

GEMSTONES¹

(Data in million dollars, unless otherwise noted)

Domestic Production and Use: The combined U.S. natural and synthetic gemstone output decreased in 2002 from that of 2001. Production of natural gemstones increased by 12% during 2002, primarily owing to increased tourmaline production in California. Domestic gemstone production included agates, amber, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. In decreasing order, California, Tennessee, Arizona, Oregon, Arkansas, Idaho, and Montana produced 85% of U.S. natural gemstones. Production of synthetic gemstones decreased by 38% during the year, owing to large decreases in the production of cubic zirconia and moissanite. Reported output of synthetic gemstones was from six firms in North Carolina, New York, Florida, California, Michigan, and Arizona, in decreasing order of production. Major uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	1998	1999	2000	2001	2002^e
Production: ²					
Natural ³	14.3	16.1	17.2	15.1	16.9
Synthetic	24.2	47.5	37.1	24.7	15.3
Imports for consumption	9,250	10,700	12,900	11,400	12,900
Exports, including reexports ⁴	2,980	3,610	4,330	4,330	4,690
Consumption, apparent ⁵	6,310	7,150	8,620	7,110	8,240
Price		Variable, depending on size, type, and quality			
Employment, mine, number ^e	1,200	1,200	1,200	1,200	1,200
Net import reliance ⁶ as a percentage of apparent consumption	99	99	99	99	99

Recycling: Insignificant.

Import Sources (1998-2001): Israel, 42%; Belgium, 20%; India, 20%; and other, 18%. Diamond imports accounted for 94% of the total value of gem imports.

Tariff: Item	Number	Normal Trade Relations 12/31/02
Diamonds, unworked or sawn	7102.31.0000	Free.
Diamond, ½ carat or less	7102.39.0010	Free.
Diamond, cut, more than ½ carat	7102.39.0050	Free.
Precious stones, unworked	7103.10.2000	Free.
Precious stones, simply sawn	7103.10.4000	10.5% ad val.
Rubies, cut	7103.91.0010	Free.
Sapphires, cut	7103.91.0020	Free.
Emeralds, cut	7103.91.0030	Free.
Other precious, cut but not set	7103.99.1000	Free.
Other precious stones	7103.99.5000	10.5% ad val.
Imitation precious stones	7018.10.2000	Free.
Synthetic cut, but not set	7104.90.1000	Free.
Pearls, natural	7101.10.0000	Free.
Pearls, cultured	7101.21.0000	Free.
Pearls, imitation, not strung	7018.10.1000	4.0% ad val.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: The National Defense Stockpile (NDS) does not contain an inventory of gemstones. However, a very small portion of the industrial diamond stone inventory is of near-gem quality. Additionally, the beryl and quartz inventories contain some gem-quality materials that could be used by the gem industry. The U.S. Department of Defense is currently selling some NDS materials that may be near-gem quality.

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Events, Trends, and Issues: In 2002, the U.S. market for unset gem-quality diamonds was estimated to be more than \$10.5 billion, accounting for at least one-third of world demand. The domestic market for natural, unset nondiamond gemstones totaled more than \$700 million. The United States is expected to dominate global gemstone consumption throughout this decade.

In order to deal with the problem of "conflict diamonds," which are used to support insurgent forces in Africa, an international system of certification for rough diamond shipments called the Kimberley process was mandated by the United Nations in 2001. This process was implemented during 2002, and along with the apparent end of the conflicts in Angola, Congo (Kinshasa), and Sierra Leone, cleared the way for legitimate diamond trade.

Canada's Ekati Mine completed its third full year in 2001, with diamond production of 3.7 million carats. Canada's Diavik project is expected to come on-stream in 2003 with production of 6 to 8 million carats per year. Canada's first underground diamond mine, the Snap Lake project, is expected to come on-stream in 2005. When the Diavik and Snap Lake mines begin production, Canada will be producing at least 15% to 20% of total world diamond output.

World Mine Production,⁷ Reserves, and Reserve Base: Mine production for Angola, Botswana, Brazil, Canada, Congo (Kinshasa), Ghana, Guinea, Sierra Leone, and Tanzania have been revised upward, while production for Australia, Namibia, South Africa, and Venezuela have been revised downward based on new information from official country sources.

	Mine production		Reserves and reserve base ⁸
	2001	2002 ^e	
United States	(⁹)	(⁹)	World reserves and reserve base of gem diamond are substantial. No reserves or reserve base data are available for other gemstones.
Angola	4,650	4,700	
Australia	10,700	12,000	
Botswana	20,100	20,100	
Brazil	1,000	1,000	
Canada	2,600	2,700	
Central African Republic	360	400	
China	240	250	
Congo (Kinshasa)	9,100	7,000	
Ghana	700	700	
Guinea	270	300	
Namibia	1,490	1,600	
Russia	11,600	11,900	
Sierra Leone	450	500	
South Africa	4,470	4,200	
Tanzania	300	300	
Other countries	500	500	
World total (may be rounded)	68,500	68,000	

World Resources: Natural gem-quality diamonds are among the world's rarest mineral materials. Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to only about 6 carats per ton. The major gem diamond reserves are in southern Africa, Western Australia, Canada, and Russia.

Substitutes: Plastics, glass, and other materials are substituted for natural gemstones. Synthetic gemstones (manufactured materials that have the same chemical and physical properties as gemstones) are common substitutes. Simulants (materials that appear to be gems, but differ in chemical and physical characteristics) also are frequently substituted for natural gemstones.

^eEstimated.

¹Excludes industrial diamond and garnet. See Diamond (Industrial) and Garnet (Industrial).

²Estimated minimum production.

³Includes production of freshwater shell.

⁴Reexports account for about 66% of the totals.

⁵If reexports were not considered, apparent consumption would be significantly greater.

⁶Defined as imports - exports and reexports + adjustments for Government and industry stock changes.

⁷Data in thousands of carats of gem diamond.

⁸See Appendix C for definitions.

⁹Less than ½ unit.