

GEMSTONES¹

(Data in million dollars, unless otherwise noted)

Domestic Production and Use: Total U.S. gemstone output has decreased in recent years owing to a decline in foreign demand for freshwater shell, a major component of the domestic industry. Domestic gemstone production also included amber, agates, beryl, coral, garnet, jade, jasper, pearl, opal, quartz, sapphire, topaz, turquoise, and many other gem materials. Output of natural gemstones was primarily from Tennessee, Arizona, North Carolina, Arkansas, California, and Utah, in decreasing order. Reported output of synthetic gemstones was from five firms in North Carolina, New York, California, and Arizona, in decreasing order. There was notable production of freshwater pearl in Tennessee, turquoise in Arizona, and beryl in North Carolina and Utah. Major uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	1995	1996	1997	1998	1999^e
Production: ² Natural ³	48.7	43.6	25.0	14.3	13.5
Synthetic	26.0	24.0	21.6	24.2	49.1
Imports for consumption	6,540	7,240	8,380	9,250	10,200
Exports, including reexports ⁴	2,520	2,660	2,760	2,980	3,380
Consumption, apparent ⁵	4,100	4,650	5,670	6,310	6,880
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 percent of apparent consumption	98	98	99	99	99

Recycling: Insignificant.

Import Sources (1995-98 by value): Israel, 36%; Belgium, 21%; India, 21%; and other, 22%. Diamond imports accounted for 92% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12/31/99
	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, other	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: 15% (Domestic and foreign).

Government Stockpile: The National Defense Stockpile (NDS) does not contain an inventory of gemstones per se. However, portions of the industrial diamond inventory are of near-gem or gem quality. Additionally, the beryl and quartz inventories contain some gem-quality materials, and the inventory of synthetic ruby and sapphire could be used by the gem industry. The U.S. Department of Defense is currently selling some NDS materials that may be gemstone quality.

GEMSTONES

Events, Trends, and Issues: Canada's first commercial diamond mine opened during the fourth quarter of 1998 with expectations that it would make Canada a major diamond producer. The new mine is expected to account for about 6% of world diamond output value when it reaches full production levels. Additional Canadian mines scheduled to open in the next few years may double Canada's share of world production.

In 1999, the U.S. gemstone market exceeded an estimated \$9 billion, accounting for at least one-third of world demand. The United States is expected to dominate global gemstone consumption well into the next century. Synthetic gemstones will gain a larger share of domestic jewelry sales. China may emerge as a major new gem market in the next decade.

World Mine Production,⁷ Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁸
	1998	1999 ^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	2,400	2,400	
Australia	18,400	18,500	
Botswana	13,500	13,500	
Brazil	300	300	
Canada	278	300	
Central African Republic	330	350	
China	230	230	
Congo (Kinshasa) ¹⁰	2,000	2,500	
Ghana	640	650	
Namibia	1,600	1,600	
Russia	10,500	10,500	
South Africa	4,100	4,500	
Venezuela	100	120	
Other countries	<u>622</u>	<u>750</u>	
World total	55,000	56,200	

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, Canada, Russia, and Western Australia. Estimation of a reserve base is difficult to determine because of the changing economic evaluation of near-gem materials and recent discoveries in 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 more than 90% of the totals.

⁵If reexports are 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.

¹⁰Formerly Zaire.

GEMSTONES¹

(Data in million dollars, unless otherwise noted)

Domestic Production and Use: Total U.S. gemstone output has decreased in recent years owing to a decline in foreign demand for freshwater shell, a major component of the domestic industry. Domestic gemstone production also included agates, amber, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, topaz, turquoise, and many other gem materials. Output of natural gemstones was primarily from Tennessee, North Carolina, Arizona, Oregon, California, Arkansas, and Utah, in decreasing order. Reported output of synthetic gemstones was from four firms in North Carolina, New York, California, and Arizona, in decreasing order of production. There was notable production of freshwater pearl in Tennessee, turquoise in Arizona, and beryl in North Carolina and Utah. Major uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	1996	1997	1998	1999	2000^e
Production: ² Natural ³	43.6	25.0	14.3	16.1	16.6
Synthetic	24.0	21.6	24.2	47.5	⁴ 50
Imports for consumption	7,240	8,380	9,250	10,700	12,900
Exports, including reexports ⁵	2,660	2,760	2,980	3,610	4,080
Consumption, apparent ⁶	4,650	5,670	6,310	7,150	8,890
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 ⁷ as a percent of apparent consumption	98	99	99	99	99

Recycling: Insignificant.

Import Sources (1996-99 by value): Israel, 38%; India, 21%; Belgium, 20%; and other, 21%. Diamond imports accounted for 93% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12/31/00
	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, portions of the industrial diamond inventory are of near-gem or 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 gemstone quality.

GEMSTONES

Events, Trends, and Issues: Canada's first commercial diamond mine, the Ekati Mine, completed its first full year in 1999, with production of 2.5 million carats valued at \$422 million. During the first 6 months of 2000, Ekati production was another 1.35 million carats of diamond. Canada's second commercial diamond mine, the Diavik project, is expected to come on-stream in 2003 with production of 6 to 8 million carats per year worth about \$65 per carat.

The Kelsey Lake Diamond Mine, which straddles the Colorado-Wyoming State line, began production again in September 2000. Kelsey Lake is now owned by McKenzie Bay International, Ltd., a Canadian mining company, and is operated by McKenzie's local subsidiary, Great Western Diamond Co. Kelsey Lake is the United States' only commercial producing diamond mine.

In 2000, the U.S. gemstone market is expected to be about \$8.9 billion, accounting for at least one-third of world demand. The United States is expected to dominate global gemstone consumption during the next decade. Synthetic gemstones will gain a larger share of domestic jewelry sales.

World Mine Production,⁸ Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁹
	1999	2000 ^e	
United States	(10)	(10)	World reserves and reserve base of gem diamond are substantial. No reserves or reserve base data are available for other gemstones.
Angola	1,080	1,080	
Australia	13,400	14,000	
Botswana	15,000	15,000	
Brazil	300	300	
Canada	2,000	2,300	
Central African Republic	400	400	
China	230	230	
Congo (Kinshasa)	3,500	3,500	
Ghana	649	650	
Namibia	2,000	2,000	
Russia	11,500	11,500	
South Africa	4,000	4,000	
Venezuela	100	100	
Other countries	<u>1,440</u>	<u>1,440</u>	
World total	55,600	56,500	

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. Estimation of a reserve base is difficult because of the changing economic evaluation of near-gem materials and recent discoveries in 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.

⁴Estimated by rounding the 1999 synthetic production figure, because the 2000 synthetic production figure was withheld; synthetic production in 2000 was at least as high as that of 1999.

⁵Reexports account for more than 90% of the totals.

⁶If reexports were not considered, apparent consumption would be significantly greater.

⁷Defined as imports - exports and reexports + adjustments for Government and industry stock changes.

⁸Data in thousands of carats of gem diamond.

⁹See Appendix C for definitions.

¹⁰Less than ½ unit.

GEMSTONES¹

(Data in million dollars, unless otherwise noted)

Domestic Production and Use: Total U.S. gemstone output has decreased in recent years owing to a decline in foreign demand for freshwater shell, a major component of the domestic industry. Domestic gemstone production included agates, amber, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. Output of natural gemstones was primarily from Tennessee, Arizona, California, Oregon, Utah, Nevada, and Idaho, in decreasing order. Reported output of synthetic gemstones was from five firms in North Carolina, New York, Florida, California, and Arizona, in decreasing order of production. Major uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	1997	1998	1999	2000	2001^e
Production: ²					
Natural ³	25.0	14.3	16.1	17.2	15.3
Synthetic	21.6	24.2	47.5	37.1	24.5
Imports for consumption	8,380	9,250	10,700	12,900	11,700
Exports, including reexports ⁴	2,760	2,980	3,610	4,540	4,590
Consumption, apparent ⁵	5,670	6,310	7,150	8,410	7,190
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 (1997-2000): Israel, 40%; India, 21%; Belgium, 20%; and other, 19%. Diamond imports accounted for 93% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12/31/01
	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 small portion of the industrial diamond 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.

GEMSTONES

Events, Trends, and Issues: The Kelsey Lake diamond mine, which is the United States' only commercial diamond mine, straddles the Colorado-Wyoming State line. Kelsey Lake is owned and operated by Great Western Diamond Co., a wholly owned subsidiary of McKenzie Bay International, Ltd. of Canada. In September 2001, McKenzie Bay entered into a contract to sell Great Western to Roberts Construction of North Dakota and BJ&J Ltd. of Colorado.

In 2001, the U.S. market for unset gem-quality diamonds was estimated to be more than \$9 billion, accounting for at least one-third of world demand. The domestic market for natural, unset nondiamond gemstones totaled more than \$770 million. The United States is expected to dominate global gemstone consumption throughout this decade.

The large jump in reported diamond production for Botswana is due to the new Orapa mine expansion, which came on-stream in May 1999 and was completed during 2000. This expansion was designed to increase the Orapa's production to 12 million carats per year. New tighter controls on diamond smuggling, due to international bans on conflict diamonds, have caused some countries like Angola to reported higher production figures.

World Mine Production,⁷ Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁸
	2000	2001 ^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	4,350	4,400	
Australia	12,000	13,000	
Botswana	19,700	16,000	
Brazil	300	300	
Canada	2,000	2,300	
Central African Republic	400	400	
China	230	230	
Congo (Kinshasa)	3,500	3,500	
Ghana	180	800	
Namibia	1,520	1,550	
Russia	11,600	11,600	
South Africa	4,300	4,800	
Venezuela	60	60	
Other countries	<u>1,410</u>	<u>1,440</u>	
World total (rounded)	61,600	60,400	

World Resources: Canada's Ekati Mine completed its second full year in 2000, with diamond production of 2.63 million carats valued at \$454 million. In the sixteen-month period that ended May 31, 2001, Ekati produced 3.60 million carats of diamond, with an average sale price of \$168.30 per carat. 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 production.

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 more than 90% 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.

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.

GEMSTONES

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.

GEMSTONES¹

(Data in million dollars, unless otherwise noted)

Domestic Production and Use: The combined U.S. natural and synthetic gemstone output increased by 46% in 2003 from that of 2002. Production of natural gemstones decreased by 13% during 2003, primarily owing to a decreased domestic production of pearls and opal. 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, Tennessee, Arizona, Oregon, California, Arkansas, Nevada, Idaho, and Montana produced 80% of U.S. natural gemstones. Production of synthetic gemstones increased by 88% during the year, owing to large increases in the production of moissanite. Reported output of synthetic gemstones was from five firms in North Carolina, New York, Florida, Michigan, and Arizona, in decreasing order of production. Major uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	1999	2000	2001	2002	2003^e
Production: ²					
Natural ³	16.1	17.2	15.1	12.6	10.9
Synthetic	47.5	37.1	24.7	18.1	33.9
Imports for consumption	10,700	12,900	11,400	12,900	11,800
Exports, including reexports ⁴	3,610	4,330	4,330	4,700	5,070
Consumption, apparent ⁵	7,150	8,620	7,110	8,230	6,770
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 (1999-2002 by value): Israel, 42%; India, 21%; Belgium, 19%; and other, 18%. Diamond imports accounted for 94% of the total value of gem imports.

Tariff: Item	Number	Normal Trade Relations 12/31/03
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 crystal 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.

GEMSTONES

Events, Trends, and Issues: In 2003, the U.S. market for unset gem-quality diamonds was estimated to be more than \$12.1 billion, accounting for more than one-third of world demand. The domestic market for natural, unset nondiamond gemstones was estimated at about \$788 million. The United States is expected to dominate global gemstone consumption throughout this decade.

The United Nations mandated the Kimberley Process Certification Scheme for rough diamond shipments in 2001. This process was implemented during 2002. The U.S. Congress enacted the Clean Diamond Trade Act, and the President signed it into law on April 25, 2003. This law makes the United States a full participant in the Kimberley Process, and U.S. participation is critical to the scheme's success in excluding conflict diamonds from the legitimate supply chain.

Canada's Ekati Mine completed its fourth full year in 2002, with diamond production of 4.98 million carats. The Diavik Diamond Mine came onstream in January 2003 and will have production of 6 to 8 million carats per year. Canada's first entirely underground diamond mine, the Snap Lake project, is expected to come onstream in 2005. When Snap Lake begins 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 in 2003 for Canada, Central African Republic, Guinea, Namibia, Sierra Leone, and Tanzania were revised upward, while production for Angola, Botswana, Brazil, and Congo (Kinshasa) were revised downward based on submissions from official country sources.

	Mine production		Reserves and reserve base ⁸
	<u>2002</u>	<u>2003^e</u>	
United States	(9)	(9)	World reserves and reserve base of diamond-bearing deposits are substantial. No reserves or reserve base data are available for other gemstones.
Angola	5,400	5,000	
Australia	15,100	17,000	
Botswana	21,300	20,000	
Brazil	700	500	
Canada	4,980	8,000	
Central African Republic	375	500	
China	235	240	
Congo (Kinshasa)	9,100	4,000	
Ghana	770	800	
Guinea	270	370	
Namibia	1,350	1,400	
Russia	11,500	11,800	
Sierra Leone	450	650	
South Africa	4,350	4,720	
Tanzania	182	440	
Other countries ¹⁰	<u>420</u>	<u>420</u>	
World total (rounded)	<u>76,500</u>	<u>75,800</u>	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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.

¹⁰In addition to countries listed, Cote d'Ivoire, Gabon, Guyana, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined U.S. natural and synthetic gemstone output decreased by 24% in 2004 from that of 2003. Production of natural gemstones increased by 3% during 2004. 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, Tennessee, Oregon, Arizona, California, Montana, Nevada, Idaho, and Arkansas produced 83% of U.S. natural gemstones. Production of laboratory-created (synthetic) gemstones decreased by more than 33% during the year, owing to the closure of the only U.S. cubic zirconia producer. Reported output of laboratory-created gemstones was from four firms in North Carolina, Florida, Michigan, and Arizona, in decreasing order of production. Major uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	2000	2001	2002	2003	2004^e
Production: ²					
Natural ³	17.2	14.9	12.6	12.5	12.9
Laboratory-created (synthetic)	57.1	24.7	18.1	33.4	22.2
Imports for consumption	12,900	11,300	12,900	13,600	15,400
Exports, including reexports ⁴	4,330	4,320	4,880	5,490	6,940
Consumption, apparent ⁵	8,640	7,020	8,050	8,160	8,500
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 (2000-03 by value): Israel, 44%; India, 20%; Belgium, 19%; and other, 17%. Diamond imports accounted for 94% of the total value of gem imports.

Tariff: Item	Number	Normal Trade Relations 12-31-04
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 stones, 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 crystal inventories contain some gem-quality material 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.

GEMSTONES

Events, Trends, and Issues: In 2004, the U.S. market for unset gem-quality diamonds was estimated to have exceeded \$12.9 billion, accounting for more than an estimated 35% of world demand. The domestic market for natural, unset nondiamond gemstones was estimated to be about \$816 million. The United States is expected to dominate global gemstone consumption throughout this decade.

The Kimberley Process Certification Scheme for rough diamond shipments, which was mandated by the United Nations, was implemented during 2002. The United States was a full participant in the Kimberley Process in 2003. Thus far the scheme appears to be successful in excluding conflict diamonds from the legitimate supply chain.

Canada's Ekati Mine completed its fifth full year in 2003, with diamond production of 5.57 million carats. The Diavik Diamond Mine came onstream and was up to full operating capacity by February 2003 and produced 3.8 million carats by yearend. Canada's first entirely underground diamond mine, the Snap Lake project, is expected to come onstream in 2006. Canada produced about 15% of the world's diamond in 2003.

World Mine Production,⁷ Reserves, and Reserve Base: Mine production in 2004 for Angola, Australia, Canada, Guinea, Namibia, Russia, Sierra Leone, and Tanzania were revised upward, while production for Botswana, Congo (Kinshasa), Ghana, and South Africa were revised downward based on submissions from country sources.

	Mine production		Reserves and reserve base ⁸
	2003	2004 ^e	
United States	(9)	(9)	World reserves and reserve base of diamond-bearing deposits are substantial. No reserves or reserve base data are available for other gemstones.
Angola	4,770	5,500	
Australia	14,900	15,000	
Botswana	22,800	22,500	
Brazil	500	500	
Canada	11,200	11,300	
Central African Republic	300	300	
China	235	235	
Congo (Kinshasa)	5,400	5,000	
Ghana	800	750	
Guinea	368	490	
Namibia	1,650	1,700	
Russia	12,000	12,500	
Sierra Leone	214	250	
South Africa	5,070	5,000	
Tanzania	198	310	
Other countries ¹⁰	495	495	
World total (rounded)	80,900	81,800	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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 78% 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.

¹⁰In addition to countries listed, Cote d'Ivoire, Gabon, Guyana, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined value of U.S. natural and synthetic gemstone output increased by 29% in 2005 from that of 2004. The value of natural gemstones production decreased by 4% during 2005. 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, Tennessee, Arizona, Oregon, California, Idaho, Montana, Arkansas, and Nevada produced 84% of U.S. natural gemstones. The value of laboratory-created (synthetic) gemstones production increased by more than 44% during the year, owing to increases in the production of moissanite and of laboratory-created and cultured diamonds. Laboratory-created gemstones were manufactured by five firms in North Carolina, Florida, Massachusetts, Michigan, and Arizona, in decreasing order of production. Major gemstone uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	2001	2002	2003	2004	2005^e
Production: ²					
Natural ³	14.9	12.6	12.5	14.5	13.9
Laboratory-created (synthetic)	24.7	18.1	33.4	30.7	44.3
Imports for consumption	11,300	12,900	13,600	15,400	16,900
Exports, including reexports ⁴	4,320	4,880	5,490	7,230	8,580
Consumption, apparent ⁵	7,020	8,050	8,160	8,220	8,380
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 (2001-04 by value): Israel, 50%; India, 20%; Belgium, 18%; and other, 12%. Diamond imports accounted for 94% of the total value of gem imports.

Tariff: Item	Number	Normal Trade Relations 12-31-05
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 stones, 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 crystal inventories contain some gem-quality material 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.

GEMSTONES

Events, Trends, and Issues: In 2005, the U.S. market for unset gem-quality diamonds was estimated to have exceeded \$14.6 billion, accounting for more than an estimated 35% of world demand. The domestic market for natural, unset nondiamond gemstones was estimated to be about \$859 million. The United States is expected to dominate global gemstone consumption throughout this decade.

Canada's Ekati Mine completed its sixth full year in 2004, with diamond production of 4.08 million carats. The Diavik Diamond Mine completed its second full year in 2004, with diamond production of 7.57 million carats. Diamond exploration is continuing in Canada, and many new deposits have been found. Canada produced about 14% of the world's natural gemstone diamond production in 2004.

The success of Canadian diamond mines has stimulated interest in whether there are also commercially feasible diamond deposits in the United States. Currently, there are no operating commercial diamond mines in the United States. Australian and Canadian companies are now conducting diamond exploration in Alaska and Minnesota.

World Mine Production,⁷ Reserves, and Reserve Base: Mine production in 2005 for Angola, Australia, the Central African Republic, Guinea, Namibia, Sierra Leone, South Africa, and Tanzania increased, while production for Botswana, Canada, and Ghana decreased based on submissions from country sources.

	Mine production		Reserves and reserve base ⁸
	2004	2005 ^e	
United States	(9)	(9)	World reserves and reserve base of diamond-bearing deposits are substantial. No reserves or reserve base data are available for other gemstones.
Angola	5,400	6,300	
Australia	9,280	20,600	
Botswana	23,300	23,000	
Brazil	500	500	
Canada	12,600	11,700	
Central African Republic	250	300	
China	250	250	
Congo (Kinshasa)	6,000	6,000	
Ghana	800	640	
Guinea	468	550	
Guyana	450	450	
Namibia	2,000	2,100	
Russia	21,400	21,400	
Sierra Leone	309	360	
South Africa	5,780	6,000	
Tanzania	305	370	
Other countries ¹⁰	300	300	
World total (rounded)	89,400	101,000	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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 78% 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.

⁸[See Appendix C for definitions.](#)

⁹Less than ½ unit.

¹⁰In addition to countries listed, Cote d'Ivoire, Gabon, Guyana, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined value of U.S. natural and synthetic gemstone output decreased by 6% in 2006 from that of 2005. The value of natural gemstone production decreased by 1% during 2006. Domestic gemstone production included agate, amber, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. In decreasing order, Tennessee, Oregon, Arizona, California, Arkansas, Montana, and Nevada produced 81% of U.S. natural gemstones. The value of laboratory-created (synthetic) gemstones production decreased by more than 7% during the year. Laboratory-created gemstones were manufactured by four firms in North Carolina, Florida, Massachusetts, and Arizona, in decreasing order of production. Major gemstone uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006^e</u>
Production: ²					
Natural ³	12.6	12.5	14.5	13.4	13.3
Laboratory-created (synthetic)	18.1	33.4	30.7	51.1	47.4
Imports for consumption	12,800	13,600	15,400	17,200	18,300
Exports, including reexports ⁴	4,880	5,490	7,230	8,850	9,930
Consumption, apparent ⁵	7,950	8,160	8,220	8,410	8,430
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 (2002-05 by value): Israel, 46%; India, 20%; Belgium, 18%; South Africa, 4%; and other, 12%. Diamond imports accounted for 94% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations <u>12-31-06</u>
	Diamond, 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 stones, 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 crystal inventories contain some gem-quality material 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.

GEMSTONES

Events, Trends, and Issues: In 2006, the U.S. market for unset gem-quality diamonds was estimated to have exceeded \$16.2 billion, accounting for more than an estimated 35% of world demand. The domestic market for natural, unset nondiamond gemstones was estimated to be about \$996 million. The United States is expected to dominate global gemstone consumption throughout this decade.

Canada's Ekati Mine completed its seventh full year in 2005, with diamond production of 3.23 million carats. The Diavik Diamond Mine completed its third full year in 2005, with diamond production of 8.3 million carats. Diamond exploration is continuing in Canada, and many new deposits have been found. Canada produced about 7% of the world's natural gemstone diamond production in 2005. The success of Canadian diamond mines has stimulated interest in exploration for commercially feasible diamond deposits in the United States. Currently, there are no operating commercial diamond mines in the United States.

Mine production in 2006 for Angola, Botswana, Canada, the Central African Republic, Congo (Kinshasa), Côte d'Ivoire, Guinea, Guyana, Sierra Leone, South Africa, and Tanzania increased, while production for Russia decreased, and production in Australia, Brazil, China, and Namibia remained the same compared with that of 2005, based on submissions from country sources.

World Mine Production,⁷ Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁸
	2005	2006 ^e	
United States	(⁹)	(⁹)	World reserves and reserve base of diamond-bearing deposits are substantial. No reserves or reserve base data are available for other gemstones.
Angola	5,580	7,500	
Australia	20,000	20,000	
Botswana	23,900	24,000	
Brazil	300	300	
Canada	12,300	12,600	
Central African Republic	265	400	
China	100	100	
Congo (Kinshasa)	6,300	6,600	
Côte d'Ivoire	201	300	
Ghana	760	850	
Guinea	411	600	
Guyana	357	1,600	
Namibia	1,900	1,900	
Russia	23,000	22,400	
Sierra Leone	318	650	
South Africa	5,780	6,400	
Tanzania	175	180	
Other countries ¹⁰	175	175	
World total (rounded)	102,000	107,000	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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 78% 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.

⁸[See Appendix C for definitions.](#)

⁹Less than ½ unit.

¹⁰In addition to countries listed, Gabon, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined value of U.S. natural and synthetic gemstone output increased slightly in 2007 from that of 2006. The value of natural gemstone production increased by about 6% during 2007. Domestic gemstone production included agate, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. In decreasing order, Tennessee, Oregon, Arizona, California, Arkansas, Alabama, Montana, Idaho, and Nevada produced 83% of U.S. natural gemstones. The value of laboratory-created (synthetic) gemstones production increased slightly during the year. Laboratory-created gemstones were manufactured by five firms in North Carolina, Florida, Massachusetts, Michigan, and Arizona, in decreasing order of production. Major gemstone uses were jewelry, carvings, and gem and mineral collections.

Salient Statistics—United States:	2003	2004	2005	2006	2007^e
Production: ²					
Natural ³	12.5	14.5	13.4	11.3	12.0
Laboratory-created (synthetic)	33.4	30.7	51.1	52.1	52.3
Imports for consumption	13,600	15,500	17,200	18,300	19,600
Exports, including reexports ⁴	5,490	7,230	8,850	9,930	11,400
Consumption, apparent ⁵	8,160	8,220	8,410	8,430	8,260
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 (2003-06 by value): Israel, 47%; India, 19%; Belgium, 17%; South Africa, 5%; and other, 12%. Diamond imports accounted for 95% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12-31-07
	Imitation precious stones	7018.10.2000	Free.
	Pearls, imitation, not strung	7018.10.1000	4.0% ad val.
	Pearls, natural	7101.10.0000	Free.
	Pearls, cultured	7101.21.0000	Free.
	Diamond, 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 stones, cut but not set	7103.99.1000	Free.
	Other precious stones	7103.99.5000	10.5% ad val.
	Synthetic, cut but not set	7104.90.1000	Free.

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 crystal inventories contain some gem-quality material 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.

GEMSTONES

Events, Trends, and Issues: In 2007, the U.S. market for unset gem-quality diamonds was estimated to have exceeded \$17.7 billion, accounting for more than an estimated 35% of world demand. The domestic market for natural, unset nondiamond gemstones was estimated to be about \$1.03 billion. The United States is expected to dominate global gemstone consumption throughout this decade.

Canada's Ekati Mine completed its eighth full year in 2006, with diamond production of 2.52 million carats. The Diavik Diamond Mine completed its fourth full year in 2006, with diamond production of 9.8 million carats. Canada's third diamond mine, the Jericho Diamond Mine, began production of rough diamonds during the first quarter of 2006 and declared commercial production on July 1, 2006. The Jericho mine's production for the year was 296,000 carats. Diamond exploration is continuing in Canada, and many new deposits have been found. Canada produced about 14% of the world's natural gemstone diamond production in 2006. The success of Canadian diamond mines has stimulated interest in exploration for commercially feasible diamond deposits in the United States. Currently, there are no operating commercial diamond mines in the United States.

Mine production of diamond in 2007 for Canada, Congo (Kinshasa), and Russia increased, while production for South Africa decreased, and production in Angola, Australia, Botswana, Brazil, the Central African Republic, China, Côte d'Ivoire, Ghana, Guinea, Guyana, Namibia, Sierra Leone, and Tanzania remained the same compared with that of 2006, based on submissions from country sources.

World Mine Production,⁷ Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁸
	2006	2007 ^e	
Angola	7,000	7,000	World reserves and reserve base of diamond-bearing deposits are substantial. No reserves or reserve base data are available for other gemstones.
Australia	7,310	7,300	
Botswana	24,000	24,000	
Brazil	300	300	
Canada	12,400	12,600	
Central African Republic	315	320	
China	100	100	
Congo (Kinshasa)	5,600	5,780	
Côte d'Ivoire	200	200	
Ghana	780	780	
Guinea	355	360	
Guyana	300	300	
Namibia	2,200	2,200	
Russia	23,400	35,800	
Sierra Leone	360	360	
South Africa	6,240	6,080	
Tanzania	195	200	
Other countries ⁹	245	250	
World total (rounded)	91,300	104,000	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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 78% of the totals.

⁵Reexports excluded from apparent consumption calculation.

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.

⁹In addition to countries listed, Gabon, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined value of U.S. natural and synthetic gemstone output decreased by 35% in 2008 from that of 2007. The natural gemstone production value increased about 10% from that of 2007. Domestic gemstone production included agate, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. In decreasing order, Oregon, Tennessee, Arizona, California, North Carolina, Arkansas, Alabama, Montana, Idaho, and Maine produced 87% of U.S. natural gemstones. The production value of laboratory-created (synthetic) gemstones decreased 42% from that of the previous year. This drop in production resulted from a large decrease in Moissanite production value. Laboratory-created gemstones were manufactured by four firms in North Carolina, Florida, Massachusetts, and Arizona, in decreasing order of production. Major gemstone uses were carvings, gem and mineral collections, and jewelry.

Salient Statistics—United States:	2004	2005	2006	2007	2008^e
Production: ²					
Natural ³	14.5	13.4	11.3	11.9	13.0
Laboratory-created (synthetic)	30.7	51.1	52.1	73.5	42.8
Imports for consumption	15,500	17,200	18,300	20,100	22,700
Exports, including reexports ⁴	7,230	8,850	9,930	12,300	16,400
Consumption, apparent ⁵	8,220	8,410	8,430	7,880	6,420
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 (2004-07 by value): Israel, 47%; India, 19%; Belgium, 16%; South Africa, 5%; and other, 13%. Diamond imports accounted for 95% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12-31-08
	Imitation precious stones	7018.10.2000	Free.
	Pearls, imitation, not strung	7018.10.1000	4.0% ad val.
	Pearls, natural	7101.10.0000	Free.
	Pearls, cultured	7101.21.0000	Free.
	Diamond, 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 stones, cut but not set	7103.99.1000	Free.
	Other precious stones	7103.99.5000	10.5% ad val.
	Synthetic, cut but not set	7104.90.1000	Free.

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 crystal inventories contain some gem-quality material 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.

GEMSTONES

Events, Trends, and Issues: In 2008, the U.S. market for unset gem-quality diamonds was estimated to have exceeded \$19.0 billion, accounting for more than an estimated 35% of world demand. The domestic market for natural, unset nondiamond gemstones was estimated to be about \$1.15 billion. The United States is expected to continue dominating global gemstone consumption.

Canadian diamond production continued increasing in 2008 to about 18 million carats. Diamond exploration also continued in Canada, and many new deposits have been found. Canada produced more than 19% of the world's natural gemstone diamonds in 2008. The success of the Canadian gem diamond industry has stimulated interest in exploration for commercially feasible diamond deposits in the United States; however, at present, there are no operating commercial diamond mines in the United States.

Mine production of diamond in 2008 increased for Angola, the Central African Republic, Guinea, and Sierra Leone, while production decreased for Brazil, and production in Australia, Botswana, Canada, China, Congo (Kinshasa), Côte d'Ivoire, Ghana, Guyana, Namibia, Russia, South Africa, and Tanzania remained the same compared with that of 2007, based on submissions from country sources.

World Gem Diamond Mine Production,⁷ Reserves, and Reserve Base:

	Mine production		Reserves and reserve base ⁸
	<u>2007</u>	<u>2008^e</u>	
Angola	8,700	10,000	World reserves and reserve base of diamond-bearing deposits are substantial. No reserves or reserve base data are available for other gemstones.
Australia	231	230	
Botswana	25,000	25,000	
Brazil	300	200	
Canada	18,000	18,000	
Central African Republic	370	470	
China	100	100	
Congo (Kinshasa)	5,400	5,400	
Côte d'Ivoire	210	210	
Ghana	720	720	
Guinea	815	1,100	
Guyana	350	350	
Namibia	2,200	2,200	
Russia	23,300	23,300	
Sierra Leone	360	600	
South Africa	6,100	6,100	
Tanzania	230	230	
Other countries ⁹	<u>210</u>	<u>210</u>	
World total (rounded)	93,000	94,000	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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 78% of the totals.

⁵Reexports excluded from apparent consumption calculation.

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.

⁹In addition to countries listed, Gabon, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined value of U.S. natural and synthetic gemstone output decreased by 11% in 2009 from that of 2008. The natural gemstone production value decreased slightly from that of 2008, while synthetic gemstone production decreased 33% over the same period. Domestic gemstone production included agate, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. In decreasing order, Tennessee, Oregon, Arizona, Utah, California, North Carolina, Idaho, Arkansas, Colorado, Alabama, and Montana produced 86% of U.S. natural gemstones. The production value of laboratory-created (synthetic) gemstones decreased 33% from that of the previous year. This drop in production resulted from a large decrease in Moissanite production value. Laboratory-created gemstones were manufactured by five firms in Florida, New York, North Carolina, Massachusetts, and Arizona, in decreasing order of production. Major gemstone uses were carvings, gem and mineral collections, and jewelry.

Salient Statistics—United States:	2005	2006	2007	2008	2009^e
Production: ²					
Natural ³	13.4	11.3	11.9	11.5	11.2
Laboratory-created (synthetic)	51.1	52.1	73.5	51.4	34.3
Imports for consumption	17,200	18,300	20,100	20,900	14,500
Exports, including reexports ⁴	8,850	9,930	12,300	15,300	9,950
Consumption, apparent	8,410	8,430	7,880	5,670	4,610
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 ⁵ as a percentage of apparent consumption	99	99	99	99	99

Recycling: Gemstones are often recycled by being resold as estate jewelry, reset, or recut, but this report does not account for those stones.

Import Sources (2005-08 by value): Israel, 48%; India, 20%; Belgium, 15%; South Africa, 5%; and other, 12%. Diamond imports accounted for 95% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12-31-09
	Pearls, imitation, not strung	7018.10.1000	4.0% ad val.
	Imitation precious stones	7018.10.2000	Free.
	Pearls, natural	7101.10.0000	Free.
	Pearls, cultured	7101.21.0000	Free.
	Diamond, 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 stones, cut but not set	7103.99.1000	Free.
	Other precious stones	7103.99.5000	10.5% ad val.
	Synthetic, cut but not set	7104.90.1000	Free.

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 crystal inventories contain some gem-quality material 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.

GEMSTONES

Events, Trends, and Issues: In 2009, the U.S. market for unset gem-quality diamonds was estimated to have exceeded \$13.7 billion, accounting for more than an estimated 35% of world demand. This was a decrease of about 30% compared with that of 2008. The domestic market for natural, unset nondiamond gemstones was estimated to be about \$787 million, which was a decrease of 32% from that of 2008. These decreases in the U.S. gemstone markets are a reflection of the impact of the global recession on luxury spending. The United States is expected to continue dominating global gemstone consumption.

Canadian diamond production decreased in 2009 to about 12 million carats. Diamond exploration also continued in Canada, and many new deposits have been found. Canada produced more than 13% of the world's natural gemstone diamonds in 2009. The success of the Canadian gem diamond industry has stimulated interest in domestic exploration for commercial diamond deposits; however, at present, there are no operating commercial diamond mines in the United States.

World Gem Diamond Mine Production⁶ and Reserves:

	Mine production		Reserves ⁷
	2008	2009 ^e	
Angola	8,100	8,000	World reserves of diamond-bearing deposits are substantial. No reserves data are available for other gemstones.
Australia	273	260	
Botswana	25,000	32,000	
Brazil	200	200	
Canada	14,800	12,000	
Central African Republic	400	350	
China	100	100	
Congo (Kinshasa)	5,400	5,400	
Côte d'Ivoire	210	—	
Ghana	520	500	
Guinea	2,500	2,000	
Guyana	269	269	
Namibia	1,500	2,000	
Russia	21,900	21,900	
Sierra Leone	220	300	
South Africa	5,200	5,200	
Tanzania	190	190	
Other countries ⁹	<u>218</u>	<u>218</u>	
World total (rounded)	87,000	90,900	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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. — Zero.

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

²Estimated minimum production.

³Includes production of freshwater shell.

⁴Reexports account for about 78% of the totals.

⁵Defined as imports – exports and reexports + adjustments for Government and industry stock changes.

⁶Data in thousands of carats of gem diamond.

⁷See Appendix C for definitions. Reserve base estimates were discontinued in 2009; see Introduction.

⁸In addition to countries listed, Gabon, India, Indonesia, Liberia, and Venezuela are known to produce gem diamonds.

GEMSTONES¹

(Data in million dollars unless otherwise noted)

Domestic Production and Use: The combined value of U.S. natural and synthetic gemstone output increased by 7% in 2010 from that of 2009. The natural gemstone production value increased slightly from that of 2009, while synthetic gemstone production value increased 9% over the same period. Domestic gemstone production included agate, beryl, coral, garnet, jade, jasper, opal, pearl, quartz, sapphire, shell, topaz, tourmaline, turquoise, and many other gem materials. In decreasing order, Arizona, Oregon, Utah, California, Idaho, Colorado, Arkansas, Montana, North Carolina, Maine, and Tennessee produced 84% of U.S. natural gemstones. The increase in total synthetic gemstone production value resulted from an increase in Moissanite production value. Laboratory-created gemstones were manufactured by five firms in Florida, New York, Massachusetts, North Carolina, and Arizona, in decreasing order of production. Major gemstone uses were carvings, gem and mineral collections, and jewelry.

Salient Statistics—United States:	2006	2007	2008	2009	2010^e
Production: ²					
Natural ³	11.3	11.9	11.5	8.4	8.5
Laboratory-created (synthetic)	52.1	73.5	51.4	27.2	30.0
Imports for consumption	18,300	20,100	20,900	13,300	19,000
Exports, including reexports ⁴	9,930	12,300	15,300	10,500	15,000
Consumption, apparent	8,430	7,880	5,670	2,820	4,400
Price	Variable, depending on size, type, and quality				
Employment, mine, number ^e	1,200	1,200	1,200	1,000	1,100
Net import reliance ⁵ as a percentage of apparent consumption	99	99	99	99	99

Recycling: Gemstones are often recycled by being resold as estate jewelry, reset, or recut, but this report does not account for those stones.

Import Sources (2006–09 by value): Israel, 48%; India, 20%; Belgium, 16%; South Africa, 5%; and other, 11%. Diamond imports accounted for 95% of the total value of gem imports.

Tariff:	Item	Number	Normal Trade Relations 12-31-10
	Pearls, imitation, not strung	7018.10.1000	4.0% ad val.
	Imitation precious stones	7018.10.2000	Free.
	Pearls, natural	7101.10.0000	Free.
	Pearls, cultured	7101.21.0000	Free.
	Diamond, 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 stones, cut but not set	7103.99.1000	Free.
	Other precious stones	7103.99.5000	10.5% ad val.
	Synthetic, cut but not set	7104.90.1000	Free.

Depletion Allowance: 14% (Domestic and foreign).

Government Stockpile: None.

GEMSTONES

Events, Trends, and Issues: In 2010, the U.S. market for gem-quality diamonds was estimated to be about \$18 billion, accounting for more than 35% of world demand. This was an increase of about 42% compared with that of 2009. The domestic market for natural, nondiamond gemstones was estimated to be about \$946 million, which was an increase of 21% from that of 2009. These increases in the U.S. gemstone markets are a reflection of improvements in the economy since the global recession, and its impact on luxury spending. The United States is expected to continue dominating global gemstone consumption.

World Gem Diamond Mine Production⁶ and Reserves:

	Mine production		Reserves ⁷
	2009	2010 ^e	
Angola	8,100	8,100	World reserves of diamond-bearing deposits are substantial. No reserves data are available for other gemstones.
Australia	60	60	
Botswana	24,000	24,000	
Brazil	182	180	
Canada	10,900	11,000	
Central African Republic	300	300	
China	100	100	
Congo (Kinshasa)	3,600	3,600	
Côte d'Ivoire	210	210	
Ghana	500	500	
Guinea	2,400	2,400	
Guyana	179	180	
Lesotho	450	450	
Namibia	2,300	2,300	
Russia	17,800	18,000	
Sierra Leone	200	200	
South Africa	2,400	2,400	
Tanzania	150	150	
Other countries ⁸	<u>270</u>	<u>270</u>	
World total (rounded)	74,100	74,000	

World Resources: Most diamond-bearing ore bodies have a diamond content that ranges from less than 1 carat per ton to about 6 carats per ton. The major gem diamond reserves are in southern Africa, 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 78% of the totals.

⁵Defined as imports – exports and reexports + adjustments for Government and industry stock changes.

⁶Data in thousands of carats of gem diamond.

⁷See [Appendix C for resource/reserve definitions and information concerning data sources.](#)

⁸In addition to countries listed, Cameroon, Congo (Brazzaville), Gabon, India, Indonesia, Liberia, Togo, Venezuela, and Zimbabwe are known to produce gem diamonds.