Canada	--	--	77,300	64,700	--	--	77,300	64,700
China	8,670	11,600	--	--	98	73	8,770	11,700
Colombia	12	13	--	--	--	--	12	13
Czech Republic	--	--	385	283	--	--	385	283
Estonia	--	--	200	212	--	--	200	212
Germany	1,950	11,100	8,760	3,360	231	179	10,900	14,600
Hong Kong	--	--	4,030	2,590	1,910	1,990	5,930	4,570
India	--	--	36,300	26,900	3,010	2,250	39,300	29,100
Italy	--	--	302	363	--	--	302	363
Israel	--	--	8	10	444	300	452	310
Japan	--	--	--	--	18,700	16,300	18,700	16,300
Korea, Republic of	2,950	7,080	--	--	--	--	2,950	7,080
Malaysia	--	--	1,870	967	--	--	1,870	967
Mexico	--	--	76,300	61,700	12	11	76,300	61,800
New Zealand	--	--	1,050	940	1,870	1,550	2,920	2,490
Norway	--	--	351	182	2,320	1,320	2,670	1,500
Pakistan	--	--	537	494	--	--	537	494
Peru	--	--	228	184	89	68	317	252
Philippines	249	1,460	23	23	--	--	272	1,490
Singapore	--	--	11,800	11,300	4,350	3,290	16,200	14,600
South Africa	1	4	--	--	--	--	1	4
Switzerland	--	--	64	55	2,830	1,900	2,900	1,950
Turkey	--	--	54	50	37	29	91	79
United Arab Emirates	--	--	28	23	2,120	1,750	2,140	1,780
United Kingdom	--	--	73	64	7,710	6,580	7,780	6,640
Other	3	12	1,660	1,430	201	130	1,860	1,570
Total	13,800	31,300	347,000	258,000	48,000	39,400	409,000	328,000

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

Source: U.S. Census Bureau.

TABLE 5
U.S. EXPORTS OF SILVER, BY COUNTRY[1]

Year and country	Other unwrought silver		Metal powder		Silver nitrate		Semimanufactured forms[2]		Waste and scrap	
	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)
2012	284,000	$298,000	774,000	$729,000	47,400	$6,170	628,000	$543,000	13,000,000	$2,050,000
2013:										
Australia	89	33	--	--	517	177	3,150	1,800	1	9
Belgium	--	--	4,550	4,060	--	--	--	--	2,020,000	124,000
Brazil	21	5	2,740	2,840	44	24	1,160	863	--	--
Canada	42,400	34,500	39,200	12,600	27,100	1,990	530,000	414,000	3,800,000	198,000
Chile	575	422	--	--	--	--	1,340	644	--	--
China	3,340	2,150	57,300	54,300	614	203	6,920	4,060	51,800	37,400
Costa Rica	3,690	2,810	--	--	1,690	250	1,280	908	--	--
Czech Republic	--	--	--	--	--	--	55	27	923	818
Dominican Republic	381	289	184	159	72	29	264	155	--	--
France	2,060	1,170	67,400	57,800	42	27	3,170	2,390	1	51
Germany	1,820	2,370	55,700	52,300	--	24	4,950	3,580	4,010,000	318,000
Hong Kong	4,820	4,390	46,200	42,800	--	--	8,950	6,790	4,210	947
India	25,200	13,500	--	--	--	--	5,310	3,410	208	484
Ireland	--	--	--	--	--	--	11,100	7,990	--	--
Israel	247	69	966	627	770	47	1,540	928	3	37
Italy	689	696	2,390	2,030	--	--	1,890	1,120	1,620,000	501,000
Japan	59	479	68,200	58,700	--	--	654	370	4,280,000	129,000
Korea, Republic of	20,000	40,800	56,200	53,900	--	--	6,130	4,640	16,800	24,600
Luxembourg	--	--	--	--	--	--	--	--	320	14,000
Malaysia	145	115	3,170	3,350	121	70	4,690	2,660	--	--
Mexico	7,880	7,580	13,500	7,580	4,020	834	92,400	49,100	286,000	57,700
Norway	62	45	--	--	--	--	558	280	26,700	551
Philippines	95	91	--	--	173	98	2,720	1,370	--	--
Poland	412	290	--	--	--	--	213	106	491	325
Saudi Arabia	50	21	--	--	--	--	4,420	2,210	--	--
Singapore	139	72	44,500	25,300	80	42	7,860	3,950	10	10
South Africa	7	3	--	--	--	--	90	45	174,000	3,760
Spain	--	--	--	--	--	--	4,950	2,470	--	--
Sweden	--	--	--	--	207	46	3,770	2,030	2,710,000	80,700
Switzerland	253	372	--	--	301	42	500	282	--	--
Taiwan	250	209	157,000	138,000	--	--	3,130	1,740	885	912
Thailand	2,410	1,280	2,230	1,870	127	24	9,300	4,800	--	--
United Arab Emirates	227	94	--	--	--	--	1,570	753	11	145
United Kingdom	1,220	1,570	26,600	22,100	751	220	11,000	6,210	293,000	81,700
Other	1,380	955	11,200	10,100	3,130	224	6,160	3,470	888	1,010
Total	120,000	116,000	660,000	551,000	39,800	4,370	741,000	535,000	19,300,000	1,570,000

-- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Containing 99.5% or more by weight of silver.

Source: U.S. Census Bureau.

TABLE 6
U.S. IMPORTS FOR CONSUMPTION OF REFINED SILVER, BY COUNTRY[1]

Year and country	Silver ores and concentrates		Ash and residues		Bullion		Dore		Total	
	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)	Silver content (kilograms)	Value (thousands)
2012	8,920 r	$4,870 r	391	$119	4,030,000	$4,040,000	1,030,000	$1,430,000	5,070,000 r	$5,470,000 r
2013:										
Argentina	--	--	--	--	--	--	16,000	15,900	16,000	15,900
Australia	--	--	--	--	12,500	9,760	560	421	13,000	10,200
Belgium	--	--	--	--	5,730	4,420	--	--	5,730	4,420
Bolivia	--	--	--	--	110	76	94,700	82,700	94,800	82,700
Canada	26	50	--	--	1,600,000	1,280,000	124	93	1,600,000	1,280,000
Chile	--	--	--	--	8,350	8,480	3,290	4,720	11,600	13,200
Colombia	--	--	--	--	730	527	10,100	8,140	10,800	8,670
Dominican Republic	--	--	--	--	1,900	1,540	431	378	2,330	1,920
Germany	--	--	--	--	10,500	10,400	2,760	2,640	13,300	13,100
Honduras	--	--	--	--	--	--	297	198	297	198
Ecuador	--	--	--	--	--	--	965	881	965	881
Italy	--	--	--	--	6,000	5,430	1,550	1,300	7,550	6,720
Korea, Republic of	--	--	--	--	36,300	36,400	--	--	36,300	36,400
Japan	--	--	13	3	1,710	1,620	--	--	1,720	1,620
Mexico	10,700	3,390	--	--	2,010,000	1,560,000	856,000	1,050,000	2,880,000	2,610,000
Netherlands	--	--	--	--	546	615	--	--	546	615
Nicaragua	--	--	--	--	--	--	1,840	1,350	1,840	1,350
Panama	--	--	--	--	1,470	520	379	299	1,850	819
Peru	--	--	--	--	38,300	29,100	143,000	159,000	181,000	188,000
Philippines	--	--	65	14	--	--	--	--	65	14
Poland	--	--	--	--	55,500	38,700	--	--	55,500	38,700
Russia	--	--	--	--	12,800	9,280	--	--	12,800	9,280
Switzerland	--	--	--	--	3,430	3,610	54,500	59,600	58,000	63,200
Taiwan	--	--	--	--	707	494	--	--	707	494
Thailand	--	--	--	--	527	68	--	--	527	68
United Kingdom	--	--	--	--	20,700	17,600	--	--	20,700	17,600
Other	--	--	56	13	147	135	217	174	420	322
Total	10,700	3,440	134	30	3,830,000	3,020,000	1,190,000	1,390,000	5,030,000	4,410,000

rRevised. -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.

Source: U.S. Census Bureau.

TABLE 7
U.S. IMPORTS FOR CONSUMPTION OF SILVER, BY COUNTRY[1]

Year and country	Other unwrought silver		Metal powder		Silver nitrate		Semimanufactured forms[2]		Waste and scrap	
	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)	Gross weight (kilograms)	Value (thousands)
2012	199,000	$203,000	444,000	$323,000	1,730	$601	498,000	$484,000	7,320,000	$518,000
2013:										
Australia	170	129	(3)	9	--	--	1,220	1,130	--	--
Belgium	170	88	1,520	186	665	28	990	652	627,000	7,360
Brazil	--	--	--	--	--	--	--	--	1,310,000	8,990
Canada	52,000	48,600	56,100	3,890	--	--	649,000	499,000	1,920,000	91,800
China	52	40	65,600	3,270	5	2	3,860	2,720	951,000	8,090
Colombia	200	166	183	140	--	--	1,400	1,080	16,200	874
Costa Rica	--	--	--	--	--	--	--	--	102,000	3,250
Dominican Republic	110	34	359	75	--	--	15	9	71,600	8,340
France	--	--	6,320	2,220	--	--	158	107	48,400	696
Germany	99	84	5,270	3,850	170	25	6,930	5,010	576,000	136,000
Hungary	--	--	6,220	376	--	--	--	--	--	--
Italy	4,340	2,940	11,000	11,300	--	--	432	163	51,900	39,900
Japan	14	18	574,000	355,000	--	--	739	245	11,400	869
Korea, Republic of	--	--	2,740	204	--	--	--	--	--	--
Malaysia	--	--	--	--	--	--	--	--	403,000	42,400
Mexico	135,000	105,000	218	125	--	--	191,000	153,000	956,000	34,500
Netherlands	374	239	40	4	--	--	--	--	--	--
Peru	250	230	2,720	1,140	--	--	401,000	287,000	--	--
Poland	--	--	--	--	--	--	173	113	--	--
Russia	--	--	--	--	--	--	4,790	3,310	--	--
Singapore	--	--	1,080	851	--	--	118	149	145,000	13,500
South Africa	--	--	--	--	--	--	214	140	--	--
Sweden	--	--	670	367	--	--	--	--	3,970	779
Switzerland	61	93	831	141	--	--	4,120	4,420	--	--
Taiwan	--	--	7,210	1,960	--	--	1,930	1,320	--	--
Thailand	--	--	--	--	--	--	--	--	12,400	2,010
United Kingdom	1,190	954	341	285	1,010	471	35,900	26,700	942,000	31,400
Other	241	220	60	58	5	10	118	130	337,000	12,100
Total	194,000	159,000	742,000	385,000	1,860	537	1,300,000	986,000	8,480,000	443,000

-- Zero.

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

[2]Containing 99.5% or more by weight of silver.

[3]Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 8
SILVER: WORLD MINE PRODUCTION, BY COUNTRY[1, 2]

(Metric tons)

Country[3]	2009	2010	2011	2012	2013
Algeria[e]	(4)	(4)	(4)	(4)	(4)
Argentina	533	723	747	799 [r]	750 [e]
Armenia	53	68	25 [r]	22 [r]	24 [e]
Australia	1,635	1,864	1,725	1,728	1,840
Azerbaijan	--	2	1	1	1 [e]
Bolivia	1,326	1,259	1,214	1,206 [r]	1,287
Brazil	4	5	8	9 [e]	10 [e]
Bulgaria[e]	43	42	45	55	55 [e]
Burma	(4)	--	--	--	--
Canada	617 [r]	591 [r]	661 [r]	705 [r]	627
Chile	1,301	1,287	1,291	1,195	1,174
China[e]	2,900	3,500	3,700	3,900	4,100
Colombia	11	15	24	19 [r]	14
Congo (Kinshasa)	--	6	10	12	60
Côte d'Ivoire	(4)	(4)	(4)	(4) [r]	(4)
Dominican Republic	19	20	18	27 [r]	78 [e]
Ecuador	(4)	1	1	2 [e]	1 [e]
Eritrea	--	--	4	30	16
Ethiopia[e]	1 [5]	2	2	2	2
Finland	70	65	73	128	72
France[e]	1	--	--	--	--
Ghana	4	3 [r]	3 [r]	3 [r, e]	3 [e]
Greece[e]	30 [5]	29 [r]	30	32 [r]	30
Guatemala	129	195	273	205	266
Honduras	58	58	53	51	50 [e]
India	105 [r]	138 [r]	148 [r]	207 [r]	374
Indonesia	359	272	310	250	275 [e]
Ireland[e]	4	4	4	4	4
Italy[e, 6]	(4)	(4)	(4)	(4)	(4)
Japan	5 [r, e]	5 [r, e]	7 [r]	8 [r]	5
Kazakhstan	618	552	651	963	1,000 [e]
Korea, North[e]	20	20	20	20	20
Korea, Republic of	NA	2	3	3 [e]	2 [e]
Laos	15 [r]	16 [r]	17 [r]	19	20 [e]
Macedonia	-- [r]	-- [r]	-- [r]	-- [r]	--
Malaysia	(4)	(4)	(4)	2	2 [e]
Mali	-- [r]	-- [r]	-- [r]	-- [r]	--
Mexico	3,554	4,411	4,778	5,358	4,861
Mongolia	29 [r]	29 [r]	28 [r]	28 [r]	30 [e]
Morocco	235 [r]	243 [r]	186 [r]	170 [r]	233
Namibia[e]	11	10	9	9	10 [e]
New Zealand	14	17	14	6	6 [e]
Nicaragua	4	7	8	10	13 [p]
Niger	(4)	(4)	(4)	(4)	(4) [e]
Oman	(4)	(4)	(4)	--	--
Pakistan[e]	3	3	3	3	3
Panama	--	1	2	2	2 [e]
Papua New Guinea	55	74	81	84	80 [e]
Peru	3,923	3,640	3,419	3,479	3,674
Philippines	34	41	46	67	70
Poland	1,207	1,181	1,167	1,149	1,199
Portugal	22	24	28	27 [r]	37
Romania[e]	18	18	-- [r]	-- [r]	--
Russia	1,590 [r]	1,545 [r]	1,543 [r]	1,679 [r]	1,720
Saudi Arabia	9	8	8	4 [e]	2 [e]

See footnotes at end of table.

TABLE 8—Continued
SILVER: WORLD MINE PRODUCTION, BY COUNTRY[1, 2]

(Metric tons)

Country[3]	2009	2010	2011	2012	2013
Serbia	5 r	5	5	6 r	6 e
Solomon Islands	--	--	2 r	3 r	2 e
South Africa	78	79	73	67 r	69
Spain e	4 5	23	33	39	40 e
Sudan e	(4)	1 5	1	1	1
Sweden	289	302	302	305 e	305 e
Tajikistan	1	3	2	2	2 e
Tanzania	8	12	10 r	11 r	11
Thailand	15 r	17	19 r	31 r	31 e
Turkey	352	364	247	193 r	200 e
United Kingdom	(4)	(4)	1	(4)	(4)
United States	1,250	1,280	1,120	1,060	1,040
Uruguay	-- r	-- r	-- r	-- r	--
Uzbekistan	53	59	60	60 r	64 e
Zimbabwe e	(4)	(4)	1	1	1
Total	22,600 r	24,100 r	24,300 r	25,500	25,900

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

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

[2]Recoverable content of ores and concentrates produced unless otherwise specified. Includes data available through September 30, 2014.

[3]In addition to the countries listed, Botswana, Fiji, Georgia, Iran, Kyrgyzstan, and Zambia were thought to produce silver.

[4]Less than ½ unit.

[5]Reported figure.

[6]Includes production from imported ores.