



2010 Minerals Yearbook

MERCURY

MERCURY

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In 2010, no mines produced mercury as a principal product in the United States. The last mine to produce mercury as its principal product, the McDermitt Mine in northern Nevada, closed in 1992. However, in 2010, mercury was produced as a byproduct of domestic gold-silver processing, mainly in Nevada, and may have been produced as a byproduct of processing other metals. Imported byproduct mercury was processed domestically, and the mercury was resold. Mercury was produced from reclamation of mercury contained in fluorescent lamps and a declining supply of mercury-containing automobile convenience switches, batteries, dental amalgam, electronic waste, medical devices, and thermostats. The chlorine-caustic soda industry was the leading domestic user of mercury for its mercury-cell plants, and some of that mercury was recycled in-plant. Comprehensive data on domestic byproduct and recycled mercury production were not available.

Since 1927, the common unit for measuring and pricing mercury has been the “flask,” which was set to conform to the historical measuring system used at Almaden, Spain (Myers, 1951). One flask of mercury weighs 34.5 kilograms (kg), and 1 metric ton (t) of mercury contains approximately 29 flasks. The flask itself is a screw-top, welded-steel container that is approximately the size of a 2-liter bottle.

Legislation and Government Programs

In July 2010, the U.S. Environmental Protection Agency (EPA) promulgated a significant new use rule under section 5(a)(2) of the Toxic Substances Control Act of 1976 for elemental mercury used in flow meters, natural gas manometers, and pyrometers, for devices in service after September 11, 2009. This action required manufacturers and importers to notify the EPA at least 90 days before beginning the technique or process that required the use of mercury. The notification would provide the EPA with the opportunity to evaluate the intended use, and if necessary, limit or prohibit the activity (U.S. Environmental Protection Agency, 2010a).

The EPA issued final rules on cutting emissions of mercury and particle pollution from portland cement kilns, which are a leading source of mercury air emissions in the United States. The action sets limits on mercury emissions from existing kilns, strengthens the limits for new kilns, and limits particle pollution. When the final rules are fully implemented in 2013, the EPA estimated that annual emissions of mercury will be reduced by 92%, or 7 t (U.S. Environmental Protection Agency, 2010b).

In July 2009, the U.S. Food and Drug Administration (FDA) classified mercury-containing dental amalgam as a moderate risk item that released levels of mercury not high enough to cause harm and chose not to require warnings. However, in response to consumer petitions and letters, the FDA and an advisory panel of outside experts decided to review the existing scientific evidence

that resulted in the FDA’s earlier pronouncement that dental fillings containing mercury do not cause harm to patients. The review was scheduled for completion in early 2011 (Zajac, 2010).

The EPA announced that it intended to propose a rule that would be finalized in 2012 to reduce dental mercury waste, which was estimated to account for 3.7 metric tons per year (t/yr) of discharge. Until the rule is finalized, EPA encouraged dental offices to voluntarily install amalgam separators; these separators can capture 95% of the mercury that is discharged from dental offices for shipment to waste treatment plants (U.S. Environmental Protection Agency, 2010c).

The Mercury Export Ban Act of 2008 (Public Law 110–414), also known as MEBA, prohibited sale and transfer of elemental mercury after January 1, 2013, and addressed long-term storage of elemental mercury. The three main provisions are—Federal agencies are prohibited from selling or distributing elemental mercury, including stockpiles held by the U.S. Department of Energy (DOE) and U.S. Department of Defense; export of elemental mercury is banned beginning January 1, 2013; and the DOE will designate one or more facilities for long-term management and storage of elemental mercury generated within the United States. However, there are exemptions to the export ban for essential uses, and any person residing in the United States may petition the EPA for an exemption.

Electronic waste, or “e-waste,” may contain arsenic, beryllium, mercury, and other hazardous materials. Incineration of the e-waste volatilizes and sends the chemicals into the environment; therefore, Vermont has passed legislation designed to provide a consistent and organized approach for handling of e-waste and make disposal in landfills illegal. Vermont solid waste districts took in 725 t of electronic waste in 2008 (Metal-Pages, 2010e).

Because of a mercury spill in October from a smelter in British Columbia, Canada, the EPA was engaged in a court case regarding pollution and cleanup along sections of the Columbia River, near the border of Washington State and Canada. The company has begun an investigation to determine the amount discharged, the cause of the spill, and the impact on the Columbia River. The court case was apparently settled, with a ruling that pollution was coming from old slag piles at the site and was subject to regulation under Superfund laws (Metal-Pages, 2010c).

The Federal Government sued eight metal companies in an attempt to recover \$7 million spent by the EPA after 2004 to clean up mercury at Rye Brook, NY, which was part of the Port Refinery Superfund site. The lawsuit claimed that from the 1970s until 1991, Port Refinery was engaged in refining mercury. From 1991 to 1996, the EPA began an initial cleanup of mercury at the site. In 2004, nearby residents discovered mercury alongside a walkway. Since 2004, the EPA has removed 9,300 t of mercury-contaminated soil from the site (Metal-Pages, 2010d).

Using provisions from the Clean Air Act, the EPA published the national emissions standards for hazardous air pollutants, which was focused on gold-silver production facilities, the seventh leading source of mercury air emissions in the United States. The rule established mercury emissions limits for ore pretreatment, carbon processes with mercury retorts, carbon processes without mercury retorts, and noncarbon concentrate processes—the latter three processes separate gold from the ore. The EPA estimated that the rule would reduce mercury emissions by 0.7 t or a 77% reduction from 2007 levels (U.S. Environmental Protection Agency, 2010d). The new regulations permit only 38 kg of mercury emissions for every 1 million metric tons (Mt) of ore processed, whereas existing plants now produce approximately 59 kg of mercury emissions per 1 Mt of ore. The regulations affect mines in Alaska, Colorado, Montana, Nevada, and Washington (Kosich, 2010).

Research by the U.S. Department of Agriculture has shown that in laboratory experiments, activated carbon made from chicken and turkey litter manure removed the majority of elemental mercury from a hot air stream. The quantity of poultry manure produced annually is large, and these sorbent studies may be applicable to the reduction of mercury emissions from air, coal-fired powerplants, and natural gas (Klasson and others, 2009).

The U.S. Geological Survey conducted field studies in the South Yuba River in the western part of the Sierra Nevada Mountains, CA. The area is contaminated with mercury that was released during placer gold-silver mining that took place from the mid-1800s until the early 1900s. Resource managers and stakeholders in the region were concerned with the remobilization of the mercury from the sediments, its chemical form, potential for methylmercury production, and bioaccumulation of mercury in downstream environments. Fine-grained sediments contained the highest concentration of mercury and those fine-grained sediments were susceptible to long-range transport and elevated mercury content in the downstream environment (Fleck and others, 2011; Marvin-DiPasquale and others, 2011).

The National Defense Stockpile (NDS) held an inventory of 4,436 t of mercury at several sites in the United States. Mercury sales from the NDS were suspended in 1994 in response to environmental concerns. In 2004, the Defense Logistics Agency, DLA Strategic Materials (DLA) indicated that the mercury would be consolidated at one site in Nevada (Joseph Johnson, specialist, Defense Logistics Agency, written commun., April 30, 2004). The DOE has 1,329 t of mercury in storage facilities in Oak Ridge, TN.

Production

In 2010, byproduct mercury was produced at several precious metals mines in Nevada and was imported from foreign sources. Bethlehem Apparatus Co. Inc. (Bethlehem, PA) processed and refined mercury for resale. Data on the amount of byproduct mercury produced in the United States were not available. Mercury has not been mined as a principal product in the United States since 1992, when the McDermitt Mine in Nevada closed.

Consumption

In 2010, less than 100 t of mercury was consumed domestically. Domestic mercury consumption was broadly estimated to be about 50% for chlorine-caustic soda manufacture and 50% for other uses (Brooks and Matos, 2005, p. 3). Compact fluorescent lamps (CFLs), which contain 3 to 5 milligrams (mg) of mercury, were promoted as alternatives to standard fluorescent lamps (Von Ahn, 2007).

Global human health and environmental concerns about mercury have caused a decline in mercury purchases by the chlorine-caustic soda industry as well as an overall market shift in the chlorine-caustic soda industry from mercury cell technology toward nonmercury chlorine production technology. Since 1995, total annual mercury used by the industry has been reduced by 97%. In 1996, there were 14 operating mercury cell plants in the United States. Only four mercury-cell facilities were in operation in the United States at yearend 2009; these included mercury-cell facilities in Georgia, Ohio, Tennessee, and West Virginia (Lydersen, 2009). Mercury use at yearend 2008 was 4 t and mercury purchases were 1.2 t; however, mercury purchases do not equate to mercury use owing to process upgrades and longer piping runs that require more mercury. As mercury-cell plants close around the world, that mercury, as well as mercury from remediation of the plant facilities and soil, will become available for recycling and sale.

Owing to the concern over the environmental impact of mercury, a stabilization process has been developed and patented in the United States (U.S. Patent No. 7,691,361). This process converts mercury into a high-purity mercury sulfide with the same physical and chemical characteristics of naturally occurring cinnabar. The mercury sulfide is then blended with polymers resulting in a red, 7 millimeter (mm) × 7 mm pellet that is suitable for land disposal. This product is currently acceptable for disposal in landfills in Canada and awaits certification from the EPA for disposal in the United States (Bethlehem Apparatus Co., Inc., undated).

Recycling

Mercury was reclaimed from end-of-service automobile convenience switches, dental amalgam, fluorescent lamps, laboratory and medical devices, mercury contaminated waste, and thermostats in 2010. The voluntary National Vehicle Mercury Switch Recovery Program (NVMSRP) was started in 2006 by the EPA to stop toxic emissions of mercury when cars are scrapped and then melted to make new steel. From 2006 through 2009, the NVMSRP was supported by payments to dismantlers from the auto and steel industries. Payments were as much as \$4 per switch, and the cumulative amount of mercury kept out of furnaces was 3 t (Schaffer, 2009). Funding for the program was depleted in July 2009; however, payments will continue in States where they are required by law or that have a State-funded program (U.S. Environmental Protection Agency, undated). In 2010, 630 kg of mercury was recovered from nearly 631,000 switches. These switches and other mercury-containing

materials were treated in multistep high-temperature retorts in which the mercury was first volatilized and then condensed for purification and sale (Brooks and Matos, 2005, p. 1). The NVMSRP was scheduled to continue until 2017.

The Energy Independence and Security Act of 2007 (Public Law 110–140) included a ban on the sale of incandescent bulbs by 2014 and added CFLs, which contain 3 to 5 mg of mercury, to the list of recyclable products. Lamp manufacturers and recyclers encouraged consumers to return the used CFLs for recycling by providing shipping materials or collection programs (National Electrical Manufacturers Association, 2008). All CFLs contain mercury; however, newer CFLs may contain 80% less mercury than earlier models (Caplan, 2009). In September 2010, the last major factory in the United States to make incandescent light bulbs closed (Whoriskey, 2010).

Byproduct mercury from domestic and foreign sources and mercury reclaimed from end-of-service products were processed or recycled in the United States and then sold into the international metals market. No data were available on the amount of mercury recycled from these respective sources.

In 2010, the major companies that recycled mercury included AERC.com, Inc., Allentown, PA; Bethlehem Apparatus Co., Inc., Bethlehem, PA; Clean Harbors Environmental Services, Inc., Braintree, MA; D.F. Goldsmith Chemical and Metal Corp., Evanston, IL; Onyx Environmental Services, Lombard, IL; and WM Mercury Waste, Inc., Union Grove, WI. Benivia LLC (Atlanta, GA) maintained a list of companies whose role was mainly collection of mercury-containing materials that would ultimately be moved on to the larger companies for reclamation of the mercury (Benivia LLC, undated).

In 2010, Thermostat Recycling Corp. (TRC) (Rosslyn, VA) announced a 28% increase in its overall thermostat collections. More than 700 new collection locations were added in 2010, and collection points included heating, ventilation, and air conditioning (HVAC) contractors and distributors, local governments, and retailers. Nearly 1 t of mercury was collected during the year. TRC collection sites in Maryland, California, Florida, and Pennsylvania were the leading States in the recovery of 175 kg, 85 kg, 60 kg, and 45 kg, respectively. Individual thermostats may contain 2.5 to 10 grams of mercury (Thermostat Recycling Corp., 2011).

Prices

The average domestic price of mercury was \$1,075 per flask in 2010. The price quoted in Platts Metals Week began the year at \$600 per flask in January and steadily rose to \$1,950 per flask in December, a 325% increase. There was resistance from buyers but demand remained strong through the summer, particularly from countries where the mercury was used to produce gold from small-scale or artisanal mining (Mining Journal, 2010b). Increased gold prices in 2010, averaging \$1,200 per troy ounce, resulted in an increase in the global demand for mercury for small-scale gold mining. For comparison, in 2000–03, the average price of gold was \$310 per troy ounce and the average price of mercury was \$140 per flask. The price of mercury is also affected by a diminished supply of mercury from recycled mercury-containing products,

fluctuations in imports of byproduct mercury, and fluctuations in production of domestic byproduct mercury.

Although the chloralkali and battery industries continue to switch to nonmercury technology, availability of mercury for small-scale gold mining will not increase because of the effect of the U.S. mercury export ban and the European export ban that is to take effect in March 2011. However, if rumors of resumed Chinese mercury production are true, then prices may stabilize (Mining Journal, 2010a).

Foreign Trade

In 2010, mercury imports totaled 294 t and exports totaled 459 t. Chile (176 t) and Peru (102 t) were the leading sources of imported mercury, which was produced as a byproduct of large-scale precious metals mining. The Netherlands (295 t), Peru (38 t), and Vietnam (36 t) were the principal export destinations for mercury in 2010. Mercury exported to the Netherlands may be held in warehouses for sale and later shipment to other destinations. Mercury imports in 2010 were 43% more than those in 2009. Imports of mercury may vary from year to year, possibly owing to stockpiling of byproduct mercury produced at foreign precious metals smelters before shipment or upon closure of chlorine-caustic soda plants.

In 2010, a total of 23 t of amalgam was imported into the United States. This material is defined as mercury with one or more metals and may include mercury-containing caustic soda waste. Principal amalgam source countries were Bolivia (9 t), Germany (4 t), and the United Kingdom (4 t). A total of 203 t of amalgam was exported from the United States and principal destinations included Canada (32 t), Peru (29 t), Denmark (21 t), and Mexico (19 t).

World Review

In 2010, world mercury mine production was estimated to be 2,250 t. China (1,600 t) and Kyrgyzstan (250 t) were the world's leading producers of mercury while Chile (176 t) and Peru (102 t) were the leading producers of byproduct mercury. World production estimates have a high degree of uncertainty because most companies and countries may not report primary, byproduct, or secondary production data owing to environmental and health concerns. Quantities may appear erratic from year to year because of stockpiling of sufficient mercury for shipment.

European Union.—Euro Chlor (Brussels, Belgium), representing the European chlorine-caustic soda industry, took great interest in implementation of EU Regulation 1102/2008 regarding the ban on exports of mercury, certain mercury compounds, and safe storage of mercury. In a position paper, Euro Chlor affirmed that permanent underground storage facilities already exist and that storage of the mercury in sealed containers in salt mines is considered the safest option. Stabilization of mercury has been developed at a laboratory scale; however, Euro Chlor indicated that there is no proven technology to convert mercury into another form (Euro Chlor, 2010b). Euro Chlor continued to implement a voluntary agreement on phasing out mercury cell technology by 2020 and has met the requirement that quantities of mercury at chloralkali

sites have to be reported by May 31, 2010. Several European plants have closed; however, European chloralkali producers still have 8,200 t of mercury in 14 countries (Euro Chlor, 2010c). When the EU export ban takes place on March 15, 2011, mercury sent to temporary or permanent facilities was expected to be reported (Euro Chlor, 2010a).

China.—In 2010, China was the world's leading producer of mercury. According to a draft plan released by the China Nonferrous Metals Industry Association, China will restrain production of 10 nonferrous metals, including mercury, to less than 41 Mt t by 2015 (Metal-Pages, 2010a).

Colombia.—Colombia was one of the world's leading users of mercury for small-scale gold (silver-platinum) production. From 10 to 20 t/yr of gold are produced from Colombia's small-scale mines and from 50 to 100 t of mercury may be emitted to the atmosphere when the mercury-gold amalgam is burned to volatilize the mercury and recover the precious metals (Metal-Pages, 2010b). High levels of mercury have been found in five species of fish from Buenaventura Bay, which is Colombia's largest Pacific port. This raised health and environmental concerns because the mercury appeared related to runoff from the Dagua River, where small-scale gold mining takes place (Los Angeles Times, The, 2010). The United Nations presented its Supporting Entrepreneurs for Sustainable Development prize to small-scale miners in Choco, in western Colombia, for nonmercury production of gold, or "green gold" (El Tiempo, 2010).

Laos.—Small-scale gold mining is widespread in Laos. Because much of the mining was illicit and unregulated, mercury contamination was suspected in much of the country. Mining was thought to take place in every Province, but Xieng Khouang, Vientiane, and Luang Prabang Provinces have the most gold mines (Earth Times, 2010).

Mexico.—Mercury reserves in Mexico were estimated to be 26,900 t, including mercury contained in tailings from operations during colonial time (14,900 t) and primary mercury deposits (11,700 t). Small-scale mercury production reportedly took place near Sierra Gorda, where as many as 200 small mines operated at San Felipe de Mercurio. Mexico has imported mercury from Peru and exported mercury to Argentina, Brazil, Colombia, and Peru (Castro Diaz, 2008, p. 9).

Peru.—In 2010, 102 t of byproduct mercury from Peru's large-scale gold-silver mines was recovered and shipped to the United States for processing, resale, and shipment to metals dealers in Europe. Much of that mercury was ultimately resold into the global market to be used for small-scale gold mining, chlorine-caustic soda production, and dental amalgam.

Mercury is used widely in Peru for small-scale gold mining, and implementations of recommendations from a field study by the EPA and Argonne National Laboratory (Argonne, IL) led to reduction of mercury emissions from the gold shops where the amalgam was burned (Habegger and others, 2008, p. 9). As a result of these studies, efforts have been made to address and formalize small-scale mining issues (Caretas Peru, 2010; El Peruano, 2010b). Because of environmental impact and human health concerns, the Government of Peru passed legislation (Decreto de Urgencia, No. 012–2010) that suspended permits for new mining concessions, defined areas prohibited for mining, addressed recovery of affected areas, and prohibited

the use of gold dredges in the rivers (El Peruano, 2010a). In 2010, small-scale gold mining produced 16 to 18 t of gold and generated \$850 million in Madre de Dios, the most well-known of the 13 small-scale gold mining regions of Peru, and 450 t of mercury was lost to the environment (El Comercio, 2011).

Philippines.—Mercury was also used in the Philippines for small-scale gold mining and the Government, with support from the United Nations Environment Programme, formulated a National Strategic Plan focused on use and emissions of mercury, mining and production of gold, and the human health and environmental implications (Ban Toxics, 2010).

Outlook

Global mercury use is expected to decline with the exception of mercury used in the CFL industry and in small-scale gold mining. If gold prices continue to rise, these increased prices are likely to cause increased demand for mercury in the small-scale gold mining industry. Rising gold prices may also result in increased artisanal mercury production, increased recycling of mercury-containing tailings, and reopening of abandoned mercury mines to provide mercury for small-scale gold mining. The increased gold prices may also stimulate gold exploration, resulting in the opening of new large-scale mines. This, in turn, would result in continued byproduct mercury production from the processing of precious metals ores from the large-scale mines. Worldwide mercury prices may also rise, especially given the upcoming ban on mercury exports from the European Union in 2011 and from the United States in 2013.

Gallium alloys may provide nontoxic substitutes for mercury in a wide variety of applications that include electrical switches, liquid mirror telescopes, pumps, and sensors. Gallium can be alloyed with a variety of metals that include silver, gold, lead, cesium, and tin (Taylor and Rancort, 1998). Specifically, galinstan, an alloy of gallium, indium, and tin, is liquid at room temperatures and, owing to the low toxicity of its component metals, is a replacement for mercury. Owing to its higher reflectivity and lower density than mercury, galinstan is being considered as a replacement for mercury in liquid mirror telescopes for astronomy. Mercury-containing dental amalgam, which is less aesthetically pleasing, has declined in use, replaced by ceramic material with a more natural appearance. Closure of mercury cell chlorine-caustic soda production facilities worldwide, owing to pressure from international environmental and health organizations, was expected to result in release of large quantities of mercury for disposal, recycling, or storage.

Recycled mercury from mercury cell chlorine-caustic soda plants, byproduct mercury recovered from domestic and foreign precious metals operations, and mercury contained in the NDS are expected to be more than adequate to meet domestic needs.

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GENERAL SOURCES OF INFORMATION

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TABLE 1
SALIENT MERCURY STATISTICS¹

(Metric tons unless otherwise specified)

	2006	2007	2008	2009	2010
United States:					
Secondary production, industrial	NA	NA	NA	NA	NA
Imports for consumption	94	67	155	206	294
Exports	390	84	732	753	459
Industry stocks, yearend: ²					
Chloralkali	17	16	20	27	27 ^c
Other	2	2	4	3	3 ^c
Industrial consumption	38	31	NA	NA	NA
Price, average, free market ³ dollars per flask	670	530	600	610 ^r	1,076
World, mine production	1,150	1,200	1,820 ^r	1,960 ^r	2,250 ^c

^cEstimated. ^rRevised. NA Not available.

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

²Stocks at consumer and dealers only.

³Source: Platts Metal Week.

TABLE 2
U.S. IMPORTS AND EXPORTS OF MERCURY, BY COUNTRY¹

Country	2009		2010	
	Quantity, gross weight (metric tons)	Value (thousands)	Quantity, gross weight (metric tons)	Value (thousands)
Imports:				
Canada	5	\$24	4	\$17
Chile	88	195	176	389
Germany	14	970	11	779
Peru	92	104	102	102
Russia	7	42	--	--
Other	(2) ^r	13 ^r	1	4
Total	206	1,350	294	1,290
Exports:				
Australia	21	340	31	515
Colombia	4	75	--	--
Guatemala	13	123	--	--
Guyana	4	15	16	326
India	107	1,280	14	229
Netherlands	414	5,560	295	4,080
Peru	110	1,580	38	818
Singapore	16	261	--	--
Vietnam	41	605	36	615
Other	23 ^r	414 ^r	29	242
Total	753	10,300	459	6,830

^rRevised. -- Zero.

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

²Less than ½ unit.

TABLE 3
U.S. IMPORTS AND EXPORTS OF AMALGAMS¹ OF PRECIOUS METALS,
WHETHER OR NOT CHEMICALLY DEFINED, BY COUNTRY²

Country	2009		2010	
	Quantity, gross weight (metric tons)	Value (thousands)	Quantity, gross weight (metric tons)	Value (thousands)
Imports:				
Argentina	1	\$12,200	2	\$23,100
Bolivia	--	--	9	14,400
Germany	4	7,220	4	7,150
Mexico	3	6,130	2	4,830
United Kingdom	2	2,910	4	13,700
Other	4 ^r	2,810 ^r	2	6,730
Total	14	31,300	23	70,000
Exports:				
Canada	12	2,940	32	7,700
China	15	52,300	12	39,200
Denmark	(3)	14	21	69
France	1	6,360	1	8,890
Germany	11	14,200	18	14,800
Hong Kong	20	1,370	3	495
India	6	17,300	13	54,600
Japan	16	25,100	2	3,120
Korea, Republic of	5	5,460	2	14,300
Mexico	18	27,900	19	4,170
Netherlands	14	22,700	13	8,260
Peru	(3)	21	29	120
Singapore	3	4,010	4	7,240
Taiwan	1	14,000	7	17,700
Thailand	1	6,570	7	60,600
United Kingdom	4	4,950	5	9,440
Other	26 ^r	33,000 ^r	15	22,800
Total	154	238,000	203	274,000

^rRevised. -- Zero.

¹An alloy of mercury with one or more other metals.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Less than ½ unit.

TABLE 4
 MERCURY: WORLD MINE PRODUCTION, BY COUNTRY^{1,2,3}

(Metric tons)

Country	2006	2007	2008	2009	2010 ^e
Chile	NA	NA	NA	88	176
China ^e	760	800	1,300 ^r	1,400	1,600
Finland	20	20	20	15	15
Kyrgyzstan	250	250	250	250	250
Mexico ^e	8	8	21	21	21
Morocco ^e	10	10	10	10	10
Peru, exports ⁴	22	34 ^e	136	92 ^r	102
Russia ^e	50	50	50	50	50
Spain	NA	NA	NA	NA	NA
Tajikistan ^e	30	30	30	30	30
United States ⁴	NA	NA	NA	NA	NA
Total	1,150	1,200	1,820 ^r	1,960 ^r	2,250

^eEstimated. ^rRevised. NA Not available.

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

²Table includes data available through April 20, 2011.

³Canada is thought to produce byproduct mercury, but information on its production is inadequate to make reliable estimates.

⁴Byproduct mercury.