

# Gem Stones

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The value of gem stones and mineral specimens produced in the United States during 1980 was estimated to have decreased more than 15% to \$6.9 million from the 1979 value of \$8.2 million. All types of gem stones production, except for opal, decreased during the year. Amateur collectors

accounted for much of the activity in many States. Commercial operators produced rough jade, jasper, agate, sapphire, turquoise, opal, peridot, emerald, onyx, obsidian, and tourmaline, which they sold mainly to wholesale or retail outlets and also to jewelry manufacturers.

## DOMESTIC PRODUCTION

Mines and collectors in 40 States produced gem materials with an estimated value of \$1,000 or more in each State in 1980. Ten States supplied 89% of the total value, as follows: Arizona, \$3.1 million; Maine, \$900,000; Nevada, \$900,000; Oregon, \$450,000; California, \$210,000; Wyoming, \$190,000; Texas, \$160,000; New Mexico, \$150,000; Washington, \$150,000; and Arkansas, \$140,000.

Park authorities at the Crater of Diamonds Park in Pike County, Ark., reported

that approximately 75,000 people visited the park in 1980 and found 582 diamonds. The largest was a 5.2-carat stone of undetermined value. Most of the stones are off-white to brown; however, yellow, pink, and green stones are also found. The decrease in attendance during the year, reflecting a general nationwide decrease in tourism, was compounded by the heat wave which affected the region; however, "dig for fee" operations remained popular.

## CONSUMPTION

Domestic gem stone output went to amateur and commercial rock, mineral, and gem stone collections, objects of art, and jewelry. Apparent consumption (domestic

production plus imports minus exports and reexports) in 1980 was \$1,791 million, 38% more than that of 1979.

## PRICES

A sampling of prices that colored-stone dealers in various U.S. cities charged their

cash customers during December 1980 follows:

Gem stone	Carat weight	Price range per carat 1980	Median price per carat <sup>1</sup>	
			December 1979	Early December 1980
Amethyst	10	\$14- \$28	\$15	\$15
Aquamarine	5	55- 300	168	168
Cat's eye (chrysoberyl)	2	290-1,500	850	850
Citrine	10	8- 18	12	12
Emerald:				
Medium to better	1	1,600-5,000	3,150	3,500
Commercial	1	225-2,500	900	900
Garnet, green (tsavorite, demantoid)	1	425-1,250	600	725
Opal, black	3	350- 750	500	500
Opal, white	5	60- 125	75	75
Peridot (variety of olivine)	5	45- 90	65	55
Ruby:				
Medium to better	1	950-4,500	1,830	2,750
Commercial	1	350-1,800	590	850
Sapphire:				
Medium to better	1	475-2,500	750	1,200
Commercial	1	150- 900	225	425
Star sapphire:				
Sky-blue	5	80- 900	250	250
Grey	5	25- 150	100	100
Tanzanite (blue-violet zoisite)	5	500-1,200	500	590
Topaz	5	150- 265	245	245
Tourmaline, green	5	40- 145	70	75
Tourmaline, pink	5	40- 150	80	80

<sup>1</sup>Jewelers' Circular-Keystone, v. 151, No. 2, February 1980, p. 196; v. 152, No. 1, January 1981, p. 126. These figures represent a sampling of net prices that colored stone dealers in various U.S. cities charged their cash customers during the month.

A sampling of prices that diamond dealers in various U.S. cities charged their customers in December 1980 follows:

Carat weight	Description, color <sup>1</sup>	Clarity <sup>2</sup> (GIA terms)	Price range per carat 1980	Median price per carat <sup>3</sup>	
				December 1979	Early December 1980
0.04-0.08	G-I	VS <sub>1</sub>	\$450- \$755	\$587	\$570
.04- .08	G-I	SI <sub>1</sub>	350- 615	540	520
.09- .16	G-I	VS <sub>1</sub>	475- 849	640	655
.09- .16	G-I	SI <sub>1</sub>	375- 681	595	585
.17- .22	G-I	VS <sub>1</sub>	725- 1,710	980	1,080
.17- .22	G-I	SI <sub>1</sub>	600- 1,510	895	975
.23- .28	G-I	VS <sub>1</sub>	950- 1,970	1,220	1,385
.23- .28	G-I	SI <sub>1</sub>	771- 1,720	1,090	1,150
.29- .35	G-I	VS <sub>1</sub>	1,000- 2,270	1,400	1,550
.29- .35	G-I	SI <sub>1</sub>	800- 1,905	1,120	1,375
.46- .55	G-I	VS <sub>1</sub>	1,600- 3,215	1,950	2,738
.46- .55	G-I	SI <sub>1</sub>	1,050- 2,645	1,540	1,950
.69- .79	G-I	VS <sub>1</sub>	2,000- 5,200	2,605	3,556
.69- .79	G-I	SI <sub>1</sub>	1,400- 3,450	2,103	2,530
1.00-1.15	D	FL	42,000-54,000	37,000	453,000
1.00-1.15	E	VVS <sub>1</sub>	16,000-24,000	17,000	423,000
1.00-1.15	G	VS <sub>1</sub>	6,000- 9,000	6,100	48,600
1.00-1.15	H	VS <sub>2</sub>	4,000- 6,500	4,650	45,650
1.00-1.15	I	SI <sub>1</sub>	2,500- 3,900	3,170	43,550

<sup>1</sup>Gemological Institute of America (GIA) color grades: D—colorless; E—rare white; G-I—traces of color.

<sup>2</sup>Clarity: FL—no blemishes; VVS<sub>1</sub>—very, very slightly included; VS<sub>1</sub>—very slightly included; VS<sub>2</sub>—very slightly included, but more visible; SI<sub>1</sub>—slightly included.

<sup>3</sup>Jewelers' Circular-Keystone, v. 151, No. 2, February 1980, p. 194; v. 152, No. 1, January 1981, p. 124. These figures represent a sampling of net prices that diamond dealers in various U.S. cities charged their customers during the month.

<sup>4</sup>Representative of early November 1980 sales. December sales are nonrepresentative.

## FOREIGN TRADE

The following section contains foreign trade statistics tables 1-6 for 1979 and 1980. Table 7 contains world production statistics for 1976-80.

**Table 1.—U.S. exports and reexports of diamond (exclusive of industrial diamond), by country**

Country	1979		1980	
	Quantity (carats)	Value (millions)	Quantity (carats)	Value (millions)
<b>Exports:</b>				
Belgium-Luxembourg	33,589	\$110.5	31,797	\$95.9
Canada	5,503	4.9	7,041	5.1
France	4,606	26.2	5,112	31.0
Hong Kong	73,854	243.1	69,927	240.5
Israel	23,966	21.4	21,164	16.2
Japan	35,792	72.0	28,039	64.2
Switzerland	18,249	104.2	24,110	127.3
United Kingdom	4,349	14.1	5,068	19.5
Other	13,573	26.7	18,385	43.6
<b>Total</b>	<b>213,481</b>	<b>623.1</b>	<b>210,643</b>	<b>643.3</b>
<b>Reexports:</b>				
Belgium-Luxembourg	354,873	86.4	333,186	119.2
France	9,698	8.3	6,922	6.9
Hong Kong	12,812	22.1	36,345	40.6
India	126,763	3.2	199,201	6.7
Israel	295,662	63.9	262,625	93.2
Japan	10,528	11.3	61,579	7.3
Netherlands	53,488	8.9	42,987	6.8
Switzerland	13,076	27.6	18,323	44.6
United Kingdom	94,273	24.7	109,024	18.4
Other	10,884	5.1	43,918	54.2
<b>Total</b>	<b>982,027</b>	<b>261.5</b>	<b>1,114,110</b>	<b>397.9</b>

**Table 2.—U.S. imports for consumption of diamond (cut but unset), by kind and country**

Kind and country	1979		1980	
	Quantity (carats)	Value (millions)	Quantity (carats)	Value (millions)
<b>Cut but unset, not over 0.5 carat:</b>				
Belgium-Luxembourg	557,859	\$187.0	531,251	\$223.6
India	769,769	172.9	854,526	198.9
Israel	676,353	241.9	787,535	322.8
South Africa, Republic of	20,655	13.8	34,751	25.6
Switzerland	13,277	7.0	9,528	4.6
Other	72,890	28.5	53,202	22.9
<b>Total</b>	<b>2,110,803</b>	<b>651.1</b>	<b>2,270,793</b>	<b>798.4</b>
<b>Cut but unset, over 0.5 carat:</b>				
Belgium-Luxembourg	127,277	138.1	155,280	242.2
India	5,390	2.1	5,155	2.7
Israel	77,190	66.3	89,015	117.8
Netherlands	2,794	2.6	2,555	4.9
South Africa, Republic of	9,545	19.8	28,638	43.1
Switzerland	5,181	10.7	3,678	16.6
United Kingdom	4,551	7.8	5,475	15.4
Other	3,602	4.2	6,309	14.9
<b>Total</b>	<b>235,530</b>	<b>251.6</b>	<b>296,105</b>	<b>457.6</b>

Table 3.—U.S. imports of precious and semiprecious gem stones, by kind and country

Kind and country	1979		1980	
	Quantity (carats)	Value (millions)	Quantity (carats)	Value (millions)
<b>Emerald:</b>				
Brazil	94,237	\$4.8	240,198	\$7.5
Colombia	205,129	45.1	81,910	55.7
France	6,215	1.0	5,073	1.5
Germany, Federal Republic of	21,511	2.5	38,618	3.0
Hong Kong	126,097	8.0	56,073	8.6
India	1,673,987	14.4	3,025,578	18.6
Israel	71,718	13.8	88,234	21.2
Switzerland	13,352	6.8	27,310	12.0
United Kingdom	5,188	2.6	6,032	7.2
Other	59,797	6.1	31,864	6.1
<b>Total</b>	<b>2,277,231</b>	<b>105.1</b>	<b>3,600,890</b>	<b>141.4</b>
<b>Ruby:</b>				
Burma	NA	.3	NA	.8
Germany, Federal Republic of	NA	.4	NA	.9
Hong Kong	NA	2.1	NA	13.5
India	NA	1.7	NA	3.1
Israel	NA	.4	NA	.5
Sri Lanka	NA	.3	NA	.9
Switzerland	NA	1.0	NA	3.3
Thailand	NA	23.0	NA	58.1
United Kingdom	NA	.2	NA	1.3
Other	NA	.6	NA	2.6
<b>Total</b>	<b>NA</b>	<b>30.0</b>	<b>NA</b>	<b>85.0</b>
<b>Sapphire:</b>				
Burma	NA	.4	NA	.3
Germany, Federal Republic of	NA	.4	NA	.6
Hong Kong	NA	1.4	NA	4.9
India	NA	.9	NA	1.6
Sri Lanka	NA	3.4	NA	6.8
Switzerland	NA	1.2	NA	1.7
Thailand	NA	15.0	NA	31.8
United Kingdom	NA	.2	NA	.8
Other	NA	1.3	NA	2.4
<b>Total</b>	<b>NA</b>	<b>24.2</b>	<b>NA</b>	<b>50.9</b>
<b>Other:</b>				
<b>Rough, uncut:</b>				
Australia	NA	1.6	NA	2.0
Brazil	NA	3.1	NA	4.5
Colombia	NA	1.8	NA	1.8
Israel	NA	.6	NA	.1
Kenya	NA	.8	NA	.5
South Africa, Republic of	NA	3.3	NA	3.2
Switzerland	NA	3.0	NA	3.5
Zambia	NA	1.8	NA	1.9
Other	NA	3.2	NA	2.8
<b>Total</b>	<b>NA</b>	<b>19.2</b>	<b>NA</b>	<b>20.3</b>
<b>Cut but unset:</b>				
Australia	NA	2.4	NA	2.4
Brazil	NA	11.2	NA	17.4
Germany, Federal Republic of	NA	5.3	NA	7.9
Hong Kong	NA	17.2	NA	17.1
Taiwan	NA	.5	NA	1.0
Other	NA	7.7	NA	11.1
<b>Total</b>	<b>NA</b>	<b>44.3</b>	<b>NA</b>	<b>56.9</b>

NA Not available.

**Table 4.—Value of U.S. imports of synthetic and imitation gem stones, by country**

(Million dollars)

Country	1979	1980
Synthetic, cut but unset:		
Austria -----	5.1	0.9
France -----	4.0	.8
Germany, Federal Republic of ---	2.8	7.5
Japan -----	.3	.3
Korea, Republic of -----	.9	5.3
Switzerland -----	3.8	2.1
Taiwan -----	.5	.9
Other -----	5.2	1.9
Total -----	22.6	19.7
Imitation:		
Austria -----	8.2	8.5
Czechoslovakia -----	1.3	.8
Germany, Federal Republic of ---	3.1	3.1
Japan -----	.3	.3
Switzerland -----	.1	.8
Other -----	.8	.2
Total -----	13.8	13.7

**Table 5.—U.S. imports for consumption of precious and semiprecious gem stones**

(Thousand carats and thousand dollars)

Stones	1979		1980	
	Quantity	Value	Quantity	Value
Diamonds:				
Rough or uncut -----	2,120	956,340	<sup>1</sup> 1,594	995,212
Cut but unset -----	2,347	902,755	2,567	1,255,983
Emeralds: Cut but unset -----	2,277	105,064	3,601	141,413
Coral: Cut but unset, and cameos suitable for use in jewelry -----	NA	3,511	NA	3,544
Rubies and sapphires: Cut but unset -----	NA	53,513	NA	226,426
Marcasites -----	NA	134	NA	136
Pearls:				
Natural -----	NA	2,453	NA	3,829
Cultured -----	NA	39,655	NA	77,375
Imitation -----	NA	1,321	NA	1,965
Other precious and semiprecious stones:				
Rough and uncut -----	NA	19,198	NA	20,323
Cut but unset -----	NA	44,319	NA	56,927
Other n.s.p.f. -----	NA	4,763	NA	7,430
Synthetic:				
Cut but unset <sup>2</sup> -----	20,223	22,579	17,848	19,714
Other -----	NA	1,485	NA	1,277
Imitation gem stones -----	NA	13,814	NA	13,689
Total -----	XX	2,170,904	XX	2,825,243

NA Not available. XX Not applicable.

<sup>1</sup>Includes 16,544 carats of other natural diamond, advanced, in 1980.<sup>2</sup>Quantity in thousands of stones.

Table 6.—U.S. imports for consumption of diamond (exclusive of industrial diamond), by country

(Thousand carats and thousand dollars)

Country	1979				1980			
	Rough or uncut		Cut but unset		Rough or uncut		Cut but unset	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Belgium-Luxembourg	40	12,042	685	325,055	33	19,494	687	466,235
Central African Empire	75	5,267	--	--	66	7,082	--	--
India	1	83	776	175,016	( <sup>1</sup> )	22	860	201,708
Israel	59	18,406	754	308,177	24	12,471	877	440,559
Liberia	32	7,726	--	--	5	10,491	--	--
Netherlands	15	11,158	7	4,163	12	6,879	5	6,029
Sierra Leone	123	51,628	5	2,165	85	49,165	4	2,827
South Africa, Republic of	1,134	671,526	30	33,591	908	662,142	63	68,726
Switzerland	6	6,871	18	17,666	19	11,582	13	21,145
United Kingdom	266	145,389	19	13,797	201	193,541	18	21,276
Venezuela	308	20,324	( <sup>1</sup> )	61	205	16,810	( <sup>1</sup> )	144
Other Africa, n.e.c.	27	<sup>1</sup> 1,432	( <sup>1</sup> )	234	15	1,052	1	478
Other	32	4,488	53	22,830	21	4,481	38	27,061
Total	<sup>2</sup> 2,118	956,340	2,347	902,755	1,594	995,212	<sup>2</sup> 2,567	1,255,983

<sup>1</sup>Revised.<sup>1</sup>Less than 1/2 unit.<sup>2</sup>Data do not add to total shown because of independent rounding.

Table 7.—Diamond (natural): World production, by type and country<sup>1</sup>  
(Thousand carats)

Country	1976			1977			1978			1979 <sup>P</sup>			1980 <sup>e</sup>		
	Gem	Indus- trial	Total	Gem	Indus- trial	Total	Gem	Indus- trial	Total	Gem	Indus- trial	Total	Gem	Indus- trial	Total
<b>Africa:</b>															
Angola	255	85	340	265	88	353	525	175	700	562	188	750	750	250	1,000
Botswana	358	2,026	2,384	404	2,287	2,691	418	2,367	2,785	659	3,735	4,394	765	4,336	5,101
Central African Republic	172	114	286	178	119	297	199	85	284	205	110	315	180	99	279
Ghana	228	2,055	2,283	230	1,717	1,947	142	1,281	1,423	125	1,128	1,253	100	1,100	1,200
Guinea <sup>e</sup>	25	55	80	25	55	80	25	55	80	27	58	85	27	57	84
Ivory Coast	22	38	60	7	11	18	10	10	10	5	32	37	6	34	40
Lesotho	74	71	5	r <sub>39</sub>	r <sub>3</sub>	42	r <sub>62</sub>	r <sub>5</sub>	67	48	4	52	50	4	54
Liberia <sup>a</sup>	163	162	325	163	163	326	128	180	308	170	182	302	170	130	300
Namibia	1,609	85	1,694	1,901	100	2,001	1,803	95	1,898	1,570	83	1,653	1,482	78	2,156
Sierra Leone	433	650	1,083	423	538	961	r <sub>353</sub>	r <sub>426</sub>	779	419	436	855	400	450	850
<b>South Africa, Republic of:</b>															
Finesh Mine	441	1,762	2,203	485	1,941	2,426	526	2,104	2,630	517	2,068	2,585	581	2,326	29,907
Premier Mine	458	1,375	1,833	502	1,508	2,010	496	1,487	1,983	r <sub>520</sub>	r <sub>1,561</sub>	2,081	510	1,529	2,039
Other De Beers properties <sup>d</sup>	r <sub>1,460</sub>	r <sub>972</sub>	r <sub>2,432</sub>	r <sub>1,617</sub>	r <sub>1,040</sub>	r <sub>2,657</sub>	r <sub>1,638</sub>	r <sub>1,011</sub>	2,649	r <sub>2,054</sub>	r <sub>1,166</sub>	3,220	1,829	1,210	23,039
Other	r <sub>499</sub>	r <sub>56</sub>	555	r <sub>495</sub>	r <sub>55</sub>	550	r <sub>418</sub>	r <sub>47</sub>	465	r <sub>448</sub>	r <sub>50</sub>	498	483	54	2,537
Total	r <sub>2,858</sub>	r <sub>4,165</sub>	7,023	r <sub>3,099</sub>	r <sub>4,544</sub>	7,643	r <sub>3,078</sub>	r <sub>4,649</sub>	7,727	r <sub>3,539</sub>	r <sub>4,845</sub>	8,384	3,403	5,119	28,522
Tanzania	219	219	3438	204	3408	3408	146	147	3293	145	145	120	120	120	240
Zaire <sup>5</sup>	r <sub>498</sub>	r <sub>11,323</sub>	11,821	r <sub>533</sub>	r <sub>10,681</sub>	r <sub>11,214</sub>	r <sub>640</sub>	r <sub>10,603</sub>	11,243	294	8,440	8,734	400	8,300	8,700
<b>Other areas:</b>															
Australia	r <sub>214</sub>	r <sub>47</sub>	r <sub>e261</sub>	r <sub>274</sub>	r <sub>46</sub>	r <sub>e20</sub>	r <sub>291</sub>	r <sub>49</sub>	r <sub>e340</sub>	r <sub>305</sub>	r <sub>55</sub>	r <sub>e360</sub>	r <sub>305</sub>	r <sub>55</sub>	48
Brazil <sup>e</sup>	6	8	14	7	10	17	7	10	17	6	10	16	6	10	16
Guyana	17	3	20	15	3	18	14	2	16	13	2	15	12	2	14
India	3	12	15	3	12	15	3	12	15	3	12	15	3	12	15
Indonesia <sup>e</sup>	3	12	15	3	12	15	3	12	15	3	12	15	3	12	15

See footnotes at end of table.

Table 7.—Diamond (natural): World production, by type and country<sup>1</sup>—Continued  
(Thousand carats)

Country	1976			1977			1978			1979 <sup>p</sup>			1980 <sup>q</sup>		
	Gem	Indus- trial	Total	Gem	Indus- trial	Total	Gem	Indus- trial	Total	Gem	Indus- trial	Total	Gem	Indus- trial	Total
U.S.S.R. <sup>e</sup>	2,000	7,900	9,900	2,100	8,200	10,300	2,150	8,400	10,550	2,200	8,500	10,700	2,250	8,600	10,850
Venezuela	195	654	849	204	483	687	269	487	756	247	556	803	250	575	825
World total	19,279	29,602	38,881	10,074	29,264	39,338	10,253	29,038	39,291	10,542	28,471	39,013	10,679	29,379	40,058

Other areas:—Continued

<sup>q</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised.

<sup>1</sup>Table includes data available through May 12, 1981. Total diamond output (gem plus industrial) for each country is actually reported except where indicated by a footnote to be estimated. In contrast, the detailed separate production data for gem diamond and industrial diamond are Bureau of Mines estimates in the case of every country except the Central African Republic (1976-78), Liberia (1976-78), Sierra Leone (1977 and 1978), and Venezuela (1978), for which source publications give details on grade as well as totals. The estimated distribution of total output between gem and industrial diamond is conjectural, and for most countries is based on the best available data at time of publication. Mainland China also produces some natural diamond, but output is not reported.

<sup>2</sup>Reported figure.

<sup>3</sup>Total exports.

<sup>4</sup>All company output from the Republic of South Africa, except for that credited to the Finsch and Premier Mines for the years indicated; excludes De Beers Group output from Botswana, Lesotho, and Namibia.

<sup>5</sup>Excludes very substantial quantities produced and exported illicitly; estimates of these quantities are quite variable, but for recent years, the principal Zairian producer indicates 5 to 6 million carats annually (gem plus industrial) and may have exceeded this level in 1979 and 1980.

<sup>6</sup>Series revised to reflect the substantial output by small miners (garimpos), which is estimated as follows in thousand carats: 1976—185; 1977—254; 1978—269; 1979—280; 1980—280 (1976 and 1977 estimates from the Brazilian Ministry of Mines and Energy; 1978-80 estimates by U.S. Bureau of Mines).